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Hollister Area 2008
Urban Water Management Plan

January 2009

Prepared for

Sunnyslope County Water District
3570 Airline Highway
Hollister, CA 95023

City of Hollister
375 Fifth Street
Hollister, CA 95023

San Benito County Water District
30 Mansfield Road
Hollister, CA 95024

K/J Project No. 0568017

In Cooperation with Todd Engineers, Alameda, CA

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List of Acronyms

AF – Acre-feet

AFY– Acre-feet per year

AMBAG – Association of Monterey Bay Area Governments

AWWA – American Water Works Association

BMP – Best Management Practice

CEQA – California Environmental Quality Act

CII – Commercial, Industrial, and Institutional Uses

CUWCC – California Urban Water Conservation Council

CVP – Central Valley Project

CVPIA – Central Valley Project Improvement Act

DIR – Demand Initiated Regeneration (Water Softener)

DMM – Demand Management Measure

DOF – California Department of Finance

DPH – California Department of Public Health (formerly Department of Health Services or DHS)

DWR – California Department of Water Resources

GIS – Geographic Information System

gpcd – gallons per capita per day

gpm – gallons per minute

HSA – Hollister Urban Area

LSWS – Local Small Water Systems

M&I – Municipal and Industrial Uses

MCL – Maximum Contaminant Level

MG – million gallons

MGD – million gallons per day

MOU – Memorandum of Understanding

msl – mean sea level

NEPA – National Environmental Policy Act

ppm – parts per million

PWSS – Public Water System Statistics

RO – reverse osmosis

RWQCB – Regional Water Quality Control Board

SFP – San Felipe Project

SWP – State Water Project

SWRCB – California State Water Resources Control Board

TDS – Total Dissolved Solids

ULFT – Ultra-Low Flush Toilet

USBR – United States Bureau of Reclamation

USEPA – United States Environmental Protection Agency

USGS – United States Geological Survey

UWMP – Urban Water Management Plan

WET – Water Education for Teachers

WRA – Water Resources Association

WWEF – Western Water Education Foundation

WWTP – Wastewater Treatment Plant

WY – Water Year

Hollister Area
2008 Urban Water Management Plan
Contact Sheet

Date plan submitted to the Department of Water Resources: _____

Sunnyslope County Water District

Name of person preparing this plan: **Bryan Yamaoka, General Manager**

Phone: **(831) 637-4670**

Fax: **(831) 637-1399**

E-mail address: **bryan@sscwd.org**

The Water supplier is a: **Water District**

The Water supplier is a: **Retailer**

Utility services provided by the water supplier include: **Water, Sewer**

Is This Agency a Bureau of Reclamation Contractor? **No**

Is This Agency a State Water Project Contractor? **No**

City of Hollister

Name of person preparing this plan: **Steve Wittry, Director, Engineering Department**

Phone: **(831) 636-4340**

Fax: **(831) 636-4349**

E-mail address: **steve.wittry@hollister.ca.gov**

The Water supplier is a: **City water department**

The Water supplier is a: **Retailer**

Utility services provided by the water supplier include: **Water, Sewer**

Is This Agency a Bureau of Reclamation Contractor? **No**

Is This Agency a State Water Project Contractor? **No**

San Benito County Water District

Name of person preparing this plan: **Jeff Cattaneo, Manager/Engineer**

Phone: **(831) 637-8218**

Fax: **(831) 637 - 7267**

E-mail address: **jcattaneo@sbcwd.com**

The Water supplier is a: **Water District**

The Water supplier is a: **Wholesaler**

Utility services provided by the water supplier include: **Water**

Is This Agency a Bureau of Reclamation Contractor? **Yes**

Is This Agency a State Water Project Contractor? **No**

Executive Summary

Purpose

This 2008 Urban Water Management Plan (UWMP) is a cooperative effort by the Sunnyslope Water District (Sunnyslope), the City of Hollister (City), and the San Benito County Water District (District or SBCWD). Sunnyslope, the City, and SBCWD are "urban water suppliers" as defined by Section 10617[1] of the California Water Code. At this time, it is expected that all three agencies will adopt this UWMP.

Figure ES 1 shows the respective districts' service areas. For the purposes of this 2008 UWMP update, the Hollister Service Area (HSA, also referred to as the Hollister Urban Area) has been defined based on a 30 March 2005 Memorandum documenting a meeting between SBCWD, San Benito County Planning, and City of Hollister as follows and as shown on Figure ES-1.

> "Members of the local agencies noted above met to define a reasonable boundary for area/s adjacent to the City of Hollister where both domestic water and wastewater services can be extended in the foreseeable future."

Review of Figure 2-2 indicates that the HSA encompasses about 2/3 of the Hollister West groundwater subbasin, about ½ of the Hollister East groundwater subbasin, and about ¼ of the Tres Pinos groundwater subbasin. However, it is estimated that 95 percent of the water use in Hollister West, 80 percent of water use in Hollister East, and 70 percent of water use in Tres Pinos is to meet the demands of the Hollister Service Area. These adjusted proportions will be used in adjusting imported water deliveries to and groundwater pumping from the three subbasins.

The purpose of the 2008 UWMP is to serve as a foundational document and source of information for Water Supply Assessment and Written Verification of Water Supply. This UWMP also serves as:

- A long-range planning document for water supply.
- Source data for development of a regional water plan.
- A source document for cities and counties as they prepare their General Plans.
- A key component to Integrated Regional Water Management Plans.

[1] 10617. "Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.

Scope

The scope of the 2008 UWMP is to create a planning document for the District, the City, and Sunnyslope that will be used by the District, the City, and Sunnyslope for future water supply projects and to meet the requirements of the Urban Water Management Planning Act.

This UWMP will do the following:

- Compare past, current and projected agency water supplies and demands;
- Identify a hypothetical three-year worst case drought scenario and its effect on agency urban water supplies;
- Discuss existing and anticipated demand management measures;
- Evaluate a water shortage contingency plan;
- Provide a response to an urban water shortage emergency; and
- Review agency use of recycled water.

This 2008 UWMP builds on the 2000 UWMP, adopted by Sunnyslope, the City and SBCWD, by providing updated estimates for population, water demand, and water supply with projections extending an additional five years to 2030. The 2008 UWMP also incorporates new requirements implemented since the 2000 UWMP was issued.

Findings

Water Supply, Water Demand, and Population Projections

Table 1 shows the summary of population projections, water supply and water demand to 2030 for the Hollister Service Area. Please refer to Section 5 for further discussion of water supply compared to demand. The water supply in the planning area can increase beyond the projected values, but it would have to include the use of groundwater, which is of less desirable water quality with respect to primary drinking water standards. Projections for multiple dry years are located in **Table 3-4**. The multiple dry year scenarios project a water shortage similar to the single dry year scenarios.

Table ES-1: . Summary of UWMP Projections

Year:	2005	2010	2015	2020	2025	2030
Population Projections[(a)]	56,990	61,354	67,324	73,348	79,432	85,576
Water Demand AFY[(b)]	21,828	21,494	20,964	20,451	19,886	19,562
Water Supply AFY-Normal Water Year[(c)]	29,925	29,925	29,925	29,925	29,925	29,925
Water Supply AFY-Single Dry Water Year[(c)]	20,932	20,932	20,932	20,932	20,932	20,932

(a) This figure includes the entire planning area.

(b) Includes M&I and Agricultural demands within the HAS and conversions from agricultural to M&I demands

(c) Includes Imported CVP and local groundwater

Water Supply and Water Supply Reliability

The HSA receives its water from local groundwater wells and surface water from the Central Valley Project (CVP). SBCWD is the contractor with the CVP for both agricultural and M&I deliveries. Groundwater use for M&I demands has declined in recent years, since construction of the Lessalt Treatment Plant which treats and delivers CVP water for M&I uses. Groundwater currently supplies approximately 68 percent of total M&I demands within the HSA, and surface water makes up about 32 percent of total supply. Groundwater currently supplies approximately 30 percent of agricultural needs, while surface water supplies about 70 percent of agricultural demands.

The United States Bureau of Reclamation (USBR) finalized its 2001 USBR Draft M&I Water Shortage Policy through the acceptance of a final Environmental Assessment and signing of a Finding of No Significant Impact on 19 December 2005. Since that time legal actions have reduced pumping into the CVP from the San Joaquin/Sacramento River Delta. The USBR web site is reporting that a work plan for preparation of a final Environmental Impact Statement to analyze the impacts of implementing a Final CVP M&I Water Shortage Policy is in preparation (6 November 2007, http://www.usbr.gov/mp/cvpia/3404c/mi_shortage/)

The District's contract for CVP entitlements recently completed renegotiation and resulted in the Second Amendment which is found in Appendix G. The Second Amendment to the CVP contract was signed in March 2007, amends the existing contract that is in force through February 29, 2028 and incorporates this new USBR M&I Shortage Policy.

In the event that M&I deliveries are reduced due to water shortage, the District's M&I water will be allocated in accordance with the M&I Water Shortage Policy. The District's M&I average historical delivery has been 4,430 AF which will be subject to the USBR M&I deficiency criteria, most commonly 75 percent of historical use. Based on the 75 percent deficiency criteria, the District's M&I water allocation will be approximately 3,320 AF. The District's updated repayment schedule was changed in August 2007.

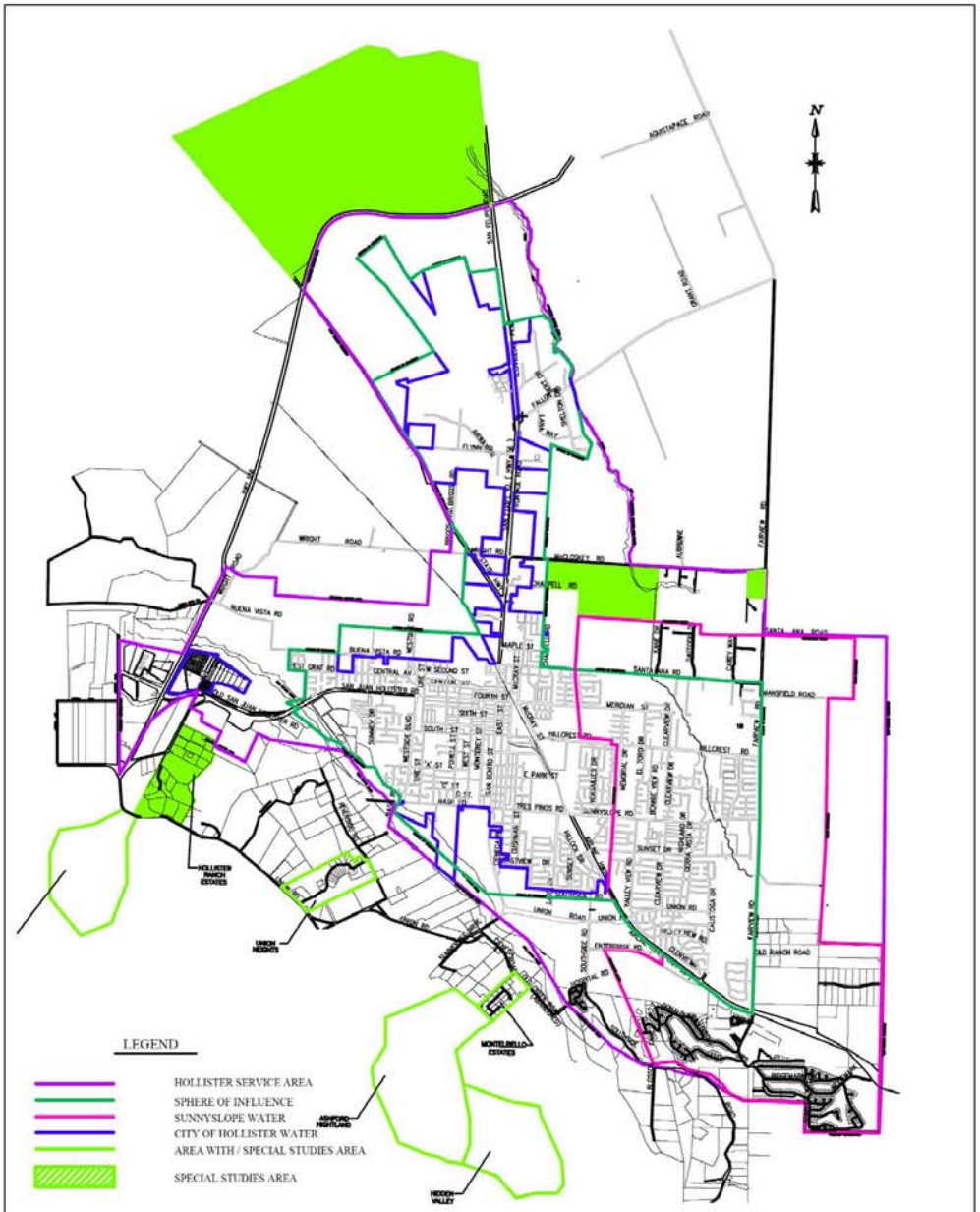
There are various considerations for utilizing local groundwater compared with imported surface water from the CVP. With regard to water quality, the imported CVP water is of lower hardness and total dissolved solids (TDS) and preferred by both M&I and agricultural users within the subbasins. However, there must also be consideration of the ramifications of becoming dependent on an increasingly unreliable, imported water supply as well as the impacts of importing salts to the groundwater basin.

Population Projections

Population projections are based on figures published by the CA Department of Finance (DOF) and the Association of Monterey Bay Area Governments (AMBAG). Population ordinances in effect in the City of Hollister and County of San Benito are also incorporated in these projections.

Urban Water Demand

Urban water demand is based on growth rates established by limited growth ordinances in both the City of Hollister and the county's unincorporated areas. There is also a more recent zero-growth moratorium imposed by the CA Regional Water Quality Control Board (RWQCB) within the City of Hollister due to inadequate wastewater disposal capacity. The limited growth ordinance (Ordinance 168) within the City of Hollister allows 244 dwelling units per year. Since 2002, no new dwelling units have been developed in the City pursuant to zero-growth moratorium. Per the RWQCB request, the City cannot issue building permits for any development that will increase use of wastewater capacity at the City's facilities. The moratorium is still in place and will not be lifted until wastewater treatment capacity is increased. The City is planning to bring a new WWTP on line by early 2009 to increase the wastewater capacity as well as effluent quality sufficient for irrigation reuse. Issuance of 350 building permits for new dwelling units is expected to occur within the first two years after the RWQCB request is lifted and about 300 for the subsequent years until the reserve allocations are exhausted. Currently, the City has about 1,400 reserved allocations, with no certificate of occupancy. After the allocations are exhausted, the development schedule is expected to return to 244 units per year, as mandated by Ordinance 168.



HOLLISTER SERVICE AREA

Kennedy/Jenks Consultants

San Benito County, California

Hollister Area UWMP
Hollister Service Area
0568017.00
January 2009

Figure ES-1

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Demand Management Measures

Table ES-2 shows the demand management measures (DMM) and their current implementation status. DMMs are also summarized in Section 6 of this report.

Table ES-2. DMM Summary

DMM	Implementation Status
DMM 1 – Interior and Exterior Water Audits for Single Family and Multi-Family Customers	Implemented
DMM 2 – Plumbing Retrofit	Implemented
DMM 3 – Distribution System Water Audits, Leak Detection and Repair	Implemented
DMM4 – Metering with Commodity Rates	Implemented
DMM5 – Large Landscape Water Audits and Incentives	Implemented
DMM6 – High Efficiency Washing Machine Rebate Program	Implemented
DMM7 – Public Information Programs	Implemented
DMM8 – School Education Programs	Implemented
DMM9 – Commercial and Industrial Water Conservation Programs	Implemented
DMM10 (9A) – New Commercial and Industrial Water Use Review	Implemented
DMM11 – Conservation Pricing, Water Service and Sewer Service	Implemented
DMM12 – Landscape Water Conservation for New and Existing Single Family Homes	Implemented
DMM13 – Water Waste Prohibition	Implemented
DMM14 – Water Conservation Coordinator	Implemented
DMM15 – Financial Incentives	Implemented
DMM 16 – Ultra-Low Flush Toilet Replacement	Implemented

Evaluate a Water Shortage Contingency Plan

The water shortage contingency plan includes provisions for voluntary rationing, mandatory rationing, and substituting surface water supply with groundwater until the water shortage is over. The District has adopted a water shortage emergency ordinance that would take effect during a water shortage. The water shortage contingency plan is discussed in Section 7.

Review District Use of Recycled Water

The City, the District, and Sunnyslope do not currently supply recycled water. Recycled water use is in the planning stages and has a potential to supply up to 9,420 AFY of non-potable water demand in the region. Potential applications for recycled water include landscape irrigation, agricultural irrigation, industrial use, and environmental enhancement. Before any wastewater can be reused, upgrades to existing treatment facilities must be completed to meet California Title 22 standards and demineralization of drinking water to lower total dissolved solids (TDS) needs to occur to supply recycled water to agricultural users. However, the majority of potential recycled water users are agricultural users, and located outside of the HSA considered in this plan. Therefore, recycled water is not considered as a significant future supply source for the purposes of this planning document. Recycled water is discussed further in Section 8.

Section 1: Public Participation

Law

> 10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published … After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

1.1 Public Participation

The 2008 Urban Water Management Plan (UWMP) prepared for the Sunnyslope County Water District (Sunnyslope), City of Hollister (City), and the San Benito County Water District (District or SBCWD) represents a collaborative effort in which all agencies participated throughout preparation of the UWMP. Its preparation has required significant agency interaction, including both staff and public meetings, and involvement. Public meetings held in preparation of the 2008 UWMP included Board of Directors meetings at Sunnyslope and the District, Hollister City Council meetings, and joint agency meetings. The notice of public meeting is included in Appendix A.

Efforts were made by the agencies to include public interest groups and stakeholders throughout preparation and during adoption of this plan. Notices of public meetings were included as inserts in City water bills and/or brochures that were mailed out to customers. Legal public notices for each meeting were published in the local newspapers, posted at City facilities and high usage commercial establishments such as grocery stores, and were distributed through the public schools. Copies of the Draft UWMP were made available at local offices, schools and libraries. A public meeting was held on 15 December 2008 by the City, 18 December 2008 by the Sunnyslope, and 28 January 2009 by the District to serve as a review and comment session for the draft plan before the local agencies' approval (as of 12 January, 2008, the District is planning to hold a public meeting on 28 January, 2008). Public interest groups that participated in the development of the plan are listed in Appendix B, and comments on the plan are included in Appendix C.

1.1.1 Plan Adoption

Sunnyslope, the City, and the District prepared this update of their UWMP during summer and fall of 2005 and first half of 2006. The UWMP was under staff review during the latter part of 2006 and in 2007. The updated plan was adopted by the agencies' governing bodies on 15 December 2008 by the City, 18 December 2008 by the Sunnyslope, and 28 January 2008 by the District, and submitted to the California Department of Water Resources (DWR) within 30 days of adoption (as of 12 January, 2008, the District is planning to hold a public meeting and adopt the plan on 28 January, 2008). Copies of the signed Resolutions of Plan Adoption are included as Appendix D. This plan includes all information necessary to meet the requirements of California Water Code Division 6, Part 2.6 (Urban Water Management Planning).

1.2 Agency Coordination

Law

> 10620 (d) (2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

A coordinated effort was made by all agencies involved in the preparation of this plan as described below.

1.2.1 Coordination Within Agencies

Agency staff met and coordinated the development of this plan with the appropriate personnel within their agencies prior to and throughout its preparation. Significant intra-agency efforts were made to gather the necessary data and information required for development of the plan. There has been a significant improvement in data collection and reporting methods used by the various agencies since the 2000 UWMP, apparent in Sunnyslope's and the City's Public Water System Statistics (PWSS) worksheets and the District's Annual Groundwater Reports.

1.2.2 Interagency Coordination

Sunnyslope, the City, and the District serve the water needs of municipal users within and around the City of Hollister. In addition to supplementing local groundwater, both Sunnyslope and the City purchase imported Central Valley Project (CVP) water from the District, which is the only wholesale agency and USBR contractor. In addition to the imported CVP water for municipal uses, the District serves agricultural customers with imported water and manages groundwater in San Benito County. The City and Sunnyslope, whose water distribution systems are connected in several locations, serve residents within the City of Hollister. Sunnyslope also serves customers within unincorporated parts of San Benito County. This distribution system is also connected to the District's pipelines for delivery of USBR water. Successful operation of the entire system requires collaboration and cooperation between all the agencies.

No additional agencies were involved in the development of this plan.

Table 1-1. summarizes the efforts that Sunnyslope, the City, and the District have taken to include various agencies and citizens in its planning process.

Table 1-1. Coordination and Public Involvement Actions.

Entities	Coordination and Public Involvement Actions					
	Helped write the plan	Was contacted for assistance	Was sent a copy of the draft	Commented on the draft	Attended public meetings	Was sent a notice of intention to adopt
Wholesaler	✓	✓	✓	✓	✓	✓
Retailers	✓	✓	✓	✓	✓	✓
Wastewater Agency			✓	✓	✓	✓
Special Interest Groups			✓	✓	✓	✓
Citizen Groups			✓	✓	✓	✓
General Public			✓	✓	✓	✓
Public Library						✓
Other						

1.3 Supplier Service Area

Law

> 10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
>
> 10631. (a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

The HSA is located about 90 miles south of San Francisco in San Benito County, California. The HSA overlies the Gilroy- Hollister basin, designated as DWR Basin No. 3-3. The San Benito County portion of the basin is bounded by the Pajaro River in the North, the Diablo Range on the east and the Gabilan Range and Santa Cruz Mountains to the southwest. The basin covers 200 square miles of the Pajaro watershed and is drained by its tributaries, most notably the San Benito River, which receives flow from the Santa Ana, Tres Pinos and Pacheco Creeks. **Figure 1-1** provides a location map of the Hollister area.

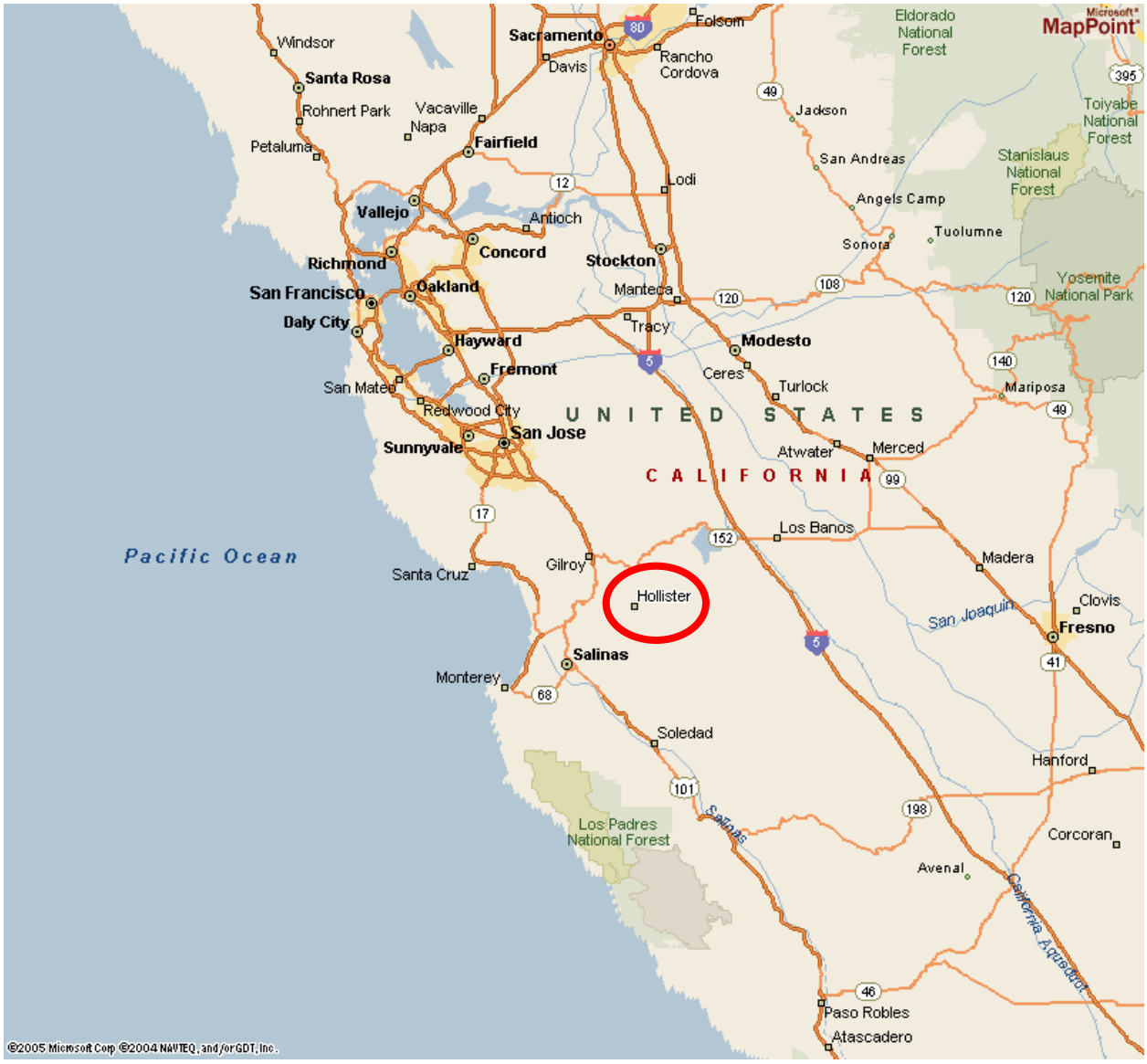

Figure 1-1. Project location map of Hollister, CA.

1.3.1 Climate

The Hollister area has a moderate California coastal climate, with a hot and dry summer season typically lasting from May through October. The City of Hollister, some 30 miles inland from the coast and separated from it by a low mountain pass, receives, on average, approximately 13 inches of rainfall annually. Normal seasonal rainfall in the higher watershed areas ranges up to 45 inches. Snowfalls in the mountains are infrequent and relatively light.

A comparatively long growing season of 265 days or more prevails, and year-round cropping is practiced to some extent. The area has a high percentage of sunny days, particularly in summer. However, the majority of rainfall occurs in the fall, winter, and to

particularly in summer. However, the majority of rainfall occurs in the fall, winter, and to a lesser extent spring, generally between November and April. Therefore, significant irrigation is required during summer months.

1.3.2 Population Growth & Other Demographic Factors

The population of the City of Hollister and in the County has increased significantly over the past 50 years as shown from U.S. Census Bureau historical population estimates in **Table 1–2.** Population projections from AMBAG are shown in **Table 1–3.**

Both San Benito County and the City of Hollister have experienced their most rapid growth since the late 1990's, mainly due to economic growth in Silicon Valley and the high priced housing market in the Santa Clara County. Many employees from Santa Clara County, who cannot afford homes close to work, are choosing to buy homes in San Benito County and commuting to work. The County experienced a more than 8 percent growth in population from 2000 – 2005 since the 2000 UWMP, and the City grew by nearly an equal amount. The City of Hollister and San Benito County have implemented limited growth ordinances to curb the rapid growth experienced in recent years.

Table 1-2. Historical Population Figures in the Hollister Area

Year	City of Hollister Population	San Benito County Population
1950	4,903	14,370
1960	6,071	15,306
1970	7,663	18,226
1980	11,488	25,005
1990	19,212	36,697
2000	34,424	53,234

Table 1-3. Population Projections for the Hollister Area

Year:	2005	2010	2015	2020	2025	2030
City of Hollister Population[(a)]	38,280	44,423	48,954	53,485	56,594	59,703
San Benito County Population[(a)]	58,411	63,890	69,533	75,176	79,484	83,791

[(a)] AMBAG Projections

Section 4 contains additional information regarding historical and projected population and water demand figures.

1.3.3 Past Drought, Water Demand, and Conservation Information

The local region was affected by the prolonged drought in California from 1987 through 1992. The City, Sunnyslope, and the District met their customers' needs through careful conjunctive management of groundwater and local reservoir supplies, and by investing in water conservation measures and practices. Both Sunnyslope and the City adopted "no waste" ordinances in 1990 and prepared their first UWMP in 1991. The City of Hollister is signatory to the California Urban Water Conservation Council (CUWCC) Memorandum of Understanding (MOU), whose conservation measures and guidelines were used in the development of the 2000 UWMP. The District and Sunnyslope agreed to use these guidelines in concept in the 2000 UWMP.

Several initiatives have been taken throughout the District since the last major drought towards more efficient use of water within its jurisdiction. Some of these accomplishments include:

- Development of a Water User's Handbook, which sets forth guidelines for the efficient use of CVP water for agricultural purposes, which represents a significant portion of the District's total water use. The Handbook is updated regularly.
- Hiring a Water Conservation Coordinator to promote water conservation with the District's agricultural and M&I users within the District's service area. The coordinator is co-funded by Sunnyslope and the City.
- Development of a Water Education/Conservation Program which includes an "Ag in the Classroom (Farm Day)" for students, agricultural workshops for local farmers, and dissemination of water information brochures and information on conservation.

Section 2: Water Sources (Supply)

Law

> 10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
>
> 10631 (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments [to 20 years or as far as data is available.]

This Section provides a detailed discussion of the existing and planned water supplies available to the Study Area. The District, City, and Sunnyslope currently receive water from local groundwater which is managed by the San Benito County Water District and imported water for which the District is the CVP contractor. There exists the potential to include a third water source supply through recycled water sources. Each of the water sources are described in detail in the subsections below.

2.1 Water Supply Sources

Groundwater has been of great importance in the agricultural development of the Hollister area, serving as the main source of irrigation water for the industry. With large-scale increases in irrigated acreage within the area, came increased dependence on groundwater. By the 1950's, it was apparent that significant overdraft of groundwater resources was underway, with falling water tables and land subsidence becoming grave concerns. It was clear that additional water supplies would be required to accommodate increasing future agricultural and municipal demands for water.

In a 1954 Reconnaissance Report for the Hollister Project prepared by the USBR, the ultimate water demand for the fully developed area was estimated to be 100,000 AFY. This report was followed by additional studies that evaluated the potential for supplementing the area's groundwater resources with imported water from the USBR's CVP. A 1968 study addressing the requirements for imported water for the period 1975-2030 (Creegan & D'Angelo-McCandless) established an ultimate safe groundwater yield of 58,800 AFY by the year 2030, with a total agricultural and M&I demand of 108,400 AFY, and calculated a need for 54,900 AFY (including conveyance losses of 5,300 AFY) of imported water from the CVP. A subsequent modification to the areal extent of the zone of benefit for use of imported water resulted in a reduction of total estimated demands, and the agreed-upon volume of imported water was set at 43,800 AFY.

Construction began on the CVP San Felipe Project (SFP) in 1978. The District formed a zone of benefit, known as Zone 6, to operate and manage the San Benito Division of the SFP facilities, and to finance, construct and operate the local distribution facilities needed to deliver water to users. Zone 6 totals 50,000 acres and includes the City, Sunnyslope, and San Juan Bautista as well as portions of the County. The District received its first delivery of imported water from the CVP in the 1987 water year.

Zone 6 includes the urban service areas of the District, the City, and Sunnyslope and all of the HSA. The HSA includes the urban service areas of the District, the City and

Sunnyslope. Sunnyslope's service area includes portions of the City not served by the City's water distribution area. The major portion of the HSA overlies the Hollister East subbasin, the Hollister West and Tres Pinos groundwater subbasins, as well as 3 other locally defined subbasins described in greater detail below in Section 2.2.1.3.

The areal extent of the Hollister East, Hollister West and Tres Pinos subbasins is approximately 25,100 acres (Jones & Stokes, 1998). CVP water deliveries to Zone 6 totaled approximately 20,300 acre-feet (AF) for agricultural and 3,600 AF for M&I uses in the 2004 water year. Of these deliveries, the three subbasins of interest in this study received approximately 9,044 acre-feet for agricultural uses and 3,200 acre-feet for M&I uses. This represents about 36 percent of total agricultural CVP deliveries and nearly 71 percent of M&I uses.

Table 2-1 below summarizes current and projected quantities of water available to the three subbasins by water supply source.

Table 2-1. Current and Projected Water Supplies

Water Supply Sources	2004	2010	2015	2020	2025	2030
Purchased from USBR[(a)]	13,925	13,925[(d)]	13,925[(d)]	13,925[(d)]	13,925[(d)]	13,925[(d)]
City produced groundwater[(b)]	16,000	16,000	16,000	16,000	16,000	16,000
Recycled Water[(c)]	0	0	0	0	0	0
Total	29,925	29,925	29,925	29,925	29,925	29,925

Units of Measure: Acre-feet per year (AFY)

(a) This value is equal to the sum of the average agricultural and M&I deliveries made to the three subbasins of interest from 2000-2004 as a portion of the full Zone 6 USBR contract entitlements (35,500 AFY for agriculture and 8,250 AFY for M&I).

(b) Groundwater production is estimated at the sustained yield of 16,000 AFY of the three subbasins as described in Appendix E of the 2000 UWMP and in Section 2.2.3 titled Basin Yield.

(c) Although recycled water is produced within the three subbasins, most is planned for export for recharge and/or reuse in the San Juan subbasin and there will be limited reuse in the HSA . Recycled water supply production estimates are prepared in **Table 8-5** in the Water Recycling Section of this plan.

(d) The available water from USBR may be modified pending completion of contract negotiations as well as changes in Delta conditions that may require reduced pumping in the future from the Delta per the May 25, 2007 Court ruling that the biological opinion under which CVP and State Water Project (SWP) water is exported from the Delta is inadequate.

2.2 Groundwater

Historically, the HSA has relied on groundwater from the San Benito County portion of the Gilroy-Hollister basin, as described in greater detail below, for its entire water supply. The importation of San Felipe water for agricultural purposes began in 1987. In 2002, the Lessalt Water Treatment Plant, with a capacity of 3 million gallons per day (MGD), was constructed to treat imported CVP water for municipal purposes. Although the addition of imported water has reduced the dependence on groundwater, groundwater remains the major source of water supply in the basin.

2.2.1 Basin Description

2.2.1.1 Location

The HSA overlies the Gilroy- Hollister basin, designated as DWR Basin No. 3-3. The San Benito County portion of the basin is bounded by the Pajaro River in the North, the Diablo Range on the east and the Gabilan Range and Santa Cruz Mountains to the southwest. The basin covers 200 square miles of the Pajaro watershed and is drained by its tributaries, most notably the San Benito River. The San Benito River, intermittent in some parts of the basin, runs through the southern portion of the basin before reaching the Pajaro River. The San Benito River, when flowing, is a recharging stream along much of its channel, but groundwater contributes some base flow upstream of its confluence with the Pajaro River. The Hernandez Reservoir, located upstream of the basin on the San Benito River, is operated to enhance flow in the river by releasing flows to recharge the groundwater basin.

2.2.1.2 Geology

Figure 2-1 shows the surficial geology of the basin and the three main geologic units of the study area, the Holocene and Pleistocene alluvium and Pliocene Purisima formation. The most productive water bearing units are Holocene age alluvium and river channel deposits. The thickness of the alluvium varies throughout the basin from an average thickness of 150 feet in the San Juan Valley to much thicker sections in the northern portion of the basin (exact thickness unknown). Older alluvial deposits (Pliocene and Pleistocene) are found below the younger alluvium with outcrops in the southeast portions of the basin, as shown in **Figure 2-1**. The Pliocene-age Purisima formation underlies the alluvial deposits over much of the basin, and may extend from 2,000 to 7,000 feet below ground surface. The formation is structurally deformed by folding and faulting (Kilburn, 1972).

Two major faults occur in the vicinity. As shown on **Figure 2-1**, the San Andreas Fault crosses the southwest margin while the Calaveras Fault crosses the basin from southeast near Tres Pinos Creek to north-northwest near the Pajaro River and San Felipe Lake. The Calaveras fault zone is a groundwater flow barrier along a portion of its extent (Kilburn 1972).

2.2.1.3 Subbasins

Figure 2-2 shows subbasins as defined by DWR and by the District. DWR-defined subbasins are defined by the solid yellow line and the District-defined subbasins are outlined in a dashed green line. DWR Bulletin 118 (2003) divides the basin into three subbasins: the Bolsa, Hollister Valley, and San Juan. The Hollister Valley subbasin is separated from the other two basins by the Calaveras fault on the west, while the Bolsa subbasin is bounded by the Pajaro River in the north and Flint Hills to the south. The San Juan subbasin extends southward along the San Benito River channel to approximately 20 miles upstream of the confluence of the river and Tres Pinos Creek.

The District divides the basin into six different subbasins: Bolsa, Southeast Bolsa, Pacheco, Hollister East, Hollister West, San Juan, and Tres Pinos. The HSA denoted with a thick black line on **Figure 2-2**) overlies a portion of all three DWR defined

subbasins and five of seven locally defined subbasins. The major portion of the HSA occurs in the DWR Hollister subbasin and the District Hollister East subbasin.

2.2.1.4 Water levels

Water levels in the basin have been recorded since 1913. Annual water level measurements beginning in 1945 show general rise and declines of water levels correlating to stream discharge. In the 1972 U.S. Geological Survey (USGS) report on the basin, Kilburn suggested that the time lag between increased stream flow and increased water levels may be as much as one year (Kilburn 1972). **Figure 2-3** illustrates the decline and recovery of water levels in the Hollister East area. Between 1945 and 1969, a general decline in water levels occurred in the Hollister area. As shown, groundwater levels decreased significantly from 1945 to 1970 as agricultural water demand in the basin increased. In 1987, imported water decreased the demand for groundwater and resulted in the recovery of water levels in Hollister East. Water levels continued to rise even through drought conditions in the late 1980s.

Groundwater levels in the Hollister West subbasin, also shown on **Figure 2-3**, do not show the same decline and recovery as seen in the Hollister East subbasin. Hollister West is smaller and predominantly urban, and therefore is affected more by municipal pumping than agricultural pumping. In 2002, the Lessalt treatment plant came on line to treat imported water for municipal users. In the future, as more of the municipal demand is satisfied by the water treated at Lessalt, groundwater levels will stabilize and most likely show less variation due to rainfall. Groundwater levels in Hollister West may also be influenced by wastewater percolation locations near the subbasin's western boundary. As a result of basin-wide groundwater management and a decreased reliance on local groundwater, the groundwater levels in the Hollister West subbasin have recovered to pre-overdraft conditions.

Figures 2-4, 2-5, and 2-6 show groundwater level contour maps for August 1913, Fall 1968, and October 2004, respectively (Kilburn 1972 and Yates 2005). Although the water levels declined significantly between 1913 and 1968, the general direction of groundwater flow did not change in the Hollister Urban Area. In the southern part of the basin, groundwater flows from the southeast to the west and in the northern part of the basin flow is from the southeast to the northwest. In the Hollister area, groundwater levels declined more than 80 feet from 1913 to 1968 and the basin was considered to be in overdraft. With importation of surface water, water levels across the basin have either increased or remained stable. Comparison of **Figures 2-4 and 2-6** indicates that current groundwater levels and directions of groundwater flow are similar to 1913 conditions.

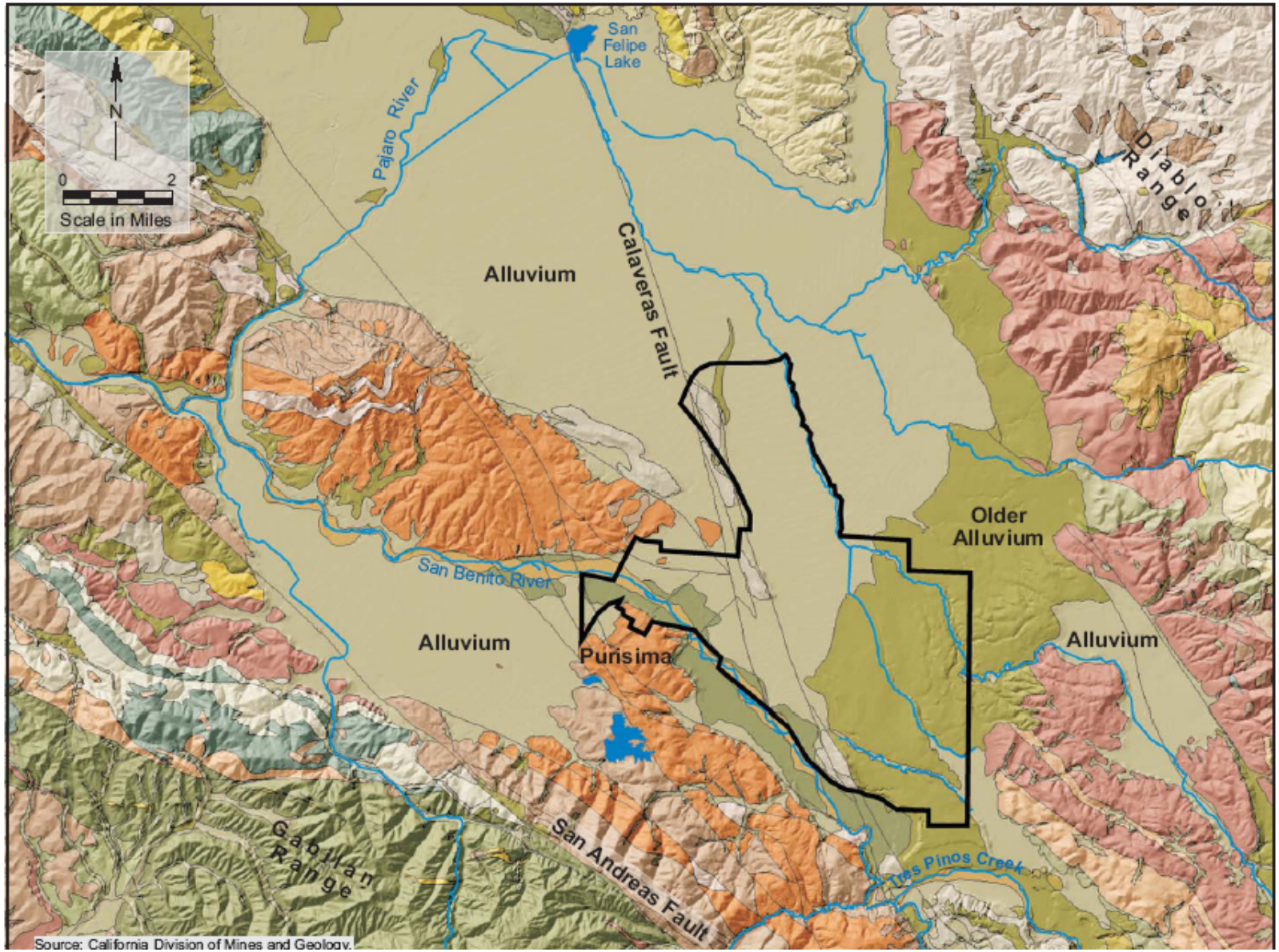

Figure 2-1. Surface Geology of the Groundwater Basin.

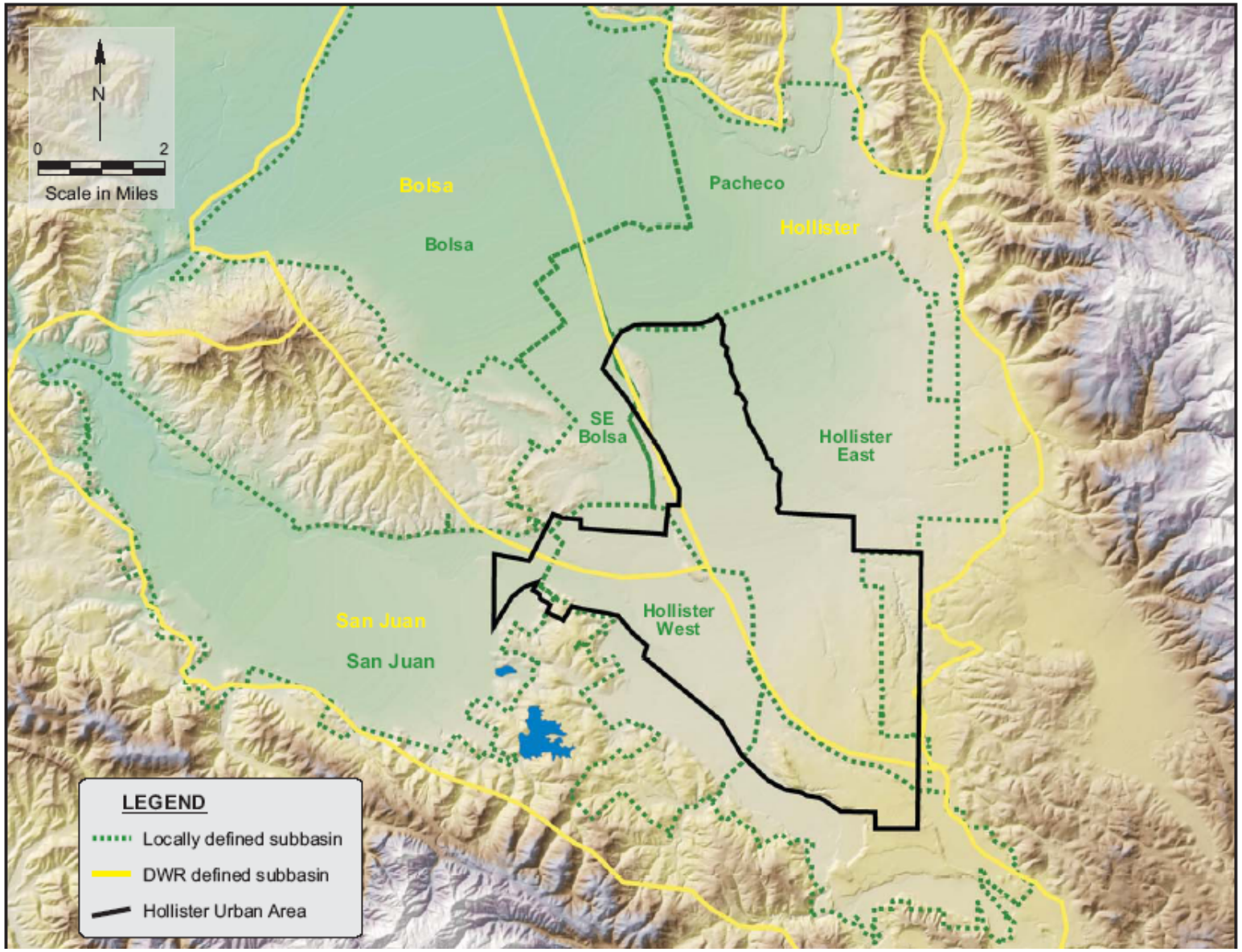

Figure 2-2. Location of the HSA and Subbasin Divisions.

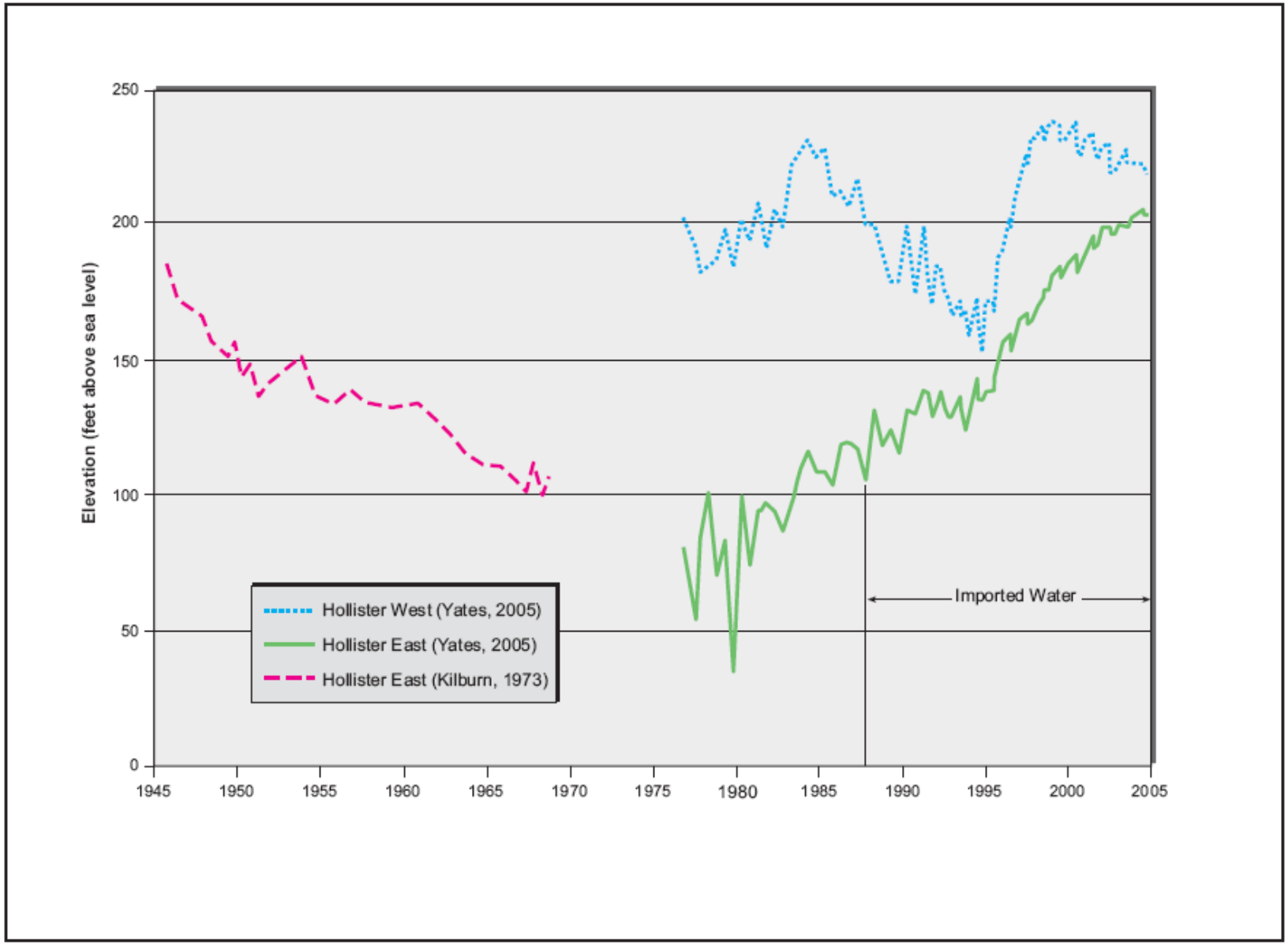

Figure 2-3. Hydrographs of Average Groundwater Elevations, Hollister.

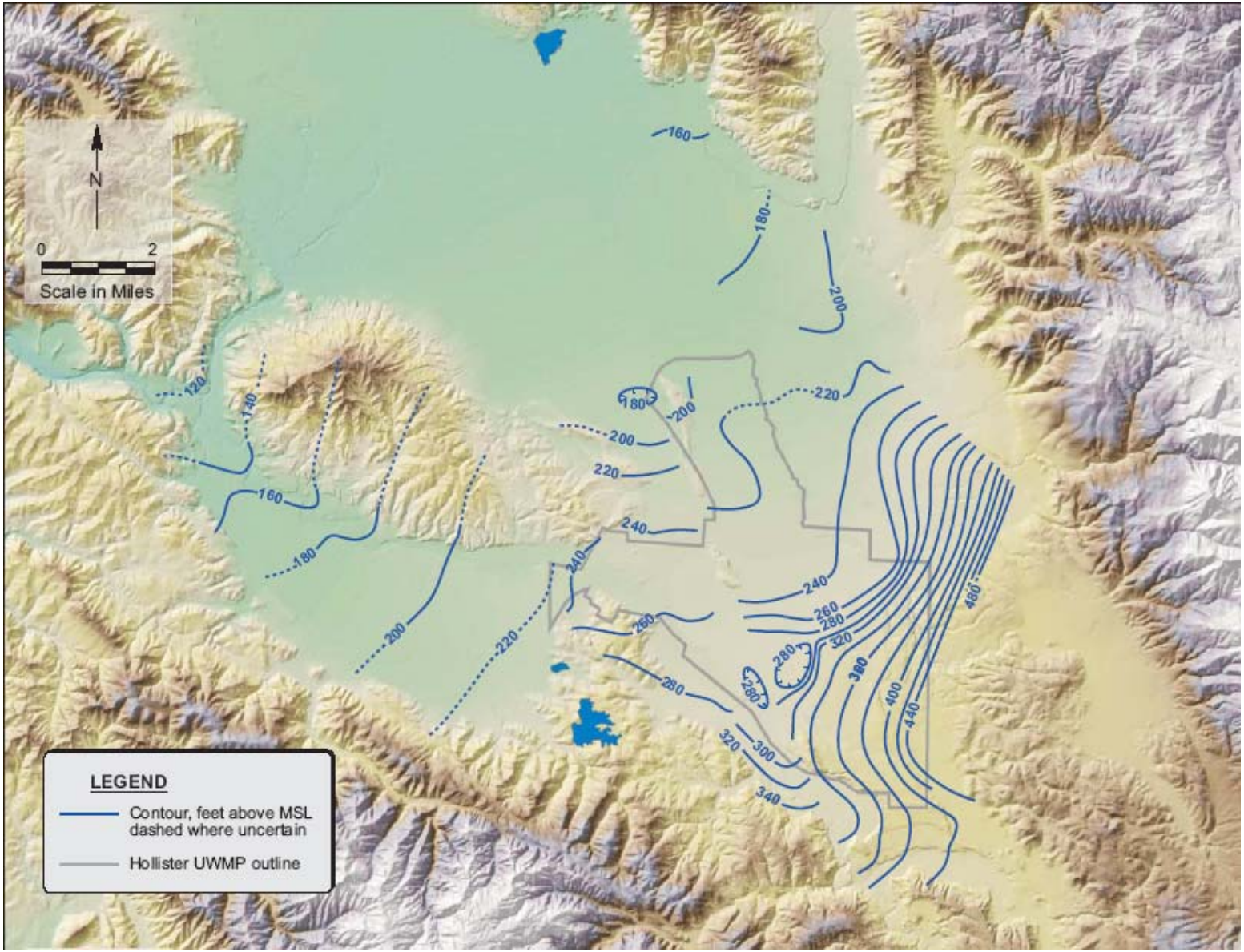

Figure 2-4. Groundwater Elevation Contour Map, 1913.

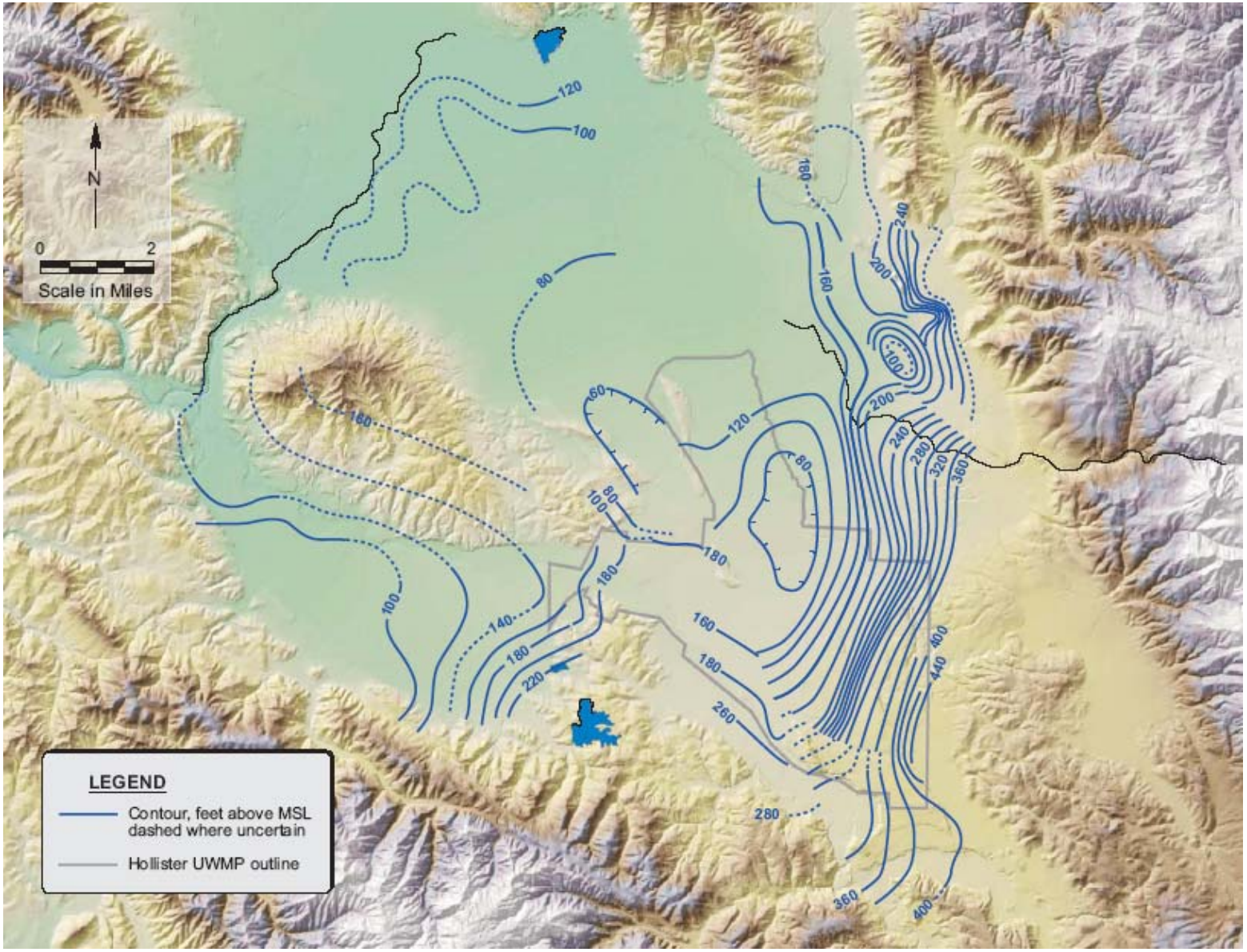

Figure 2-5. Groundwater Elevation Contour Map, 1968.

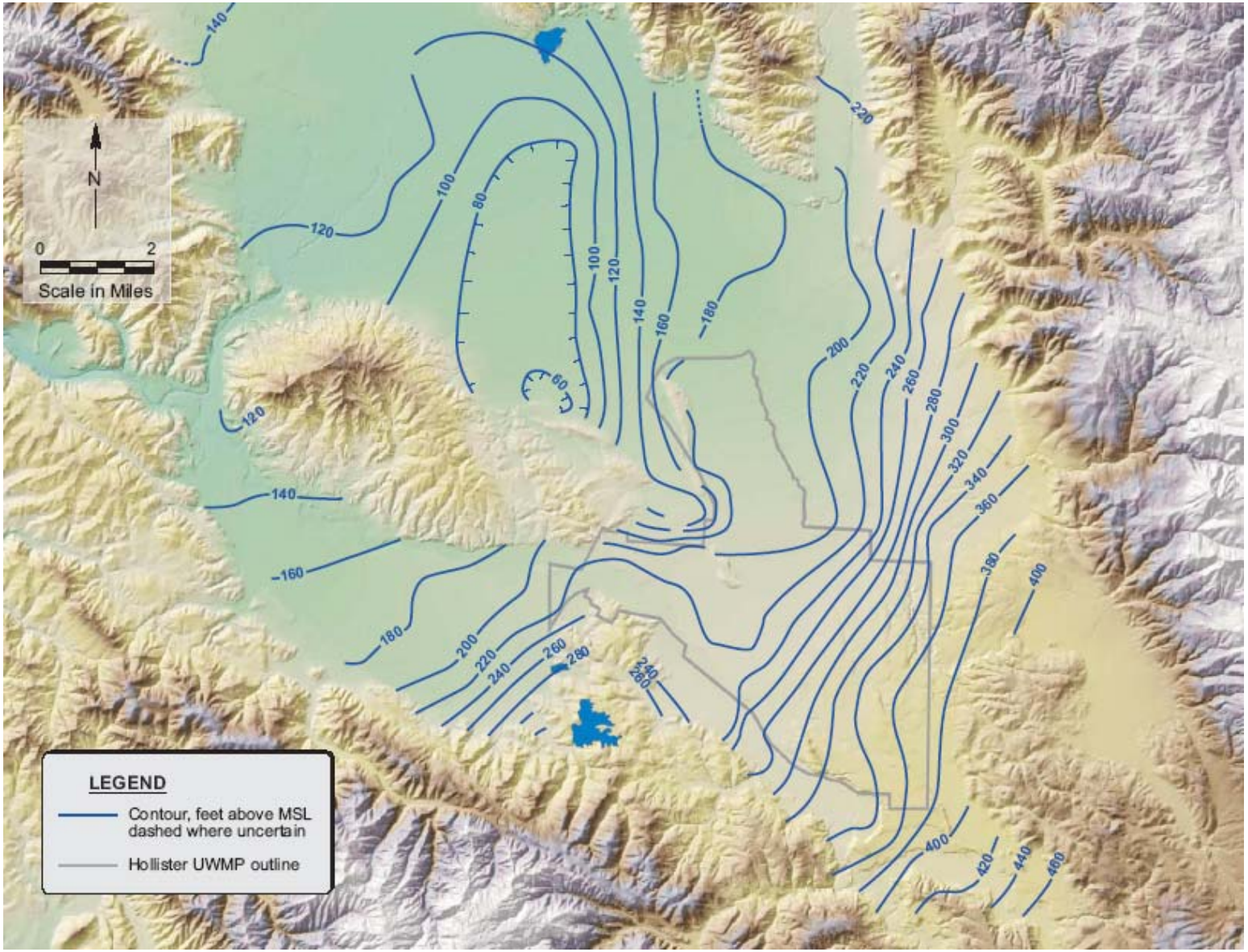

Figure 2-6. Groundwater Elevation Contour Map, 2004.

2.2.2 Ongoing Management

A Groundwater Management Plan was developed for the Hollister portion of the Gilroy-Hollister basin in 1998 (EDAW 2001). Since then, updates have been prepared to keep the document up to date with the changing needs of the basin. The latest update was prepared by Kennedy/Jenks Consultants in July 2003 for the WRA. The update summarized the condition of the basin, discussed current and future supplies and demands, identified objectives and criteria for groundwater management, and discussed ongoing and proposed activities for groundwater management.

2.2.2.1 Other ongoing programs, plans and projects

The District manages a comprehensive program to monitor both the water levels and water quality across the basin. Water levels have been measured periodically in the area since 1913 and consistently since 1945 (Kilburn 1972). A formal water level monitoring program was developed by the USGS in the Open-File Report 81-66. The report evaluated the water level network that existed at the time and made modifications to improve the network.

Today, the District monitors 80 to 100 wells on a semi-annual basis (Kennedy/Jenks, 2003). The City and Sunnyslope monitor both water levels and water quality periodically for their municipal wells. Since 1998, the District has monitored eighteen wells across the basin for basic water quality constituents. Through an AB 303 grant, Todd Engineers and the District developed a comprehensive water quality monitoring program (Todd 2004), including a database with all available water quality data, assessment of the water quality of the basin, and development of a network to monitor both problem areas and random portions of the basin as background. With this new water quality program and the existing water level network, groundwater will continue to be monitored and data collected will serve to inform groundwater management decisions.

The District has also developed a numerical groundwater model to simulate the groundwater basin and its response to specific management operations. The numerical model simulates the groundwater basin under historic and projected future conditions. This model is helping to identify areas of uncertainty in hydrogeologic parameters and is intended to advance the understanding of the basin and serve as a tool to quantify the effects of groundwater management objectives.

In addition, the District and the City are collaborating to develop a water and wastewater management plan for the HSA. This plan will build on the work in this UWMP and other ongoing programs to develop a long term plan for the area's water supply.

2.2.3 Basin Yield

The groundwater storage capacity of the basin is estimated to be approximately 500,000 AF within the uppermost 200 feet of the groundwater basin (Kennedy/Jenks 2003). Although the total volume of storage is large, the usable groundwater storage capacity may be much smaller and its exact volume is unknown (DWR 2003). Safe yield estimates, or "the amount of groundwater that can be continually withdrawn without adverse impacts" are often used to gage the sustainability of groundwater pumping (DWR 2003). Safe yield estimates may be based on the estimated value of

pre-development recharge and are designed to maintain equilibrium in the basin. Previous estimates of the basin groundwater yield have been given, ranging from 40,000 to 54,000 AFY (Kennedy/Jenks 2003). However, relying on a single value, or range of values, may not accurately ensure sustainability of the water supply. In the USGS Circular 1186, the authors supported a more fluid view of groundwater management rather than a static value: "As human activities change the system, the components of the water budget (inflows, outflows, and changes in storage) also will change and must be accounted for in any management decision (Alley et al. 1999)."

Annual water budgets provide a good summary of the groundwater basin's condition, as they identify changes in the basin operation and indicate if the overall balance (or imbalance) of recharge and discharge. Groundwater discharge may exceed groundwater recharge for a short time, due to a temporary increase in demand or decrease in natural recharge (drought) without serious adverse impacts to the basin. However, if this imbalance persists for a number of years, overdraft may occur (DWR 2003).

It is assumed that the sustainable yield discussion for the Hollister East, Hollister West, and Tres Pinos Subbasins that was developed as Appendix E of the 2000 UWMP by Gus Yates of Jones and Stokes remains applicable. The discussion is as follows:

> "The amounts of groundwater pumping in the three basins during water year 1997 provide an estimate of groundwater yield that is adequate for general water resources planning purposes…. Total pumping for the three subbasins was 16,100 [AF]…
> …the amount of pumping in 1997 is probably a conservative estimate of yield."

Therefore, for the purposes of this 2006 UWMP update, a value of 16,000 AFY is used as the sustainable groundwater yield or groundwater production for planning purposes.

2.2.4 Water Balance

The District produces an annual report that examines annual change in groundwater levels and storage as a basic indicator of net water balance conditions. The entire water balance is documented on a triennial basis in the basin, including inflows, outflows, and change in storage. All values for the basin-wide water balance in this section are those calculated and reported in the Annual Groundwater Report for water year (WY) 2004 (Yates 2005). A simplified version of the basin-wide water balance is shown in **Table 2-2**. The water balance for the entire basin is presented, because all parts of the basin are hydrologically connected, including the subbasins underlying the HSA.

Table 2-2. Simplified Basin-wide Water Balance for WY 2004.

Inflows		
Deep Percolation		
	Rainfall	8,636
	Return Flow	4,645
	Reclaimed Water	3,635
Stream Percolation		
	Natural	5,938
	Managed	2,241
Groundwater Inflow	External	6,500
TOTAL		**31,595**
Outflows		
Pumping		
	Agriculture	26,180
	Municipal, Domestic, and Industrial	8,201
Groundwater Outflow	External	1,500
TOTAL		**35,881**
Storage		
Change in Storage	Outflow-Inflow	**-4,286**

2.2.4.1 Inflows

The groundwater basin is recharged by percolation of precipitation, infiltration by streams, return flows from irrigation, wastewater percolation, and subsurface inflow.

DEEP PERCOLATION

The largest source of inflow to the groundwater basin is deep percolation from precipitation. The amount of water from rainfall reaching groundwater was estimated to be 8,500 AF in WY 2004. This estimate was calculated using a soil-moisture budget model. Deep percolation of agricultural return flows is estimated to be approximately 4,500 AF as of WY 2004. Reclaimed wastewater percolation in WY 2004 is around 3,500 AF, with the largest volume in the San Juan Valley (2,500 AF), and about 800 AF in Hollister East and Hollister West combined.

STREAM PERCOLATION

Another major source of recharge to the groundwater is stream percolation, both natural and managed, along local streams including the San Benito River, Pacheco Creek, Tres Pinos Creek, Santa Ana Creek, and other smaller waterways. The natural infiltration from these channels in WY 2004 was about 5,900 AF. The District manages Hernandez

reservoir to extend flows in the San Benito River and increase percolation to the groundwater basin. Releases from the reservoir currently are managed to provide flows as far as Cienega Road, but not to interfere with the percolation of the City's wastewater treatment facilities located downstream. The increased flow in the San Benito River results in percolation of approximately 1,200 AFY, most to the subbasins underlying HSA. In addition to Hernandez Reservoir, water from Paicines reservoir is also recharged to the basin. In WY 2004, 1,000 AF was recharged to the groundwater through river bed infiltration. In the past, the amount of recharge has been greater (as much as 11,000 AF in water year 1997) but has been intentionally limited in response to locally high groundwater levels.

SUBSURFACE INFLOW

The Annual Groundwater Report for WY 2004 distinguishes the groundwater inflow and outflow from each subbasin. Most of the groundwater inflow and outflow is internal to the basin. Groundwater entering the San Benito County portion of the Gilroy-Hollister basin from outside totaled 6,500 AF for WY 2004. The largest volume of inflow to the Northern San Benito County basin was into the Bolsa subbasin from the Pajaro River and the Gilroy portion of the Gilroy-Hollister basin (5,000 AF). Yates estimated that the Pacheco subbasin, also in the north, received about 1,000 AF of groundwater inflow and Tres Pinos, in the south, received about 500 AF from outside the basin in WY 2004 (Yates 2005).

2.2.4.2 Outflows

Groundwater flows out of the basin by pumping, discharge to surface water, evapotranspiration, and subsurface outflow.

PUMPING

Figure 2-7 illustrates estimated pumping, in the HSA only, by major customer type by water year. The main groundwater users in the area are the large municipal agencies (the City and Sunnyslope), agricultural users, and small water companies and private domestic users. Small water companies and private domestic users are combined into one category, domestic, in **Figure 2-7.** These estimates are based on the District metering of domestic, municipal, and agriculture wells (Yates, 2005).

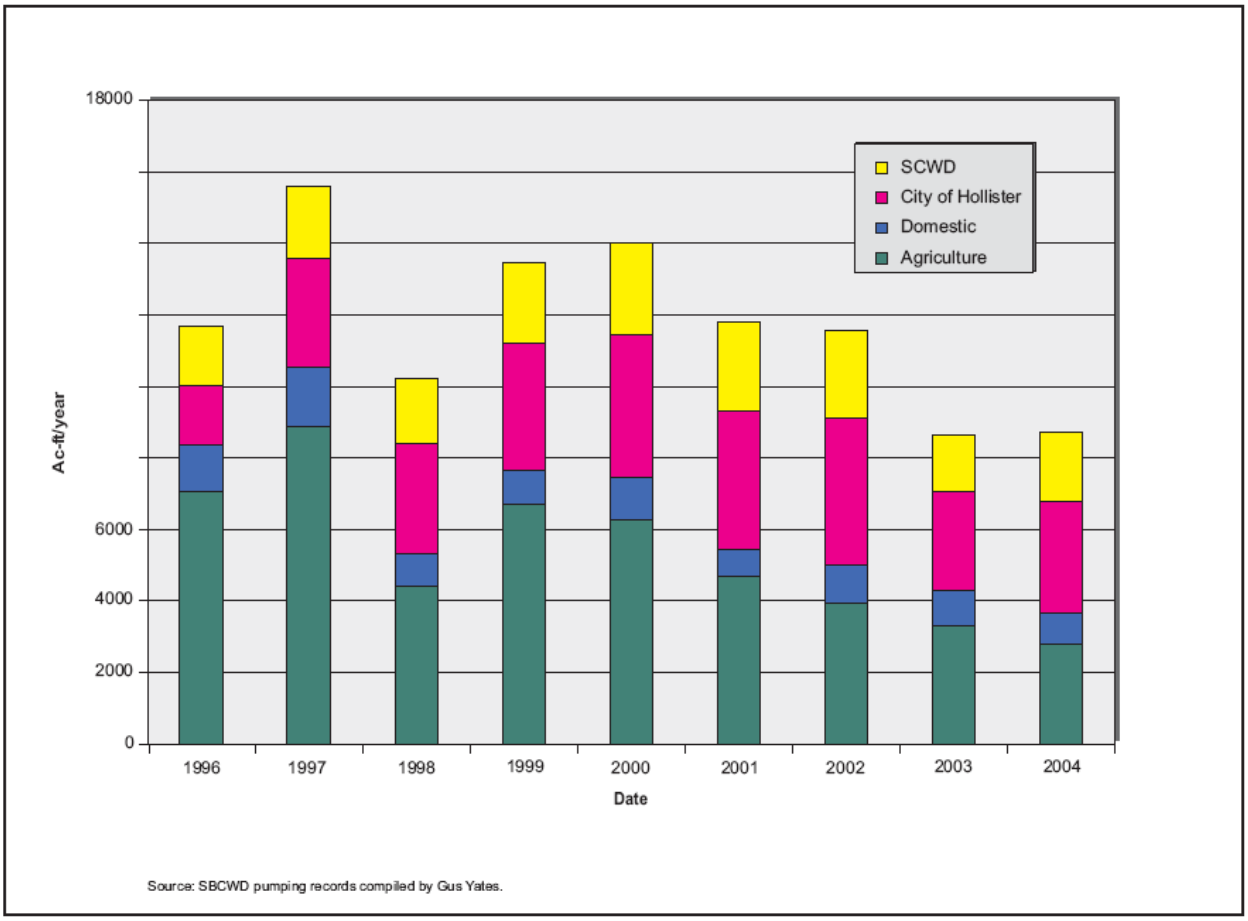

Figure 2-7. Pumping in Hollister Service Area (HSA) in Last 10 Years.

Current Municipal Pumping

The City is the largest municipal supplier of groundwater in the basin, followed closely by Sunnyslope. These two agencies pumped a combined 5,400 AF in 2004 accounting for approximately 64 percent of the total municipal water supply in the HSA.

Location

The City has a total of six wells in the HSA. Four of the wells are located along the southern boundary of the HSA and the San Benito River. Two wells are located in the northern HSA along Fallon Road. Sunnyslope has four active wells. The Sunnyslope wells are generally located to the east of the City's wells along the southern boundary of the HSA. Due to security precautions, the exact locations of the City and Sunnyslope wells are not displayed or labeled on **Figure 2-8**, but the general locations are indicated with large blue dots.

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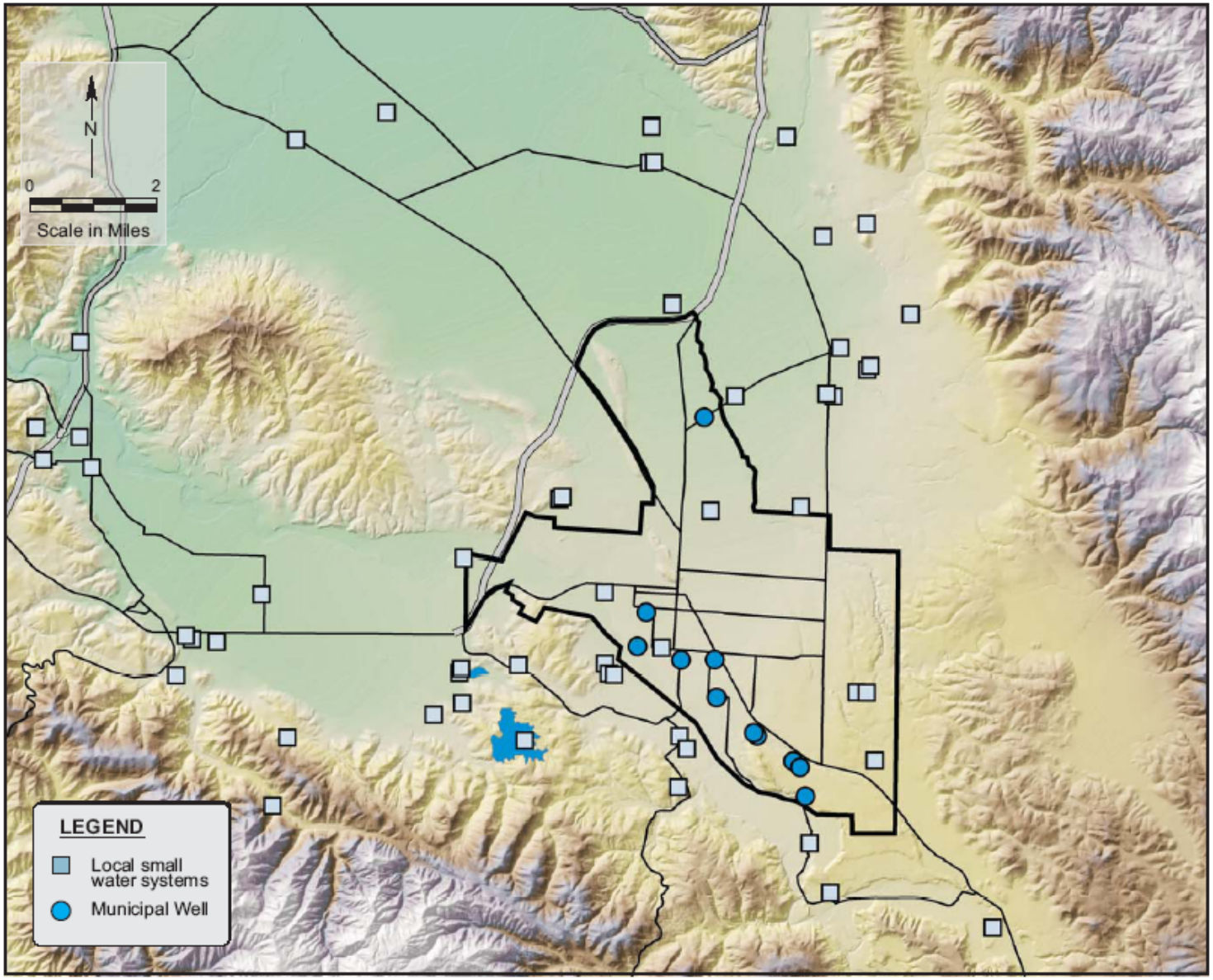

Figure 2-8. Water Systems and Municipal Wells in Hollister.

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Well Construction
The City's active wells are between 500 and 645 feet deep and were drilled between 1964 and 1996. The Sunnyslope active wells range from 336 feet and 550 feet deep. The active wells were drilled between 1976 and 1994. Southside Well #1, both the shallowest (240 feet deep) and oldest well (drilled in 1955), is now inactive due to high nitrate concentrations.

Amount
Table 2-3 summarizes the groundwater pumping of the two major municipal groundwater suppliers, the City and Sunnyslope, while **Figure 2-9** illustrates monthly pumping patterns in recent years. Groundwater was the only water source for these agencies prior to the completion of the Lessalt Water Treatment Plant in 2002. After start-up of the plant, the City and Sunnyslope reliance on groundwater declined to about 71 percent and 58 percent of their supply, respectively. In WY 2004, the City pumped 3,000 AF of groundwater and Sunnyslope pumped about 2,400 AF.

Table 2-3. Historic and Current Groundwater Pumping (AFY).

Water Provider	1996	1997	1998	1999	2000	2001	2002	2003	2004
City	1,648	3,046	3,096	3,558	4,018	3,851	4,145	2,754	2,874
% of Total Water Supply	100%	100%	100%	100%	100%	100%	N/A	N/A	69%
Sunnyslope	1,662	2,018	1,816	2,255	2,559	2,514	2,464	1,586	1,906
% of Total Water Supply	100%	100%	100%	100%	100%	100%	100%	46%	44%

Note:
N/A = Data not available

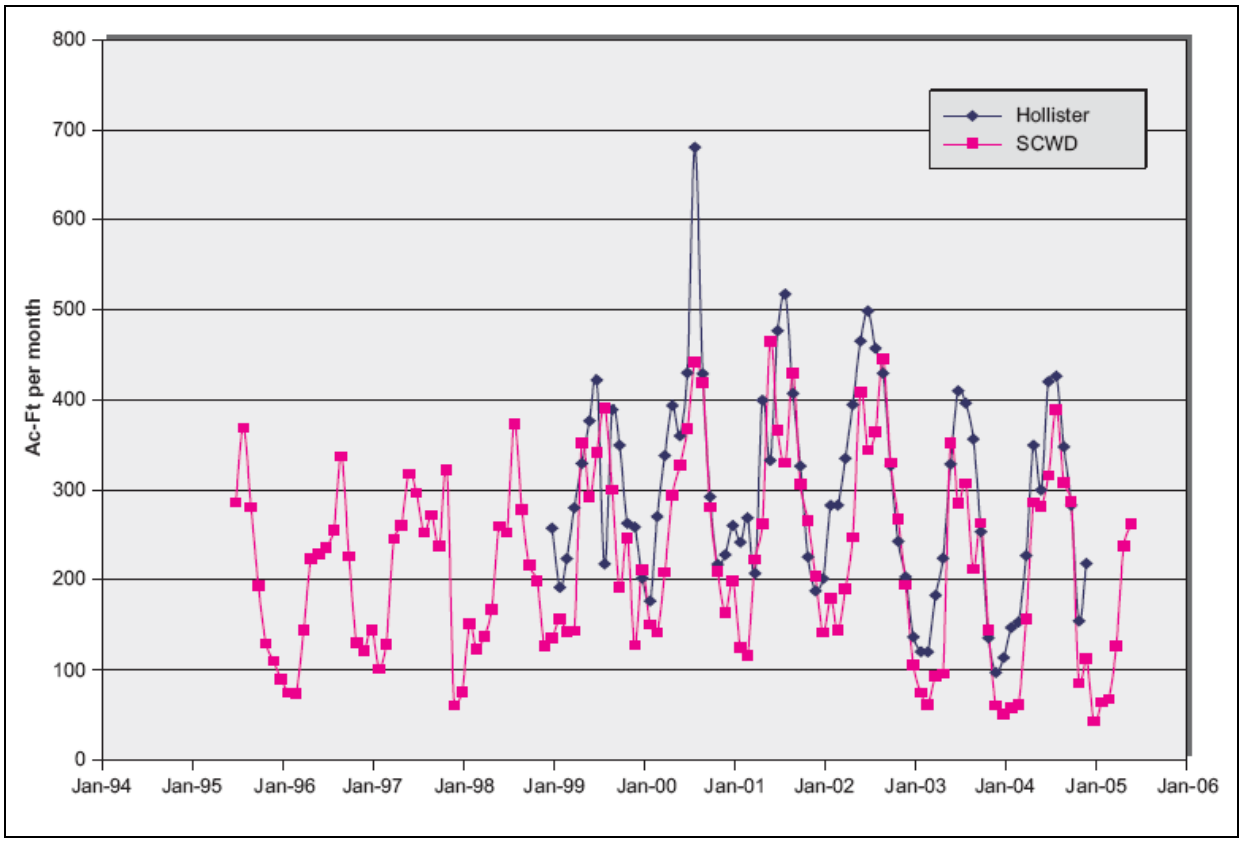

Figure 2-9. City and Sunnyslope Monthly Pumping Cycles.

As illustrated in **Figure 2-9**, groundwater pumping varies by month, with peak pumping in the hotter, dryer summer months of July/August and decreased pumping in the colder, wetter winter months of February and March. Summer pumping is four times the amount of winter pumping.

The current municipal pumping is sufficient for the respective urban water demand in the basin. The pumping does not exceed the recharge, and at current rates, is not in danger of causing basin overdraft during normal conditions.

Projected Municipal Pumping

The future use of groundwater depends on both the future total water demand and the future availability and use of imported water. Due to the marginal quality of local groundwater, users prefer imported water. Consistent with water agency objectives to deliver the highest water quality possible, efforts are being made to maximize the amount of imported water in the basin, with groundwater use to satisfy the remaining demand. This policy also supports local salt management plan objectives, including provision of high quality water to reduce consumer use of water softeners and subsequent salt loading to the basin through wastewater disposal.

An increase in pumping in the future will increase the outflow of groundwater in the basin but may not affect the overall change in storage. The amount of imported water that could be recharged to the aquifer through percolation has decreased recently due to the lack of available storage. If groundwater pumping were increased slightly, additional

water could be recharged to offset the increased discharge and keep the basin in equilibrium.

Agricultural Pumping

A major use of groundwater in the basin is irrigation. Approximately 41,000 acres of agriculture exist in the basin (DWR, 2002) and according to the 2005 annual report, approximately 21,000 AF of groundwater is applied annually basin-wide for agriculture. In the HSA 6,000 acres are considered agricultural, or approximately 10 percent of the total area. Based on the District's meter records, about 2,800 AF, or 37 percent of the total groundwater pumped in the HSA were used for irrigation in WY 2004. As shown in **Figure 2-7**, the volume pumped for agricultural use varies from year to year, reflecting in part varying rainfall amounts. The volume of agricultural pumping in the HSA is expected to decrease slightly as the urbanized part of the City expands.

Domestic Pumping

In addition to the City and Sunnyslope, numerous local small water systems (LSWS) supply drinking water to various communities. There are about 150 in the basin, each with one or two wells for water supply. Four LSWS are located in the HSA and an additional ten are located nearby. The general locations of these systems are shown as blue squares in **Figure 2-8**. These systems serve residents of mobile home parks, schools, and neighborhoods. The amount of groundwater used by these systems is not readily available as they are not required to publish their water use. Individual homeowners with a well or water systems with less than 5 connections are considered domestic water users. San Benito County Department of Public Health keeps records of wells drilled in the area. It is unclear how many of these wells remain active and how much they pump annually. An estimate of all wells used for domestic purposes (excluding Sunnyslope and the City) was based on the District's metering records. In WY 2004, 855 AF was pumped for domestic users in the HSA (11 percent of total HSA groundwater) and about 3,800 AF were pumped basin wide (Yates personal communication).

SUBSURFACE OUTFLOW

Groundwater discharges from the San Juan subbasin to the San Benito River near Chittenden Gap. The volume of this discharge is dependent on the water levels in San Juan Valley and in WY 2004 was estimated at 1,000 AF.

2.2.4.3 Groundwater Storage

The change in groundwater storage on an annual basis can de determined by computing the difference in outflow and inflows or by independently assessing change in groundwater levels. The change in storage is calculated by both methods in the District Annual Report for both Zone 6 and the entire basin.

Figure 2-10 shows the change in storage reported for water years 1978-2004. The change in storage values shown are approximate and for illustrative purposes only. Although the values shown on **Figure 2-10** were all calculated based on the change in water levels, the method of calculation may have been revised from year to year. Between water years 1993 and 1998 (with the exception of WY1994) the amount of groundwater storage increased an average of about 25,400 AFY. During this period, the large amount of available storage (due to low groundwater levels) allowed large volumes

of newly available imported water to be recharged into the basin through enhanced stream percolation. A decrease in storage was observed in 1994 (not shown on the graph) as the result of low annual precipitation causing a marked decrease in stream percolation.

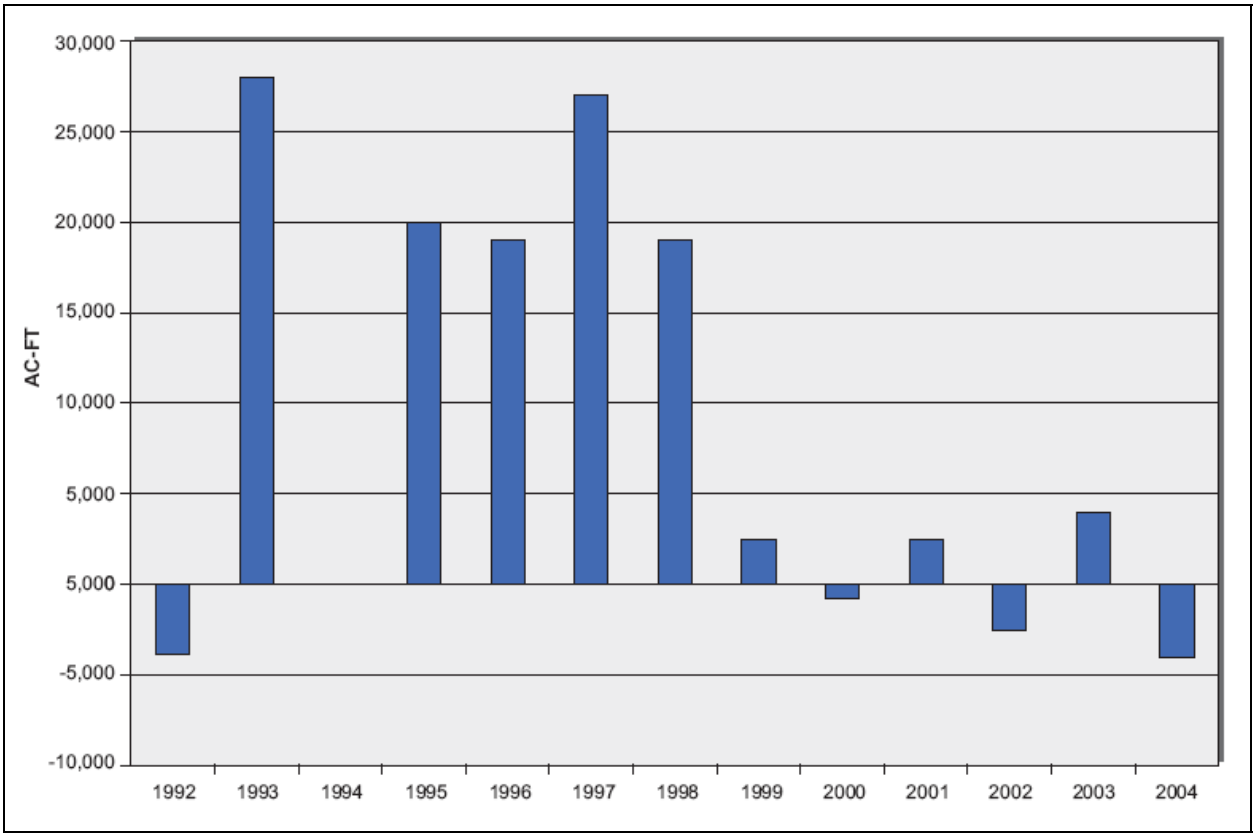

Figure 2-10. Change in Groundwater Storage (AFY), Water Years 1992 - 2004

Over the past five years the change in the amount of groundwater in storage in the basin has varied minimally from a decrease of 5,000 AF to an increase of 4,000 AF. In WY 2004, the amount of water in storage decreased by about 5,000 AF, approximately 15 percent of the volume of inflow. This relatively small change in storage over the past five years indicates that the basin is in equilibrium and that discharge equals recharge under current operating conditions (DWR 2003).

2.3 Imported Water

The CVP is operated by USBR for the benefit of CVP contractors. The CVP includes some 500 miles of major canal as well as conduits, tunnels, and related facilities, from the Cascade Mountains in the north to the Tehachapi Mountains in the south. It also contains 20 dams and reservoirs, and 11 power plants. The CVP annually delivers approximately 7 million AFY system-wide for agricultural, urban, and wildlife use.

The District is a contracting agency with a current annual contracted entitlement of 35,550 AF for agricultural purposes and 8,250 AF for M&I purposes. However, recent actions have resulted in reallocation of CVP supplies for legal and institutional purposes,

such as meeting Bay-Delta Standards, minimum instream flows and those required under the CVP Improvement Act (CVPIA), and they have effectively reduced CVP contract allocations.

The USBR released a 2001 Draft M&I Shortage Policy, whose purpose is to:

- Define water shortage terms and conditions applicable to all CVP M&I contractors
- Establish a minimum water supply level that (a) with M&I contractors' drought water conservation measures and other water supplies, would sustain urban areas during droughts, and (b) during severe or continuing droughts, would protect public health and safety as much as possible
- Provide information to help M&I contractors develop drought contingency plans.

The United States Bureau of Reclamation (USBR) finalized its 2001 USBR Draft M&I Water Shortage Policy through the acceptance of a final Environmental Assessment and signing of a Finding of No Significant Impact on 19 December 2005. Since that time legal actions have reduced pumping into the CVP from the San Joaquin/Sacramento River Delta. As discussed in the Water Supply and Reliability portion of the Executive Summary, , the District's Second Amendment to this contract for CVP entitlements was signed in March 2007 and incorporates this new USBR M&I Shortage Policy as found in Appendix G. The District's M&I average historical delivery[2] is about 4,430 AF which will be subject to the USBR M&I deficiency criteria, most commonly 75 percent of historical use. Based on the 75 percent deficiency criteria, the District's M&I dry year water allocation will be approximately 3,320 AF.

Future supplies of CVP water will be contributing to meet an ever-increasing demand for water throughout the state. The effects of climate change on CVP supplies are also unclear, although there is speculation that the timing and spatial variability of water supply will be altered significantly as snow pack levels and the timing of the snow melt change. A court ruling on May 25, 2007 questioning the validity of biological opinions that allow for pumping from the Delta resulted in significant pumping restrictions within the CVP. The court ruling has introduced greater uncertainty on the reliability of the CVP for municipal and industrial supply. Refer to Section 3 for more details on USBR CVP reliability.

2.4 Recycled Water

In 2003, the District, in partnership with the Water Resources Association of San Benito County, received a grant from the State Water Resources Control Board (SWRCB), Office of Water Recycling to complete a feasibility study investigating the potential for developing a regional recycled water supply. The study was completed in May 2005 after significant interaction with the District, City, and Sunnyslope.

[2] SBCWD is required to pay for a quantity of water on the order of 7,000 AFY as a minimum payment for the CVP facilities which is based on deliveries of 100% of the contracted supply. The actual historical water delivery can be lower than the minimum payment quantity. USBR allocates water in dry periods based on the actual historical delivery, not the minimum payment quantity.

The study concluded that recycled water has great potential in securing water supplies and thereby increasing reliability for water interests in San Benito County. With additional recycled water supplies, the District would be less dependent on imported CVP supplies, while still providing an adequate and reliable source of water for irrigated agriculture in the region. The study recommends a large future role for regional recycled water, as large as one third of the region's future water supply. However, the 2005 feasibility study report concluded that regions suitable to receive and utilize recycled water sources within the District are outside of the planning area of this document and are therefore not included for the available supply. As described further below, some recycled water use within the HSA is now proposed.

One of the main obstacles to future recycled water use will be recycled water salinity. Due to the high TDS ranges associated with local groundwater supplies and the prevalence of household water softeners, wastewater salinity is a growing problem and concern. A shift in the future to CVP and demineralized local groundwater could help in reducing salinity levels, thereby making a regional recycled water supply more feasible.

Since 2005, the City of Hollister has initiated preparation of an Environmental Impact report (EIR) to determine the potential effects of a proposed recycled water project. The two phase project will use the new membrane bioreactor (MBR) facility which is currently in the construction stages at the Domestic Wastewater Treatment Plant (DWTP) in Hollister. The facility will be capable of producing up to an average of 3.0 MGD of tertiary treated effluent. In Phase 1, approximately 0.3 MGD of recycled water is proposed to be reused with the balance being disposed by percolation. Two of the proposed reuse sites are at the Hollister Municipal Airport which will plant 100 acres of turf for dust control with a demand of about 365 AFY and the Riverside Park site (formerly the Brigantino Site) which is planned for 43 acres of irrigated playing fields for a demand of about 157 AF; both of these sites are within the HSA. The Phase 1 reuse is expected to gradually increase to a peak of 0.74 MGD by 2013. Phase 2 of this project is dependant on reduced salinity levels in the recycled water supply that would be provided by the provision of demineralization in the City's Water system. In Phase 2, it is expected that by 2023, 4,200 AFY of recycled water would be distributed to agricultural users in the San Juan Valley from a potential recycled water supply from the Hollister WWTPs of 5,600 AFY (5 MGD).In addition, the updated Recycled Water Master Plan discussed in Section 8 anticipates generating up to 750 AFY of recycled water from the San Juan vegetable wash project

Because the primary focus of the proposed City project is on reuse of recycled water on sites that currently have minimal water demand within the HSA, recycled water continues not to be included as a water supply for the purposes of the UWMP.

2.5 Existing Treatment & Distribution Facilities

Until the late 1980's, local surface water and groundwater were the main sources of agricultural and M&I supply. Farmers drilled wells to irrigate their crops, and the City expanded its well field and distribution system as its population grew. Today, potable groundwater is delivered to City residents via a pressurized distribution system. The system is operated by the City and Sunnyslope. Although the two agencies maintain specific service areas, their water supply systems are interconnected and can exchange water as necessary to satisfy customer demand.

The City's water distribution facilities consist of 8 groundwater wells, three storage reservoirs with a total storage capacity of 6.5 million gallons (MG), three pressure regulating stations, one booster station and about 40 miles of ductile iron and PVC pipes ranging from 4 inches to 14 inches in diameter. Sunnyslope operates 4 wells, two of which pump into the Ridgemark pressure zone and two into the Fairview pressure zone. Sunnyslope's storage capacity in three reservoirs is 5 MG. It maintains six pressure regulating stations, one booster station, and about 65 miles of 4-inch to 12-inch pipelines. The two systems are interconnected in four separate locations, allowing water transfer between systems. **Figure ES-1** shows the City and Sunnyslope's service areas.

The City and Sunnyslope entered into a joint-venture to construct the 3-MGD Lessalt Surface Water Treatment Plant, which began operating in January 2003. The Lessalt Plant treats surface water from the CVP-San Felipe Division for distribution to the City's and Sunnyslope's service areas. The plant is currently operating at approximately 70 percent capacity.

The County-wide water management agency is the District. Formed in 1953 by a legislative act, the District provides for the acquisition, retention, and reclaiming of drainage, storm, flood and other waters; for the protection of water courses, watersheds, public highways, life, and property from damage or destruction from flood and storm waters; and for importation and distribution of imported water from the USBR CVP. A contract for delivery of CVP water was signed in 1978 between the District and the USBR and the first delivery was made in 1987.

Water is conveyed from the Sacramento-San Joaquin Delta through the Delta Mendota Canal to the O'Neill Forebay. The water is then pumped into San Luis Reservoir, which is located east of Hollister along Pacheco Pass. At the west end of San Luis Reservoir is the Pacheco Pumping Plant that conveys water to the Pacheco Tunnel. The water then flows, without additional pumping, by tunnel through the Diablo Range and through the bifurcation of the Hollister and Santa Clara Conduits. From the bifurcation, the water is distributed to the District, Sunnyslope, and the City's service areas.

The HSA has a separate distribution system for CVP water that was built and is maintained by the District and consists of approximately 120 miles of pressurized pipeline laterals grouped into 12 subsystems. One or more turnouts are provided at each parcel along the laterals. The turnouts are painted blue for easy identification, thus the local residents refer to San Felipe water as "blue valve" water. The Hollister Conduit part of the system connects to the Lessalt Treatment Plant, but otherwise is used for nonpotable uses.

Southeast of the HSA is Stonegate Estates, a private development in an unincorporated portion of the County. They operate an on-site water treatment facility, which treats and delivers CVP water to its residents. Currently, CVP water is the sole source of water supply for the Stonegate Estates community.

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Section 3: Water Supply Reliability

Law

> 10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
>
> 10631 (c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable.
>
> 10631 (c) 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 replace that source with alternative sources or water demand management measures, to the extent practicable.
>
> 10631 (c) Provide data for each of the following:
> (1) An average water year, (2) A single dry water year, (3) Multiple dry water years.
>
> 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:
>
> 10632 (b) An estimate of the minimum water supply available during each of the next
> three-water years based on the driest three-year historic sequence for the agency's water supply.

The purpose of this section is to discuss the reliability of the water supply available to the City, Sunnyslope, and the District. This discussion will provide the basis for the City, Sunnyslope, and the District to make well-informed decisions in the future to ensure the reliability of its water supply in the face of increasing demands. Future reliability will be dictated by both demand management and supply augmentation options, which will need to be closely examined in planning for the future. The conversion of agricultural lands to urban land uses will also help in alleviating future growth in water demands.

According to the DWR, "reliability is a measure of a water service system's expected success in managing water shortages." Successful reliability planning looks at all available options, both demand-side and supply-side, before making informed decisions regarding the best course of action. This most effective approach will include cooperation and collaboration on the parts of the City, Sunnyslope, and the District.

3.1 Reliability

At the present time, over thirty percent of the water demands in the Hollister Urban Area are met with imported water, whose availability relies heavily on annual precipitation and snowfall in the northern parts of California. There is now, more than ever, increasing uncertainty over the future reliability of California's water supply due to climate change and population growth. Faced with this uncertainty, the City, Sunnyslope, and the District are making efforts to assure the reliability of their water supply through the analysis and

proper planning that accompany this UWMP update. An integrated approach to water resources management and planning will facilitate meeting increasing demands for water in an increasingly unreliable California water market.

As mentioned previously, there are considerable advantages and disadvantages to utilizing local groundwater versus imported surface water from the CVP. With regard to water quality, the imported CVP water is of lower hardness and TDS and preferred by both M&I and agricultural users within the subbasins. However, officials at the City, Sunnyslope, and the District are cautious of becoming dependent on an increasingly unreliable, imported water supply. Although they have the option to rely on a better quality, imported water supply, the option to become more self-sustainable by using local groundwater supplies also exists. Use of local groundwater also assists in managing potentially high groundwater levels in the local groundwater basin that tend to interfere with agricultural and wastewater disposal activities. However, groundwater is potentially a limited resource with poorer water quality and relying on groundwater alone, without proper management, may result in basin overdraft. The difficulty will lie in striking the optimal balance between local and imported supplies, thereby resulting in the maximum reliability under most types of hydrological conditions, including average and multiple year drought scenarios.

The groundwater basin currently supplies 64 percent of the total M&I supply. The reliability of this source is dependent on ongoing and future management, natural climate fluctuations (droughts), and potential catastrophic water supply interruptions. In addition, higher TDS and hardness limit customer acceptance of groundwater and home use of water softeners results in higher salt loadings to the wastewater treatment plant, with resulting recycled water impacts.

Droughts, which usually are characterized by reduced natural groundwater recharge due to below normal precipitation, affect the water balance with the result that groundwater is removed from storage (Alley et al 1999) and groundwater levels decline. The primary concern during short term droughts is not the availability of supply but the impact on water levels. The depleted groundwater in storage, under proper basin management, is likely to be replenished in wet years establishing long term equilibrium in the basin. However, if water levels drop below the perforated interval of wells, the pumping efficiency would decrease and shallow wells may become unproductive.

The municipal wells for both the City and Sunnyslope are all relatively deep, ranging from 336 feet deep to 645 feet deep, or 20 feet mean sea level (msl) to -345 feet msl. The impact of drought on municipal pumping is examined in the following section by reviewing previous responses to drought.

In the recent past, it has been the intent of the urban areas within these subbasins to increase their use of M&I imported water to improve the quality of potable water delivered to urban customers. This trend has led to the increased use of imported water over the years, especially since Lessalt Treatment Plant operations began. Between 2000 and 2004, CVP use increased from 40 to 54 percent of total water use within the three subbasins. The current 3 MGD Lessalt Treatment Plant is operating at approximately 70 percent of capacity, and there are no plans to expand capacity or build new capacity in the near future. Contrary to the trend showing increased CVP use over recent years, Sunnyslope officials indicated in discussions there also exists the desire to become less dependent on imported CVP water in the future. Not only would decreased

dependence on imported water benefit the reliability of water supply, but increased groundwater pumping could also benefit the region by slightly lowering groundwater levels and allowing for increased recharge of local waters.

In years of drought, full deliveries of San Felipe water may not be possible, and the urban centers would have to rely more heavily on groundwater or implement demand reduction measures to satisfy potable and irrigation demands. In either the case of a one-year shortfall, or in a period of extended drought, the 2001 USBR Draft M&I Water Shortage Policy indicates that:

- Any reduction of M&I water made available to the District shall be no greater than the percentage reduction applied to any other CVP M&I user.
- No reductions shall be made to M&I water made available to the District until agricultural users' allocations have been reduced to 75 percent; after this, both agricultural and M&I water users' allocations are reduced equally to 50 percent and 75 percent respectively; then agricultural users face cutbacks to 25 percent; at this point, agricultural allocations are cut back to 0 percent, while M&I allocations are reduced to 50 percent.
- In no year of shortage will the USBR reduce the quantity of M&I water made available to the District to less than the *public health and safety* water supply level.
- The quantity of water to be made available to the District shall be based on the District's historical use. The water requirements shall be the average quantity of water put to beneficial use within the service area during the last three years of water deliveries, unconstrained by the availability of CVP water.

As discussed earlier in the Executive Summary and Section 2.3, the USBR finalized its 2001 USBR Draft M&I Water Shortage Policy through the acceptance of a final Environmental Assessment and signing of a Finding of No Significant Impact on 19 December 2005. The District's Second Amendment to its contract for CVP entitlements was signed in March 2007 and incorporates this new USBR M&I Shortage Policy. The District's M&I average historical delivery of about 4,430 AF will be subject to the USBR M&I deficiency criteria, which will likely result in deliveries of 75 percent of historical use.

3.2 Frequency and Magnitude of Supply Deficiencies

The USBR has developed the CALSIM II model that establishes long-term reliability for CVP water. Based on annual precipitation and other climatological records from 1922 to 1994, this model has calculated what the expected annual allocation of CVP water would have been to USBR customers in each year. According to the results of the model, If the CVP would have been in place over this period of nearly 70 years, the average allocation for agricultural uses and M&I uses would be 76 percent and 85 percent, respectively.

However, the CALSIM II model results reflect the use of historical, full contract entitlements and not the USBR's newly adopted definition of "historical use" to be applied in its new M&I water shortage policy. It is unclear whether this new policy would alter the results of the model with respect to average water deliveries over the same period of simulation. In the case of the District, the full M&I contract entitlement is 8,250 AFY while M&I deliveries in the last several years have averaged around 3,500 AFY. Water Year 2004 M&I deliveries to Zone 6 as a whole amounted to 3,744 AFY; of which

3,292 AF was to the Hollister West, Hollister East, and Tres Pinos subbasins; an area which is slightly larger than the HSA . As discussed earlier, the District's M&I average historical use of about 6,976 AF will likely result in reductions such that delivery is 75 percent of historical use.

3.3 Plans to Ensure a Reliable Water Supply

In order to ensure a reliable water supply, several water management strategies have been evaluated and are discussed below. The main objective of the recommended water management strategies will be to assure that the Agencies will have sufficient water supply to meet increasing water demands under varying hydrological and demand conditions. The two main options to meeting increasing future demands are increasing CVP contract entitlements or increasing groundwater pumping within the subbasins. Recycled water use is also a supply source that is not currently being used and has substantial potential to reduce potable demands, thereby increasing the reliability of potable sources. However, potential recycled water users identified thus far are located outside of the planning area considered within this UWMP and beneficial recycled water use within the HSA is more than 10 years away.

The District is considering various water supply options to increase the reliability of water sources. For instance, Rancho San Benito Project intends to use treated groundwater (wellhead treatment) for supply outside of the HSA. Groundwater would be pumped within historical pumping levels. The District is currently preparing a Recycled Water Master Plan with an updated geographic scope covering the entire HSA. It is scheduled to be completed by July 2008. The District is in the process of finalizing a MOU with three food processors within San Juan Valley, which will generate about 750 AFY of Title 22 recycled water that is originally from groundwater.

3.4 Reliability Comparison

As required by the Act, a comparison of water supply and demand for an average water year, single dry water year, and multiple dry water years is provided from 2005 to 2030 in five-year increments. For the purposes of this analysis, actual 2004 CVP water deliveries for agricultural and M&I users were assumed to be the "historical use" as defined in the new USBR M&I water shortage policy, and this amount was assumed to remain unchanged through 2030.

Although the May 2007 superior court decision that could limit pumping from the Sacramento San Joaquin River Delta to maintain flows for delta smelt and other species could reduce CVP deliveries; USBR has not yet modified its 2001 M&I water shortage policy. Therefore, the 2001 M&I water shortage policy is assumed to remain in place.

The following assumptions were made in the supply reliability analysis:

- The "historical use" entitlement redefined in the new USBR M&I Shortage Policy is assumed to be equal to 2004 CVP deliveries for agriculture and M&I uses.
- The three subbasins of interest in this analysis (Hollister West, Hollister East, and Tres Pinos) receive 44 percent and 68 percent of total CVP agricultural and M&I deliveries, respectively.

- The sustainable yield of groundwater from the three subbasins is assumed to be equal to 16,000 AF, as described in Appendix E of the 2000 UWMP by Jones and Stokes.
- Percolation activities are assumed to not occur.

In past single-year and multi-year droughts, the City's and Sunnyslope's groundwater supplies have proven reliable to meet both agricultural and M&I demands. From 2000 – 2005, agricultural groundwater demand represented approximately 40 percent of overall groundwater withdrawals. Total groundwater withdrawals are considerably less than the assumed sustainable yield of 16,000 AFY. During times of drought, both agricultural and M&I demands are likely to increase due to increased evapotranspiration and CVP deliveries are likely to decrease. However, groundwater in storage can be allocated to both agricultural and M&I uses at levels required to maintain a satisfactory supply reliability. The groundwater basin currently has a large volume of groundwater in storage that can serve as a reserve for future droughts. Water level declines in the past have not interfered with pumping efficiency and water levels have eventually recovered following the drought. It is anticipated that similar future droughts will not impact the reliability of the groundwater supply.

3.4.1 Average/Normal Water Year Assessment

Table 3-1 that follows provides a summary of the average water year reliability for the three subbasins included in this study. Demand estimates are described in Sections 4.3 to 4.6. Both agricultural and M&I CVP water deliveries were assumed to be the average proportion of full USBR contract entitlements for the entire Zone 6 that are delivered to the three subbasins of interest. These values represent the average volume of water allocated to the three subbasins between 2000 and 2004. Groundwater pumping is assumed to equal the 16,000 AFY sustainable yield of the underlying Tres Pinos, Hollister East, and Hollister West aquifers as described in Appendix E. **Table 3-1** shows that water supplies are sufficient during an average/normal water year to satisfy both agricultural and M&I demands through 2030. Groundwater withdrawals between 2000 and 2004 (normal to wet years) averaged 12,000 AFY, with approximately 40 percent withdrawn for agricultural uses and 60 percent for M&I. This is significantly less than the sustainable yield of the underlying aquifers, resulting in a net recharge of the underlying aquifers. Sufficient groundwater is available to satisfy both agricultural and M&I demands above and beyond those demands satisfied by imported CVP water.

Table 3-1. Supply Reliability During Average/Normal Water Year

	% of Normal	2005	2010	2015	2020	2025	2030
Water Demands							
M&I for City[a]	100	6,174	6,880	7,752	8,624	9,445	10,265
M&I for Sunnyslope's unincorporated areas[a]	100	1,261	1,330	1,399	1,472	1,544	1,621
M&I for County's unincorporated areas[b]	100	1,632	1,715	1,802	1,894	1,991	2,093
M&I Demand Sub-total		9,067	9,925	10,953	11,990	12,980	13,979
Agricultural[c]	100	12,761	11,569	10,015	8,460	6,906	5,583
Demand Total		**21,828**	**21,494**	**20,968**	**20,451**	**19,886**	**19,562**
Available Water Supplies							
CVP Ag Deliveries[d]	100	10,913	10,913	10,913	10,913	10,913	10,913
CVP M&I Deliveries[d]	100	3,012	3,012	3,012	3,012	3,012	3,012
Groundwater [e]	100	16,000	16,000	16,000	16,000	16,000	16,000
Recycled Water[f]	100	0	0	0	0	0	0
Supply Total		**29,925**	**29,925**	**29,925**	**29,925**	**29,925**	**29,925**
Difference (Supply minus Demand)		**8,097**	**8,431**	**8,957**	**9,475**	**10,040**	**10,364**
Difference as % of Supply		27.06%	28.17%	29.93%	31.66%	33.55%	34.63%
Difference as % of Demand		37.10%	39.23%	42.72%	46.33%	50.49%	52.98%

(a) M&I water demand for City and Sunnyslope were estimated using the service connection method as described in Section 4.4.

(b) M&I water demand for unincorporated County were estimated using annual groundwater reports and increased at 1% per year as described in Section 4-6.

(c) Agricultural demand data was extracted from Annual Groundwater Reports and reduced for conversion to M&I within the HSA as described in Appendix F.

(d) The values shown for CVP agricultural and M&I deliveries are the average proportion of full USBR contract entitlements (35,500 and 8,250 AFY, respectively) for the entire Zone 6 that are delivered to the three subbasins of interest. These values represent the average volume of water allocated to the three subbasins between 2000 and 2004. The agricultural and M&I values may change pending the outcome of USBR contract negotiations and the results of potential future Delta pumping cutbacks.

(e) See Section 3.4 for discussion of groundwater allocation to M&I and agricultural purposes.

(f) All recycled water is proposed for reuse in the San Juan Groundwater Basin and is therefore not used in the Hollister Service Area.

3.4.2 Single Dry Water Year Assessment

Although precipitation data in the Hollister area before 1983 are incomplete, an extreme single year drought occurred in WY 1976 (Creegan and D'Angelo 1993), when rainfall was approximately 9.9 inches or 70 percent of normal (data from the nearby Panoche station) average annual precipitation of about 13.8 inches (based on a representative period from 1983-2004). In 1976, the basin was receiving no imported water and was considered to be in overdraft. The groundwater levels in the Hollister East subbasin were at their lowest elevation in the period of record, approximately 50 feet below msl. Although this scenario is unlikely to be repeated today, municipal wells would still be

able to produce groundwater, given that they were able to provide sufficient supply during that drought despite the fact that portions of the screened intervals of wells could be above the water table. In addition, the effects of future droughts are likely to be less severe then past impacts, because of the large amount of groundwater in storage, decreased reliance on groundwater, and additional supplies of imported of water.

In addition, the District has developed a numerical model (Yates, personal communication) that has been applied to future drought scenarios, including single-year droughts. Historic recharge (1974-2003) was repeated using the current conditions as initial conditions and assuming future increases in groundwater demand and the continuation of imported water. The model simulates the basin into the future by using the actual recharge that occurred in the past. This model was used to simulate what would occur if a drought similar to the one that occurred in WY 1976 occurs again in the future. **Figure 3-1** shows the model output for simulated and actual historic water levels in Hollister West (Gus Yates, personal communication). Although the actual groundwater level data are not shown, the simulated water levels indicate that the WY 1976 drought would result in a decline in water levels in the HSA of only 25 feet (to about 215 feet msl) with subsequent rapid recovery. Although the drought simulated is equal to the WY 1976 drought, the operating conditions of the basin have changed. The basin's large amount of storage and decreased reliance on groundwater, lessens the impact on the basin of a drought and hastens the basin's recovery.

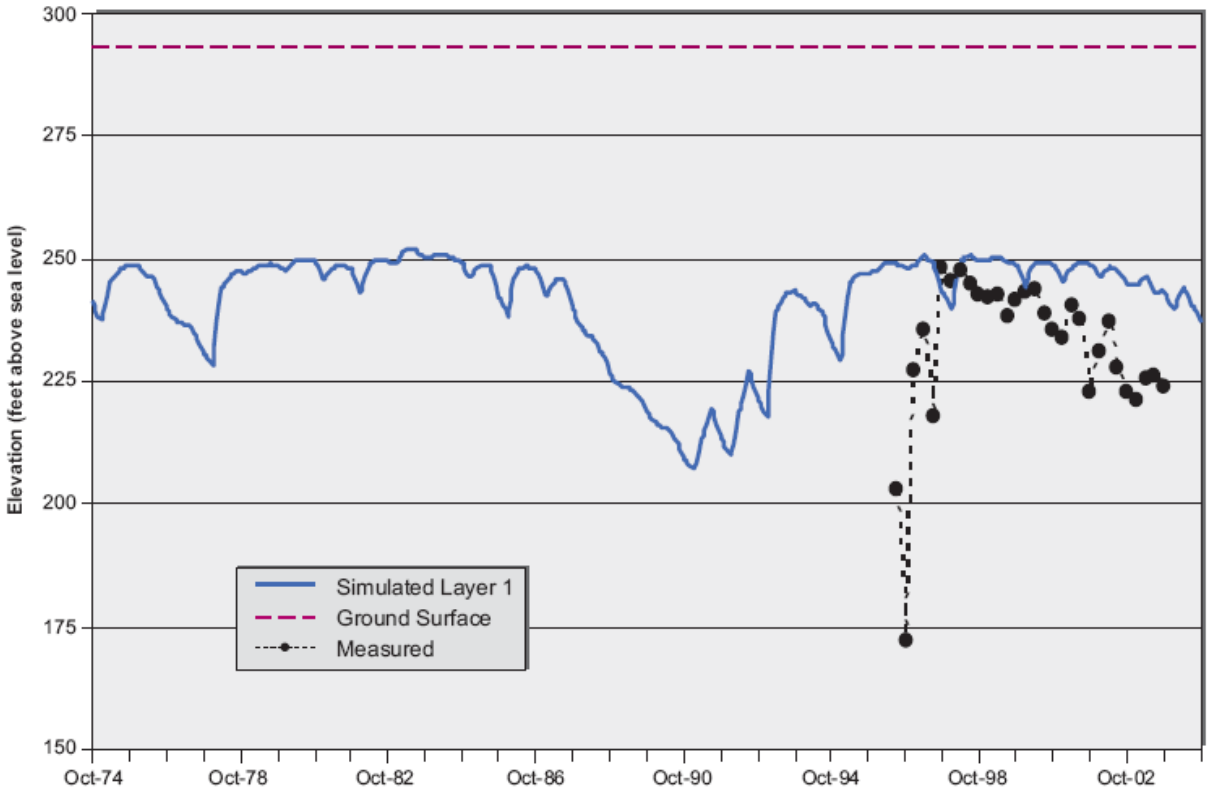

Figure 3-1. Hydrograph of Simulated Water Levels in Hollister.

Table 3-2 provides a summary of the single dry water year reliability for the three subbasins. The analysis assumes CVP cutbacks, such that the District only receives 25 percent of its agricultural entitlement and 75 percent of its M&I entitlement, based on the 3-year historic use. This amounts to reduced deliveries of 2,728 AFY and 2,258 AFY for agricultural and M&I deliveries, respectively. Groundwater pumping is assumed to equal the 16,000 AFY sustainable yield of the underlying aquifers as described in Appendix E of the 2000 UWMP by Jones and Stokes. Demands were assumed to remain the same as those developed for the normal/average water year. This is assumed to be a conservative estimate. In reality, demand may decrease for interior M&I uses, but exterior M&I and agricultural demands may in fact increase due to increased evapotranspiration that is likely to occur during drought conditions. The effects of these changes in demand are assumed to offset each other.

Table 3-2. Supply Reliability During a Single Dry Water Year

	% of Normal	2005	2010	2015	2020	2025	2030
Water Demands							
M&I for City[a]	100	6,174	6,880	7,752	8,624	9,445	10,265
M&I for Sunnyslope's unincorporated areas[a]	100	1,261	1,330	1,399	1,472	1,544	1,621
M&I for County's unincorporated areas[b]	100	1,632	1,715	1,802	1,894	1,991	2,093
M&I Demand Sub-total		9,067	9,925	10,953	11,990	12,980	13,979
Agricultural[c]	100	12,761	11,812	10,011	7,096	6,559	5,583
Demand Total		**21,828**	**21,737**	**20,964**	**19,086**	**19,539**	**19,562**
Available Water Supplies							
CVP Ag Deliveries[d]	25	2,728	2,728	2,728	2,728	2,728	2,728
CVP M&I Deliveries[d]	75	2,258	2,258	2,258	2,258	2,258	2,258
Groundwater [e]	100	16,000	16,000	16,000	16,000	16,000	16,000
Recycled Water[f]	100	0	0	0	0	0	0
Supply Total		**20,932**	**20,932**	**20,932**	**20,932**	**20,932**	**20,932**
Difference (Supply minus Demand)		**-896**	**-805**	**-32**	**1,846**	**1,393**	**1,370**
Difference as % of Supply		-4.28%	-3.85%	-0.15%	8.82%	6.66%	6.55%
Difference as % of Demand		-4.10%	-3.70%	-0.15%	9.67%	7.13%	7.01%

(a) M&I water demand for City and Sunnyslope were estimated using the service connection method as described in Section 4.4.

(b) M&I water demand for unincorporated County were estimated using annual groundwater reports and increased at 1% per year as described in Section 4-6.

(c) Agricultural demand data was extracted from Annual Groundwater Reports and reduced for conversion to M&I within the HSA as described in Appendix F.

(d) The values shown for CVP agricultural and M&I deliveries are the average proportion of full USBR contract entitlements (35,500 and 8,250 AFY, respectively) for the entire Zone 6 that are delivered to the three subbasins of interest. These values represent the average volume of water allocated to the three subbasins between 2000 and 2004. The agricultural and M&I values may change pending the outcome of USBR contract negotiations and the results of potential future Delta pumping cutbacks. M&I deliveries were estimated using the M&I historical delivery of 4,430 AFY multiplied by 75% for 3,320 AFY of which 68% or 2,258 AFY can be attributed to the HSA

(e) See above in Section 3.4 for discussion of groundwater allocation to M&I and agricultural purposes.

(f) The majority of recycled water is proposed for reuse in the San Juan Groundwater Basin. Although a small quantity is proposed in the Hollister Service Area, it has not been accounted for in these estimates.

Table 3-2 shows that available supplies may be insufficient to meet demands during a single dry water year in the near future. Increased groundwater pumping could be used to supplement the lack of available M&I and agricultural supplies during single dry years. It is assumed that pumping in excess of the sustainable yield of the aquifer is acceptable in single dry years as this excess pumping will be restored in years with above normal rainfall. Additionally, groundwater levels in the Hollister East, Hollister West, and Tres Pinos groundwater subbasins are currently at near record levels indicating significant water in storage.

However, it is uncertain whether the City and Sunnyslope have the well pumping capacities to pump enough groundwater to make up for significant supply deficiencies. According to California Department of Public Health (DPH) Well Data Sheets, the City and Sunnyslope have a total well production capacity of 7,430 and 3,450 gallons per minute (gpm), respectively. Assuming the City and Sunnyslope can operate their pumps 90 percent of the year amounts to a combined pumping capacity of 15,795 AFY. Additional wells could be installed to increase the total pumping capacity in the future.

Another alternative may be to further reduce agricultural groundwater pumping to meet the available supply by paying agricultural growers to allow fields of annual crops to go fallow.

3.4.3 Multiple Dry Water Year Assessment

A multiple-year drought occurred in the basin between WY 1987 and 1990. During these four years the average annual precipitation was 8.7 inches, 63 percent of normal rainfall. Although imported water was brought to the basin in 1987, deliveries were small for the first few years. The drought effects were more noticeable in the Hollister West subbasin than in the eastern portion of the HSA. As shown in **Figure 2-3** in Section 2, water levels in Hollister West were already declining slightly before the drought and continued to drop another 40 feet during the multiple year drought. Water levels in the basin did not recover until WY 1997.

Hollister East water levels did not show a decline during the drought; but continued to recover from the overdraft of the 1970's. Like the single year drought, water levels did not drop sufficiently to impact the municipal wells, and if the drought occurred today, groundwater levels would respond differently because there is a significant quantity of groundwater in storage. The numerical model output in **Figure 3-1** indicates that groundwater levels would decline up to 30 feet during the multiple year drought, but would recover quickly. Again the current increased storage in the basin allows for a faster recovery from droughts.

An analysis was performed to determine the supply reliability during a period of prolonged drought. For the purposes of this UWMP, a series of three consecutive years of low imported water deliveries is evaluated. The first series analyzed occurs within the next three years, 2006 – 2008. The second series looks at a three year drought occurring at the end of the time horizon of this UWMP, between 2028 and 2030.

There have been significant changes to the USBR's M&I Water Shortage Policy since the last major consecutive year drought occurred in California in the late '80s and early '90s. During this drought, water cutbacks were not initiated until 1990. **Table 3-3** lists South of Delta CVP cutbacks to agricultural and M&I users under the old policy.

Table 3-3. Summary of USBR Deliveries During Last Major California Drought

Year	Water Deliveries (% of contract entitlements)	
	Agricultural	M&I
1990	50	50-75
1991	25	25-50
1992	25	75

However, these cutbacks might have been different under the 2001 M&I Shortage Policy as adopted by the USBR. Due to the uncertainty surrounding the level of cutbacks that would have been realized under the current policy, a set of conservative assumptions were made for the purposes of this UWMP. During the first year of the consecutive year drought, agricultural and M&I deliveries were assumed to be 25 percent and 75 percent of contract entitlements, respectively. During the second and third years of the consecutive year drought, agricultural and M&I deliveries are assumed to be further reduced to 15 percent and 65 percent of contract entitlements, respectively. These cutbacks are realistic under the adopted 2001 M&I Shortage Policy. Demands were assumed to remain the same as those developed for the normal/average water year. Again, the effects of indoor reductions in demand are assumed to be offset by increased agricultural and outdoor demands.

Table 3-4 provides a summary of the multiple dry water year reliability for the study area for the two time periods analyzed.

Table 3-4. Supply Reliability During Multiple Dry Water Years

	% of Normal	2006	2007	2008	2028	2029	2030
Water Demands							
M&I for City[(a)]	100	6,249	6,324	6,509	9,937	10,101	10,265
M&I for Sunnyslope's unincorporated areas[(a)]	100	1,274	1,288	1,302	1,590	1,605	1,621
M&I for County's unincorporated areas[(b)]	100	1,648	1,665	1,682	2,051	2,072	2,093
M&I Demand Sub-total		9,171	9,277	9,493	13,578	13,778	13,979
Agricultural[(c)]	100	12,571	12,381	12,191	5,973	5,778	5,583
Demand Total		**21,743**	**21,658**	**21,684**	**19,551**	**19,556**	**19,562**
Available Water Supplies							
CVP Ag Deliveries[(d)]	25;15	2,728	1,637	1,637	2,728	1,637	1,637
CVP M&I Deliveries[(e)]	75; 65	2,259	1,958	1,958	2,259	1,958	1,958
Groundwater[(f)]	100	16,000	16,000	16,000	16,000	16,000	16,000
Recycled Water[(g)]	100	0	0	0	0	0	0
Supply Total		**20,987**	**19,595**	**19,595**	**20,987**	**19,595**	**19,595**
Difference (Supply minus Demand)		**-756**	**-2,063**	**-2,089**	**1,436**	**39**	**34**
Difference as % of Supply		-3.60%	-10.53%	-10.66%	6.84%	0.20%	0.17%
Difference as % of Demand		-3.48%	-9.53%	-9.63%	7.34%	0.20%	0.17%

(a) M&I water demand for City and Sunnyslope were estimated using the service connection method as described in Section 4.4.

(b) M&I water demand for unincorporated County were estimated using annual groundwater reports and increased at 1% per year as described in Section 4-6.

(c) Agricultural demand data was extracted from Annual Groundwater Reports and reduced for conversion to M&I within the HSA as described in Appendix F.

(d) CVP agricultural deliveries are 25% of the average proportion received by the three subbasins of interest during the 1st year and are reduced to 15% during the 2nd and 3rd years of the drought. The agricultural values may change pending the outcome of USBR contract negotiations and the results of potential future Delta pumping cutbacks.

(e) CVP M&I deliveries are 75% of the average proportion received by the three subbasins of interest during the 1st year and are reduced to 65% during the 2nd and 3rd years of the drought. The M&I values may change pending the outcome of USBR contract negotiations and the results of potential future Delta pumping cutbacks. M&I deliveries were estimated using the M&I historical delivery of 4,430 AFY multiplied by 75% for 3,320 AFY of which 68% or 2,258 AFY can be attributed to the HSA

(f) See above in Section 3.4 for discussion of groundwater allocation to M&I and agricultural purposes.

(g) The majority of recycled water is proposed for reuse in the San Juan Groundwater Basin. Although a small quantity is proposed in the Hollister Service Area, it has not been accounted for in these estimates.

As shown by the comparison, the districts will face water shortages under the first three year drought scenario occurring between 2006 and 2008. Under the second scenario from 2028 to 2030, no water shortages occur mainly due to projected conversions of agricultural to urban land uses and associated reductions in overall demand within the planning area.

Historically the City, the District, and Sunnyslope have used additional groundwater during the dry years to make up for the reductions in CVP deliveries. As discussed earlier, it is unknown whether current well pumping capacities are sufficient to meet the shortfall between supply and demand during consecutive dry water years.

Plans to implement the water supply strategies (such as water banking) identified in Section 7 to provide additional sources of water during drought times need to be considered as well. Other drought supply options could include increasing local groundwater banking, participating in a regional groundwater bank, implementing a recycled water program to make more potable supply available, and purchasing and transferring additional supplies as described in the section that follows.

3.5 Three Year Minimum Water Supply

Based on previous experience with CVP cutbacks, the City and Sunnyslope recognize the importance of entering into a water shortage alert early, at a minimal level, to establish necessary conservation programs and policies, to gain public support and participation, and to reduce the likelihood of more severe shortage levels later. As the community continues to become more water efficient, demand may harden; i.e., it may become more difficult for customers to reduce their water use during water shortages. Agency staff does not believe that City customers are yet approaching demand hardening, because there are still potential water efficiency improvements in residential plumbing fixtures, appliances, and landscapes, and in the commercial, industrial, and institutional sectors that could yield significant savings. However, improved water use efficiency does mean that water supply reserves must be larger and that water shortage responses must be made early to prevent severe economic and environmental impacts.

In April of each year, the City forecasts a three-year minimum water supply availability for each of its sources of water, and projects its total water supply for the current and three subsequent years. Based on the water shortage stages and thresholds of implementation, a water shortage condition may be declared. It is the City's policy to limit water shortages to no more than 25 percent to minimize economic and environmental impacts.

3.6 Water Quality Impacts on Water Management Strategy and Supply Reliability

Water quality is an important factor in the reliability of local water supply and is monitored by the District, the City, Sunnyslope and other agencies. Basin-wide groundwater quality monitoring by the District and cooperating agencies serves to characterize the current water quality and identify any changes in water quality due to natural or anthropogenic impacts. In addition, the City and Sunnyslope monitor and report the water quality of their respective drinking water supplies in accordance with the DPH requirements. With monitoring and treatment, water quality issues should not significantly affect the reliability of the groundwater supply in the future. However, several water quality issues warrant discussion, including salts (TDS), nitrate, and industrial contamination.

Table 3-5 documents the general quality of imported San Felipe water and local groundwater from City and Sunnyslope wells with reference to drinking water standards

and maximum contaminant levels (MCLs) as available, including both primary, health-related and secondary, aesthetic standards. As shown in **Table 3-5**, local groundwater is characterized by higher concentrations than imported water for almost all the constituents. The high concentrations reflect not only water from municipal wells but are generally representative of the groundwater basin, generally as a result of the geologic conditions. Certain wells have high levels of iron and manganese concentrations, which can cause discoloration of plumbing fixtures. Hollister area groundwater is also corrosive to steel, copper and lead piping material, and, when heated, excessive calcium carbonate scales develop because of elevated water hardness. Relatively high boron concentrations have also been detected in several agricultural wells, which restrict the suitability of the groundwater for irrigation of many plant species.

Table 3-5. Water Quality Concentrations of Drinking Water 1994-2005, (mg/L).

Chemical	Drinking Water Standard	Groundwater				San Felipe Water
		Sunnyslope		Hollister		
		Min	Max	Min	Max	Avg
Alkalinity as $CaCO_3$		250	310	66	498	100
Bicarbonate Alkalinity		250	310	66	607.6	100
Boron	1000	nd	1200	nd	1600	
Calcium		39	83	22	102	24
Carbonate Alkalinity		nd	nd	nd	nd	
Chloride	500	nd	120	21	197	82
Color	15	<2	10	nd	4	6.5
Fluoride	1	0.17	0.36	0.25	0.7	0.13
Foaming Agents (MBAS)		nd	0.05	nd	0.16	0
Hardness (Total) as $CaCO_3$		234	420	84	790	120
Iron	300	nd	780	nd	2000	120
Lead	2	nd	5	nd	0.3	0.2
Magnesium		31	76	4.6	114	15
Nitrate (as NO_3)	45	2.3	37	1.1	51	0.675
Odor Threshold @ 60 C		1	1	0	1	1
pH, Laboratory		7.2	8	6.2	8.55	8.375
Potassium		1	5.7	nd	7	3.3
Sodium		78	150	16	190	64
Specific Conductance	1600	1100	1300	290	2300	560
Sulfate	500	120	270	16	500	51
Total Dissolved Solids (TDS)	1000	710	840	160	1470	330
Turbidity, Laboratory	5	0.08	13	0.1	11	2.25

nd – Not Detected above Method Detection Limits

Figure 3-2 shows the basin-wide distribution of TDS concentrations, which is a general indicator of water quality. In the figure, the circles represent wells that have been sampled within the past ten years and the color of the circle represents the maximum concentration of TDS detected in that well. The shading is a qualitative illustration of the expected concentration of TDS in the groundwater extracted from that area. The shading was created based on concentrations collected through the period of record (1931-2005). As shown, the HSA generally overlies an area of average TDS concentrations for

the basin (500-1,000 mg/L) and extends into areas of higher TDS concentrations on both the east and west. All of the municipal wells are located in the area of expected TDS concentrations between 500-1,000 mg/L, above the preferred level of 500 mg/L but within the secondary MCL of 1,000 mg/L (Todd 2004).

Salt loading in the groundwater is a major concern in the basin as the groundwater is already highly mineralized. Salt loading occurs from various sources including agricultural soil amendments, wastewater percolation, septic systems, percolation from creeks and rivers, groundwater inflow, and salt entering through the importation of CVP water. In the past, the District has prepared a Salt Management Plan and a salt budget is part of the Annual Groundwater Reports (Yates 2004). Overall, the natural groundwater is not only highly mineralized but also characterized by hardness, with the result that residential users typically use water softeners to reduce hardness. Recognizing that imported water is higher quality, the Lessalt Treatment Plant was constructed to treat imported water for municipal use, providing a relatively high quality blend to consumers.

Currently, the groundwater in the Ridgemark Upper Zone in the Sunnyslope part of the Hollister Service Area is in non-compliance with the secondary drinking water standard for salinity. This zone is supplied only with a local groundwater source. The Middle Zone for both Sunnyslope and Hollister serves a blend of groundwater and treated water from the Lessalt Treatment Plant and is in compliance with salinity standards. The Lower Zone serving Sunnyslope customers within the City is also compliance with drinking water salinity standards.

Nitrate concentrations are locally elevated in groundwater, likely reflecting fertilizer use, animal waste disposal, and wastewater discharges. Nitrate concentrations in the basin are irregular, wells located within relatively short proximity to each other may vary greatly in concentrations. These differences may be due to local “hot spots” or the fact that shallow wells often show higher concentrations than deeper wells. The maximum nitrate concentrations by well over the past ten years are shown in **Figure 3-3**. The circles represent wells monitored for nitrate and their color represents the maximum concentration. Although there are a few “hot spots” of nitrate concentrations in the HSA, the municipal wells located along the southern edge of the HSA and are not near high concentrations of nitrate.

Nonetheless, three of seven City wells and one of the four Sunnyslope wells sampled for nitrate as nitrate in 2004 were above 22 parts per million (ppm). This level is below the MCL of 45 ppm, but exceeds the 50 percent MCL threshold that triggers quarterly monitoring. This increased monitoring will document any trends in nitrate concentrations and detect any significant increases.

An additional water quality factor potentially affecting water supply reliability is the presence in the basin of industrial facilities, shown in **Figure 3-4**. Ten of these regulated facilities are located within the HSA. These sites include wastewater treatment facilities that percolate wastewater to the groundwater, gas stations with underground storage tanks that have leaked, an industrial facility with an onsite perchlorate plume, and fertilizer storage facilities that may have contaminated the groundwater with pesticides and high concentrations of nitrate. All of these sites are regularly monitored to detect and track adverse impacts on groundwater. Although the contamination caused by these facilities is typically shallow, in contrast to the relatively deep screens of municipal wells,

the water quality monitoring at both the regulated sites and the municipal wells ensures that drinking water supplies are not contaminated by these facilities.

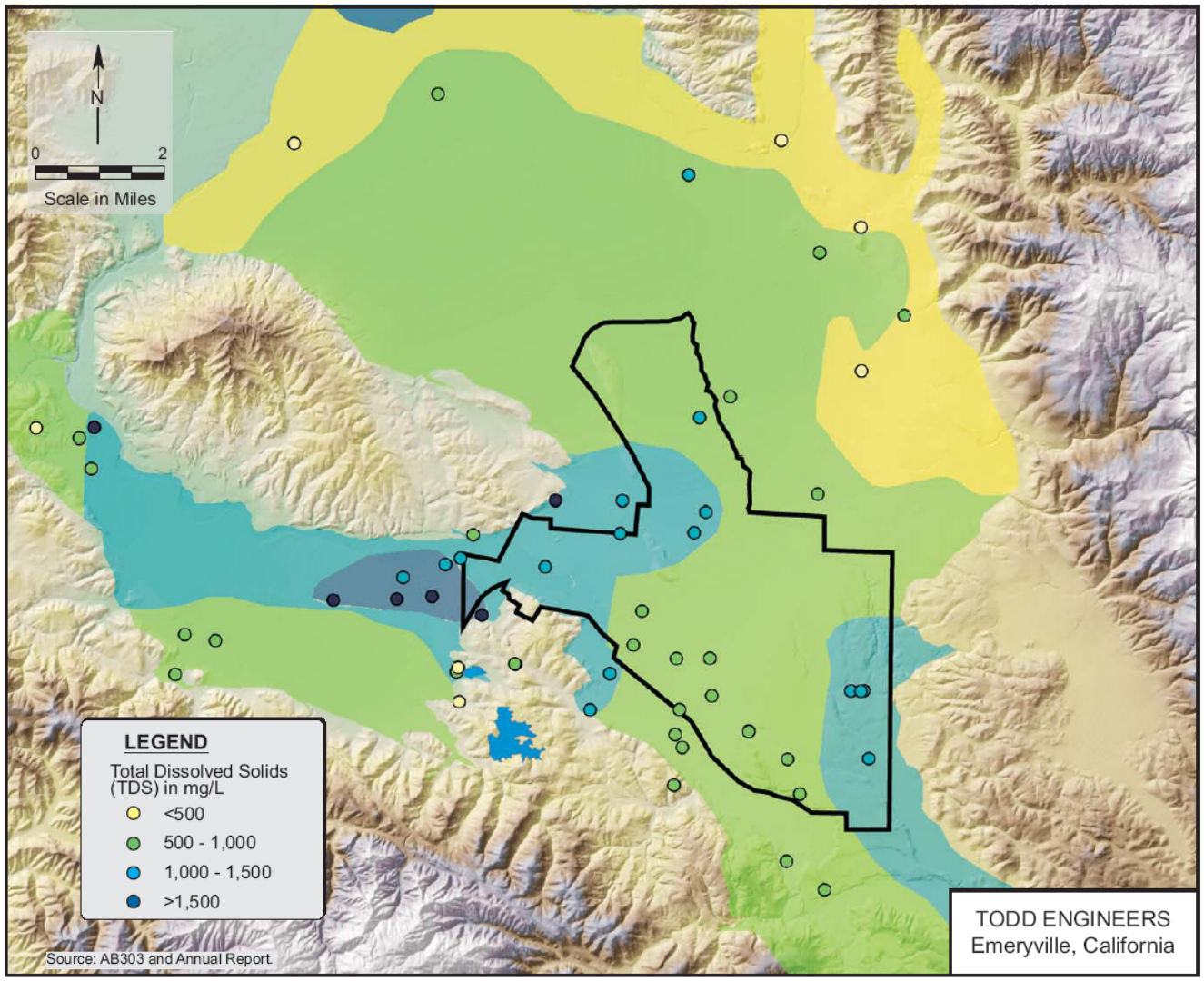

Figure 3-2. Total Dissolved Solid Concentrations in Groundwater.

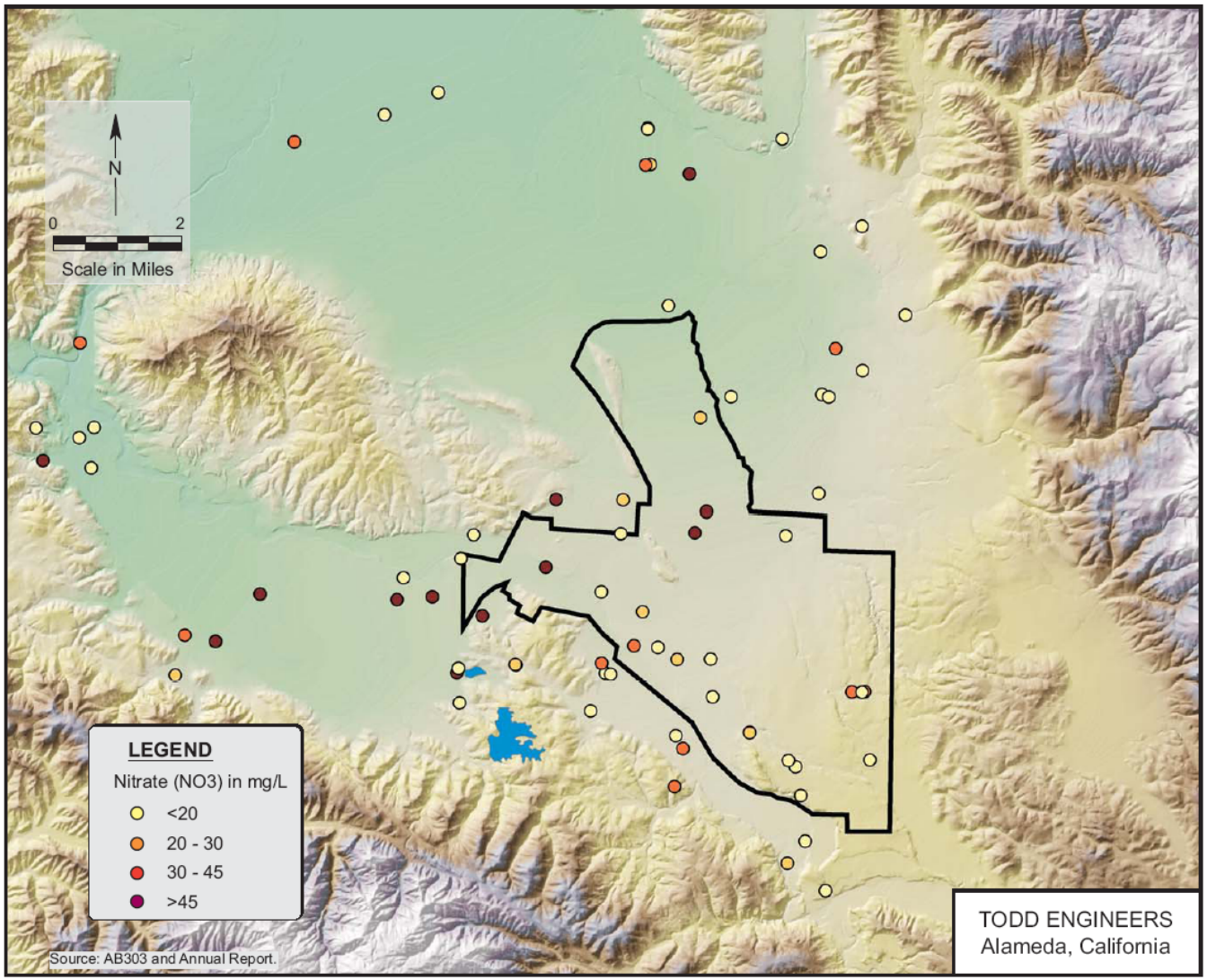

Figure 3-3. Nitrate Concentrations in Groundwater.

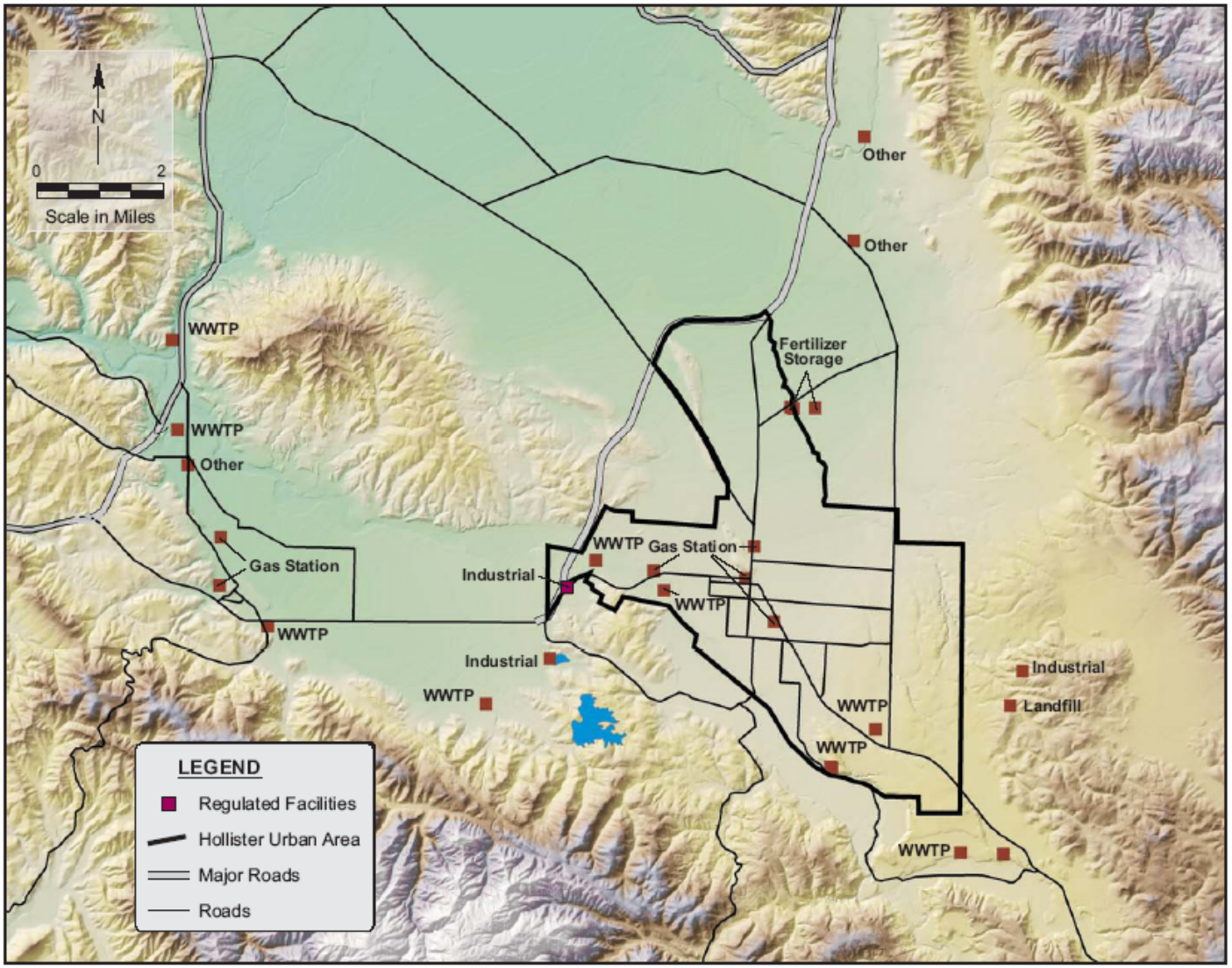

Figure 3-4. Regulated Facilities

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In the late 1980s, the City and Sunnyslope began to prepare a conceptual design for construction of a water treatment facility that would serve the municipal and industrial users in the Zone 6 area with treated CVP water. A water treatment facility would enhance the quality of potable water in the City and Sunnyslope areas, and relieve the overdraft of groundwater from the Hollister subbasins. The Lessalt Water Treatment Plant began operating in January 2003 and is capable of treating 3 MGD. Although no current expansion plans are underway, the City and Sunnyslope could increase treatment capacities at this plant or construct new capacity elsewhere in the future. Sunnyslope is currently investigating the feasibility of constructing a local groundwater demineralization plant to improve the water quality of the local groundwater and thereby reducing the dependency on the better quality imported CVP water.

3.7 Transfer or Exchange Opportunities

Law

> 10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
>
> 10631 (d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

On April 15, 1978, the District signed a 40-year contract with the USBR for delivery of San Felipe water from the CVP. Of the 43,800 AF that the District has contracted for with the USBR, 35,550 AF are designated for agricultural uses and 8,250 for M&I uses. However, these contract entitlements are potentially subject to change under the new M&I Shortage Policy under development by the USBR. The District has recently renegotiated its contract entitlement pursuant to the finalization of the USBR M&I Shortage Policy. As discussed earlier, the District's Second Amendment to its contract for CVP entitlements was signed in March 2007 and incorporates the new USBR M&I Shortage Policy. The District's Second Amendment to its contract with USBR is included in Appendix G. CVP contracts allow transfers and exchanges to occur within the CVP system.

The City, Sunnyslope, and the District could engage in transfer or exchange opportunities through the District's CVP contracting capability as a means of increasing water supply reliability on a short-term or long-term basis.

3.7.1 Water Transfers

Water transfers are another available method to alleviate potential water supply shortages facing the City, Sunnyslope, and the District. Water transfers on the California spot water market are increasingly becoming more common. Additionally, water transfers or transfer of entitlements with other CVP contractors is a possibility. This would likely require extensive negotiations with the other contractors. During drought periods, the available water supply for transfer will be increasingly limited and therefore costly.

3.8 Desalination Opportunities

One of the options currently being considered by the City and Sunnyslope is desalination of brackish groundwater. In July 2003, a Groundwater Softening – Demineralization Feasibility Study was prepared for Sunnyslope to evaluate the water quality improvement potential and conceptual costs and operations of a pellet softening plant and a membrane demineralization plant for groundwater treatment. The study concluded that the best groundwater softening/demineralization process would be a Reverse Osmosis (RO) Facility with brine disposal to the San Benito River. However, the conceptual construction capital costs of the RO Demineralization and Brine Disposal Facilities were several times that of a Surface Water Treatment Facility.

There are additional factors to consider. RO technology continues to improve at tremendous rates, which could further drive down costs in the future making this option more viable. Also, although surface treatment might be a less expensive alternative, the City and Sunnyslope might still consider brackish groundwater desalination as being a preferred alternative for various other reasons aside from cost. One significant potential drawback to RO is whether a brine discharge to the San Benito River or discharge to wastewater treatment facilities would be permitted by the Regional Water Quality Control Board or whether alternative brine disposal such as a pipeline to the ocean or evaporation would be required.

3.9 Factors Affecting Consistency of Supply

The Hollister Urban Area has two major sources of water supply. Factors affecting surface water supply from the CVP include climatic variations. The groundwater basin has had a history of consistent supply. However, there are factors that, if combined, may negatively impact the groundwater basin. For the groundwater supply, these factors are in order of importance: climatic, legal, water quality, and environmental.

3.9.1 Climatic

Recorded droughts have been sufficiently intense and prolonged to temporarily affect groundwater levels in the basin, but have not affected the long-term consistency of supply. However, paleoclimatic data indicate that extreme prolonged droughts have occurred in prehistoric California and current climate research indicates that extreme drought may occur more frequently with climate change. These mega-droughts may be considered likely to occur given a time span of centuries and would be characterized by a significant decrease in precipitation and recharge over the Hollister basin. Climate change also may be characterized by a gradual increase of evapotranspirative losses as a result of global warming. This could result in a subtle, yet significant increase in outflows from the local water balance. Accordingly, climatic factors, including global climate change are considered here as primary factors affecting the future reliability of water supply. This is echoed by DWR's California Water Plan Update 2005, which cautions:

> "The prospect of significant climate change warrants examination of how California's water infrastructure and natural systems can be managed to accommodate or adapt to these changes, and whether more needs to be done (DWR 2005)."

Significant uncertainties still remain over the exact impacts climate change will have on California's hydrology. Some models suggest that precipitation will increase, especially in northern California and in winter months. Other models suggest statistically significant decreases in snowpack in the Sierras. The only certainty is that the temporal and spatial pattern of precipitation in California will change, including changes to snowpack and snowmelt. Therefore, timing of runoff will change significantly. Necessary management and planning steps will need to be taken to reduce any impacts of these changes on the reliability of California's water supply.

3.9.2 Water Quality

Water samples from the municipal wells are monitored for various water quality constituents. If these constituents are detected at concentrations higher than the drinking water standard or MCL set by the U.S. Environmental Protection Agency (USEPA) or the DPH, the well may be taken offline. In the past, municipal wells have been taken offline as a result of high nitrate concentrations. Although high nitrate concentrations can be treated, removal of wells from the system and fitting for treatment technology may temporarily impact the system and affect the cost of supply.

3.9.3 Legal

The Hollister basin has not been adjudicated, so specific groundwater rights have not been quantified. Although the possibility exists that adjudication proceedings could be initiated, the success of local groundwater management activities with stakeholder involvement reduces the likelihood that such lengthy and costly legal action will occur. Imported water is secured for the future through contracts that include provisions for reductions in water supply. Such interruption of imported water would induce additional groundwater pumping that, depending on the magnitude and persistence of the interruption, could reduce groundwater storage and affect the reliability of the groundwater supply.

3.9.4 Environmental

The Hollister basin is part of the Pajaro River ecological system, providing both surface water and groundwater inflow to the lower San Benito River, Pajaro River, and downstream Pajaro groundwater basin. Maintenance of downstream baseflows for habitat conservation could result in required management actions (such as maintenance of local high groundwater levels) that reduce the flexibility for water supply management. This potential loss of management flexibility likely would be localized to specific downstream portions of the basin.

3.10 Potential for Groundwater Overdraft

According to DWR's Bulletin 118, groundwater overdraft is defined "as the condition of a groundwater basin or subbasin in which the amount of water withdrawn by pumping exceeds the amount of water that recharges the basin over a period of years, during which the water supply conditions approximate average conditions" (DWR 118).

As discussed in the water levels section, the basin has recovered from the overdraft experienced in the 1960's and 1970's. The volume of groundwater in storage increased substantially through the introduction of imported water in 1987 to water year 1998, an increase in storage of an average 6,000 AFY. For the six year period of 1999-2005, basin outflow has been approximately equal to inflow, groundwater levels are near historic highs, and available groundwater storage space is limited. Under these operating conditions, the basin shows no potential for overdraft.

However, a worst-case reduction of imported water supply would lead to long-term impacts on the groundwater basin. In the *Groundwater Management Plan and Programmatic EIR* (EDAW, 2001), an analysis compared annual change in storage with imported water and annual change in storage that would have occurred without imported water for WY 1990-1999. To simulate the change of storage without imported water, the volume of water imported for artificial recharge was subtracted from the groundwater inflow and the amount of imported water that was consumed was added to the outflow; the latter assumes that an equivalent amount of groundwater would have been pumped if no imported water were available.

This analysis is expanded here to estimate the effects on the groundwater basin of a worst-case disruption of imported water. **Figure 3-5** illustrates the respective changes in groundwater storage basin-wide with and without imported water over the period WY 1987-2004. Had imported water not been brought into the basin, groundwater storage would have decreased approximately 18,000 AFY. With water importation, groundwater storage has increased an average of 3,000 AFY. The increase in groundwater storage is currently limited by high groundwater levels. Although unlikely, a prolonged disruption in imported water would result in long-term groundwater basin overdraft. The presence of a large groundwater storage basin allows the region to withstand the variability in availability of surface water supplies.

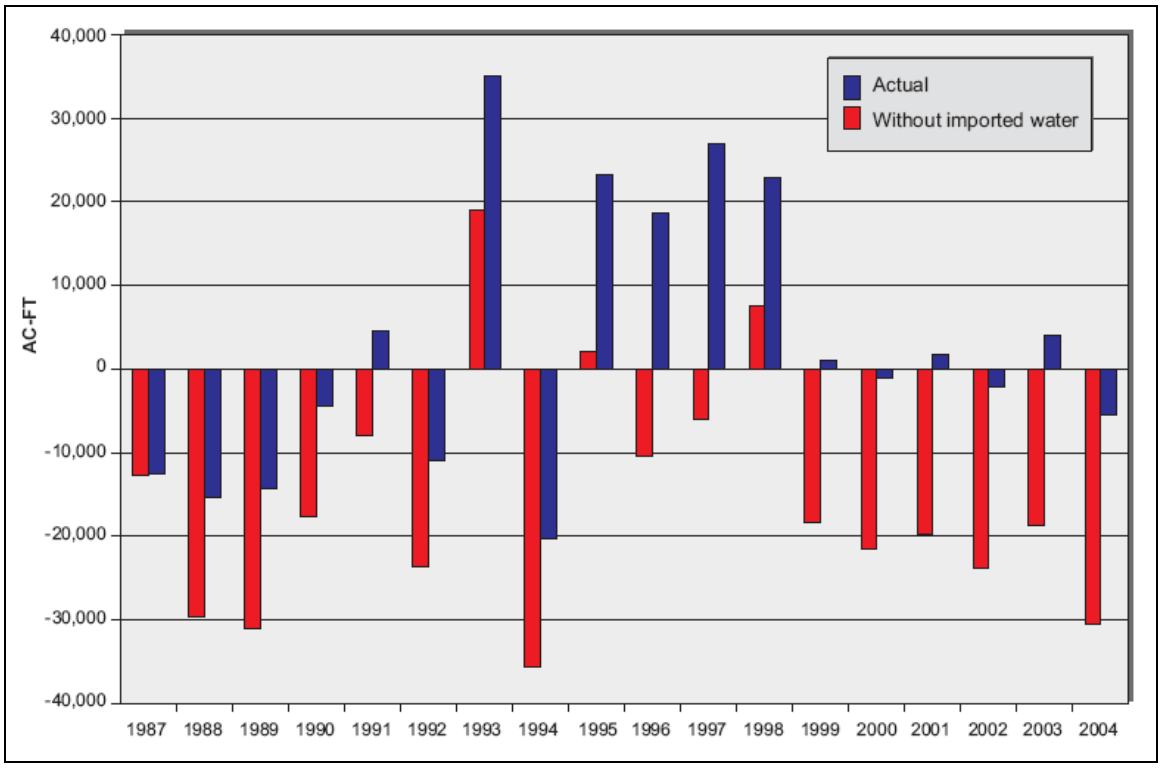

Figure 3-5. Changes of Storage With and Without Imported Water

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Section 4: Water Use Provisions

Law

> 10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
>
> 10631 (e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors including, but not necessarily limited to, all of the following uses:
>
> (A) Single-family residential; (B) Multifamily; (C) Commercial; (D) Industrial; (E) Institutional and governmental; (F) Landscape; (G) Sales to other agencies; (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof; and (I) Agricultural.
>
> (2) The water use projections shall be in the same 5-year increments to 20 years or as far as data is available.

This chapter describes historic/current water usage and the methodology used to project population and future demands within the Agencies' service areas. Water usage is divided into sectors such as: residential, industrial, institutional/governmental, landscape/recreational, agricultural, and other purposes.

Data used throughout preparation of this section include Public Water System Statistics (PWSS) reports, DOF historical and current population statistics, and AMBAG population projections.

4.1 Past, Current and Projected Municipal and Industrial (M&I) Water Use

Historical population and housing data from the DOF, public water system statistics from the City and Sunnyslope, and current city and county ordinances were used in forecasting population and water demand through 2030.

Table 4-1 below presents historic and current population figures from the DOF for the past five years.

Table 4-1. Historic and Current Population Figures

Location	2000	2001	2002	2003	2004	2005	2006	2007
Hollister	34,400	35,153	36,215	36,762	36,993	37,002	37,008	37,120
San Juan Bautista	1,540	1,571	1,591	1,612	1,719	1,722	1,722	1,825
Unincorporated County Areas	17,050	17,780	17,909	18,170	18,398	18,600	18,783	18,858
Total Population of San Benito County	53,234	54,504	55,715	56,544	57,110	57,324	57,513	57,803

Source: CA Department of Finance

Annual growth rates reflected in **Table 4-1** are presented in **Table 4-2**.

Table 4-2. Annual Growth Rates for San Benito County Incorporated and Unincorporated Areas Based on DOF Data

Location	2001	2002	2003	2004	2005	2006	2007
Hollister	2.2%	3.0%	1.5%	0.6%	0.5%	0.02%	0.3%
San Juan Bautista	2.0%	1.3%	1.3%	6.6%	0.7%	0%	6.0%
Unincorporated County Areas	4.3%	0.7%	1.5%	1.3%	1.6%	1.0%	0.4%
Total for San Benito County	2.8%	2.2%	1.5%	1.0%	0.9%	0.3%	0.5%

Table 4-2 indicates that the overall San Benito County population growth rate has slowed considerably over the past five years. The City of Hollister's growth rate has also begun to slow down over the past few years, likely coinciding with the City Ordinance limiting growth. However, San Juan Bautista and the county's unincorporated areas seem to show an increasing growth trend, and over the past few years are growing at a rate greater than the one percent limited by current ordinances for those areas. This increased growth rate may be attributable to a lag effect, in which permits and development may have been approved prior to implementation of the ordinances resulting in a slightly higher growth rate than permitted by the ordinances.

4.2 Population Projections

Population projections for incorporated and unincorporated areas of the county were developed using the following methodology:

- DOF population and persons per household estimates for 2004 were used as the current condition and as the base for estimating future populations.
- Approximately 60 percent of Sunnyslope's customers live in the City of Hollister; the remaining 40 percent are in unincorporated San Benito County.
- All District customers were considered to be located in unincorporated areas.

- In order to compare the overall population for the County with that of the City and Sunnyslope, population growth is assumed to be limited to one percent annually in San Juan Bautista and unincorporated county areas, based on the current ordinance as set by the City of San Juan Bautista City Council in August 2002.
- Population growth is limited to 200 people/year in the City of Hollister until 2007 due to the current moratorium on growth, at which point a new water pollution control plant is assumed to be operational. Population growth then returns to 244 dwelling units/year, as mandated by Ordinance 168. A factor of 4.0 persons/dwelling unit (from DOF) is used to estimate the population growth[3].

Given the current 2004 DOF populations for urbanized and unincorporated areas, projections were made through 2030 by applying the growth limitations imposed by the ordinances and moratoriums on population control. The following table presents forecasted populations that resulted from the methodology and assumptions described above. Current populations as well as projections every five years into the future are presented.

[3] Since 2002, no new dwelling units have been developed in the City pursuant to a moratorium that was imposed by the RWQCB due to wastewater capacity issues. Per the RWQCB request, the City cannot issue building permits for any development that will increase use of wastewater capacity at the City's facilities. The moratorium is still in place and will not be lifted until wastewater treatment capacity is increased. The City is planning to bring a new WWTP in line by early 2009 to increase the wastewater treatment capacity and improve treated effluent quality. Issuance of 350 building permits for new dwelling units is expected to occur within the first two years after the RWQCB request is lifted and about 300 for the subsequent years until the reserve allocations are exhausted. Currently, the City has about 1,400 reserved allocations, with no certificate of occupancy. After the allocations are exhausted, the development schedule is expected to return to 244 units per year, as mandated by the City's growth limit measures, Ordinance 168 (Measure U). Ordinance 168 imposes no limitations on commercial and industrial developments.

Table 4-3. Current and Projected Population for Incorporated and Unincorporated Lands in County.

Statistic	Location	Current	Projected					
		2004	2005	2010	2015	2020	2025	2030
Population	Entire City of Hollister[a]	36,472	36,672	40,000	44,880	49,760	54,640	59,520
	Sunnyslope (Unincorporated Areas)[b]	8,353	8,437	8,867	9,319	9,795	10,294	10,820
	San Juan Bautista	1,719	1,736	1,825	1,918	2,016	2,118	2,227
	Unincorporated County Lands	10,045	10,145	10,663	11,207	11,778	12,379	13,011
	TOTAL	56,589	56,990	61,354	67,324	73,348	79,432	85,576

(a) Population based on DOF 2004 reported City of Hollister population and projected through 2030 based on City of Hollister's moratorium and ordinance growth constraints.
(b) Population based on 40% of Sunnyslope's 2004 PWSS reported service area population and projected through 2030 based on San Benito County's ordinance on growth.

A comparison of these projected populations with DOF and AMBAG projections is shown below in **Table 4-4**.

Table 4-4. Comparison of Projected Populations for San Benito County

Forecast Method	2010	2020	2030
2008 UWMP	61,354	73,348	85,576
DOF	62,530	73,547	84,727
AMBAG[a]	63,890	75,176	83,791

(a) Population based on AMBAG's 2004 Population and Employment Forecast Report.

The 2008 UWMP population projections presented above were used in estimating M&I water demands. This method results in a conservative demand estimate, particularly in the future years. Several methods were developed to estimate water demands in the future, based on per-capita water use, service connections, and land-use changes. In addition, the potential changes to overall water demand as a result of changes from agricultural to urban uses is also discussed in Section 3.4.1 and Appendix F.

4.3 M&I Water Demand Projections Based On Per-Capita Use

Water demand projections based on per-capita daily water use statistics were developed for both incorporated and unincorporated areas of the County. Per-capita daily water usage rates were calculated for the City and Sunnyslope from water usage data provided in the PWSS reports. County-wide averages for per-capita daily water usage were estimated using water usage data from the Annual Groundwater Management Reports prepared for the District from 1994 – 2004.

The per capita water use approach to projecting water demands used the following assumptions:

- Incorporated and unincorporated areas are assumed to have different daily water use patterns.
- All incorporated areas are assumed to have similar daily water use patterns as the City of Hollister, equivalent to 153 gallons per capita per day (gpcd).
- Per capita water use for unincorporated areas is calculated by subtracting out the effect of urbanized areas (Hollister and San Juan Bautista) from the overall county average of 176 gpcd for daily water use. This results in a per-capita use of 224 gpcd for unincorporated areas.
- M&I water demands are assumed to decrease 5 gpcd every 10 years beginning in 2010 for incorporated areas, and decrease 10 gpcd every 10 years in unincorporated areas to reflect effects of implementing demand management measures. It is assumed that further demand reduction is capable beyond what is assumed in this analysis, and therefore conservation rates are maintained throughout the analysis.
- The populations projected earlier are assumed to be accurate and are used with the per-capita usage rates in projecting water demands.

The current and projected per-capita water usage used in projecting water demands are summarized below in **Table 4-5**.

Table 4-5. Per Capita M&I Water Usage Rates Used in 2006 UWMP for Water Demand Projections

	Per - Capita Water Usage (gpcd)		
Location	**2005 - 2010**	**2011 - 2020**	**2021 - 2030**
Urbanized Areas	153	148	143
Unincorporated Areas	224	214	204

From the population projections made earlier, populations in both urbanized and unincorporated areas are known. By applying the per capita water usage rate above to the projected populations in the various areas, both current and projected water demands are estimated using the above assumptions. The following table presents the results of the per capita water use approach to projecting water demands, based on the assumptions listed above.

Table 4-6. Current and Projected Water M&I Demands Using Per-Capita Water Usage Approach

Statistic	Location	Current (AF)	Projected (AF)					
		2004	2005	2010	2015	2020	2025	2030
Water Demand (AFY)	Entire City of Hollister	6,247	6,281	6,851	7,687	8,523	9,358	10,194
	Sunnyslope (Unincorporated areas)	2,097	2,118	2,226	2,340	2,459	2,585	2,716
	San Juan Bautista	294	297	313	328	345	363	381
	Unincorporated County Lands	2,527	2,552	2,683	2,819	2,963	3,114	3,273
	TOTAL	**11,166**	**11,249**	**12,072**	**13,175**	**14,290**	**15,420**	**16,565**

4.4 M&I Water Demand Projections Based On Service Connections

As an alternative method, an M&I water demand analysis based on service connections was also performed to project urban water demands through 2030. In this analysis, historic and current M&I water use data was analyzed by customer use category to develop average daily water use patterns for different meter categories. Future M&I water demands are estimated by predicting the rate at which new meters will be installed for the various customer use categories.

The following table summarizes some historic and current water system statistics for the City and Sunnyslope by customer use category.

Table 4-7. Summary of Meters and M&I Water Usage by Customer Use Category for City and Sunnyslope Service Areas

Service Provider	Customer Use Category	# of Meters						M&I Water Usage (gal/meter/day)						
		1999	2000	2001	2002	2003	2004	1999	2000	2001	2002	2003	2004	AVG
Hollister	Single-Family Residential	4,905	5,014	5,199	5,289	5,227	5,204	369	375	369	376	377	382	375
	Multi-Family Residential	210	215	218	219	223	222	1,412	1,390	1,405	1,375	1,307	1,345	1,372
	Comm/Inst	472	489	504	511	509	506	1,343	1,247	1,305	1,168	1,140	1,274	1,246
	Industrial	24	28	30	33	32	33	7,834	6,271	7,481	5,643	5,212	3,585	6,004
	Landscape Irrigation	51	55	62	69	68	72	3,465	3,547	3,142	2,905	3,001	3,358	3,236
Sunnyslope County Water District	Single-Family Residential	4,695	4,843	4,938	4,986	4,977	4,985	452	472	482	470	472	471	470
	Multi-Family Residential	198	198	200	200	200	199	1,376	1,397	1,378	1,318	1,193	1,181	1,307
	Comm/Inst	33	37	37	37	38	40	529	436	1,065	1,171	1,024	1,180	901
	Industrial	0	0	0	0	0	0	0	0	0	0	0	0	0
	Landscape Irrigation	44	44	49	49	49	51	2,979	3,738	3,794	3,485	3,384	3,229	3,435

Table 4-7 provides the following information:

- The differences in water usage between the City and Sunnyslope for single-family residential water meters.
- The increasing water usage by commercial/institutional customers in Sunnyslope, and the decreasing water usage by commercial/institutional customers in the City.
- The decreasing water usage by industrial customers in the City.
- The decreasing water usage by multi-family homes in both the City and Sunnyslope, and the increasing usage by single-family homes in both the City and Sunnyslope.
- Multi-family residential and landscape irrigation water usages are comparable for the City and Sunnyslope.

Graphical representations of the data shown above are provided in **Appendix H**.

The meter inventory for 2004 was used as the current condition and as the base for estimating future meter additions. Future M&I water demands were estimated by projecting the number of meters to be installed annually in the incorporated and unincorporated areas of the County. The number of residential meters (single-family and multi-family) projected to be installed annually was determined by the number of dwelling units allowed under ordinances. The number of non-residential meters to install annually was estimated by evaluating the rate at which they were installed between 1999 and 2004 and assuming that they will continue at this rate through 2030. The

average M&I water usage per meter shown in **Table 4-7** was used with the projected annual meter installations to estimate the water demands associated with new meter installations. This was done for each meter customer use category.

Existing meter information is not available for unincorporated county areas. Therefore, several assumptions were required to develop the analysis for the unincorporated county areas, listed below:

- 100 percent of Sunnyslope's commercial/institutional and landscape irrigation meters are located within the City. In reality, some of Sunnyslope's commercial/institutional and landscape irrigation meters may be located within the county; this assumption is not expected to result in significant modifications to total M&I demand,
- 60 percent of Sunnyslope's single-family home meters and multi-family home meters are located within the City, and the remaining 40 percent are located in unincorporated areas. Both meters in and out of the city have usage rates equivalent to Sunnyslope's rates. It should be noted that the construction of "granny units" may impact the per meter water use in single-family homes.
- 100 percent of unincorporated county meters serve single-family homes, with usage rates equivalent to Sunnyvale's metered single-family homes.
- In the unincorporated county, historic and current rates of non-residential meter installation were assumed to be indicative of future installation rates.
- Future meter installation is limited by current growth ordinances. In urbanized areas, 90 percent of new meters are assumed to serve single-family homes, and 10 percent serve multi-family homes. In unincorporated areas, 100 percent of new meters are assumed to serve single-family homes.
- Since metered water deliveries to specific accounts do not account for losses that occur within the overall water system, the average service connection water usage rates were increased by 5 percent to develop the base condition.
- Conservation was assumed to reduce consumption by single family homes, multi-family homes, and commercial connections by 5 percent in 2011 and another 5 percent in 2021. Industrial and landscape connections were expected to reduce by 10 percent in 2011 and again in 2021. It is assumed that further demand reduction is capable beyond what is assumed in this analysis, and therefore conservation rates are maintained throughout the analysis.
- Within the City of Hollister, new commercial, industrial, and landscape connections are assumed to be added at a rate of 7, 2, and 4 per year, respectively. Within Sunnyslope unincorporated areas, new commercial, industrial, and landscape connections are assumed to be added at a rate of one, none, and one per year, respectively.

The results of this analysis are presented below in **Table 4-8**.

Table 4-8. Current and Projected M&I Water Demands Using Service Connection Approach

Statistic	Location	Current (AF)	Projected (AF)					
		2004	2005	2010	2015	2020	2025	2030
Water Demand (AFY)	Hollister	6,099	6,174	6,880	7,752	8,624	9,445	10,265
	Sunnyslope (Unincorporated areas)	1,247	1,261	1,330	1,399	1,472	1,544	1,621
	San Juan Bautista	355	358	377	395	414	433	453
	Unincorporated County Lands	1,616	1,632	1,715	1,799	1,886	1,973	2,065
	TOTAL	**9,317**	**9,425**	**10,302**	**11,345**	**12,396**	**13,395**	**14,404**

The 2004 current water demand estimate is significantly lower than the 2004 estimate using the per-capita water use approach described earlier. The differences are less notable in the later future projections.

4.5 M&I Water Demand Projections Based On Land Use Changes

Adequate data is not currently available to efficiently develop a land use approach. Information regarding existing levels of development and anticipated development for the various land-use categories within the service areas is necessary.

4.6 Comparison of M&I Water Demand Projection Methods

Some limitations to each water demand projection method have been discussed. A comparison of the water demand projections developed by each of the different methods is shown below.

Table 4-9. Comparison of M&I Water Demand Projection Methods

Location	Water Demand Projection Method	Current (AF)	Projected (AF)					
		2004	2005	2010	2015	2020	2025	2030
City of Hollister	Per-Capita	6,247	6,281	6,851	7,687	8,523	9,358	10,194
	Service Connection	6,099	6,174	6,880	7,752	8,624	9,445	10,265
Sunnyslope (Unincorporated areas)	Per-Capita	2,097	2,118	2,226	2,340	2,459	2,585	2,716
	Service Connection	1,247	1,261	1,330	1,399	1,472	1,544	1,621
San Juan Bautista	Per-Capita	294	297	313	328	345	363	381
	Service Connection	355	358	377	395	414	433	453
Unincorporated County Lands	Per-Capita	2,527	2,552	2,683	2,819	2,963	3,114	3,273
	Service Connection	1,616	1,632	1,715	1,799	1,886	1,973	2,065
	2004 Annual GW Report	2,019	2,039	2,143	2,252	2,367	2,488	2,615
TOTAL	Per-Capita	**11,166**	**11,249**	**12,072**	**13,175**	**14,290**	**15,420**	**16,565**
	Service Connection	**9,317**	**9,425**	**10,302**	**11,345**	**12,396**	**13,395**	**14,404**
	Service Connection for Hollister and Sunnyslope plus Annual GW Report for Unincorporated County Lands	**9,720**	**9,832**	**10,730**	**11,798**	**12,877**	**13,910**	**14,954**

As shown in the table, differences in projected M&I water demand between the two approaches are most significant for the unincorporated parts of the county. The different approaches yielded very similar results for the City of Hollister.

Table 4-10 compares the estimates for 2004 water demand from the two approaches with actual recorded values provided by the City and Sunnyslope.

Table 4-10. Comparison of Projected M&I Water Demands With Actual Metered Volumes

2004 Actual Metered Water Usage (City and Sunnyslope Service Areas)	2004 Estimated Water Usage	
	Per-Capita Water Use Approach	Service Connection Approach
7,359	8,344	7,346

The table shows that the two approaches yield similar estimates for the 2004 M&I water demand of the City and Sunnyslope. Most of the difference, as shown in **Table 4-9**, is attributable to the unincorporated sections of Sunnyslope's service area. The service

connection approach used to project demand was used for analysis in subsequent sections of this Plan.

4.7 Description of Sectors

4.7.1 Residential Sector

The City has experienced an increase in both the number of single family and multi-family residential meters by approximately 6 percent from 2000 - 2004. The DOF reported in 2004 a value of 3.553 persons per household for the City of Hollister. This value may be lower than the number of persons per household reflected by water use per connection and may be as high as four persons per household. Within the Hollister service area, multi-family meters use is, on average, 3.5 times as much water as single-family meters. In the Sunnyslope service area, the ratio is lower, around 2.5 times the water use of single-family residences. It is estimated that the incorporated areas of this study use approximately 153 gallons per capita per day (gpcd), while unincorporated areas use around 224 gpcd. Single-family residential water use has increased since 2000, while multi family residence water usage has decreased (see **Appendix H**).

There is a current moratorium on growth within the City of Hollister mandated by Cease and Desist Order No. R3-2002-0105, issued by the SWRCB on September 19, 2002. The Order is in place until the City increases its wastewater treatment capacity and subsequent disposal. In addition, City of Hollister Ordinance 168 limits population growth to 244 dwelling units/year. San Juan Bautista and the county's other unincorporated areas also have ordinances limiting population growth to 1 percent annually.

4.7.2 Commercial/Institutional Sector

The City has a complex mix of commercial customers, ranging from markets, restaurants, antique stores, insurance offices, beauty shops, and gas stations to multi-story office buildings, outlet and regional shopping centers, and high-volume restaurants and other facilities serving the local and visitor population. The City serves most commercial customers with approximately 500 connections, while Sunnyslope serves only 40 commercial connections. The City experienced a 7 percent increase in commercial/institutional connections between 2000 and 2004, while Sunnyslope increased its commercial/institutional connections by 21 percent. This trend is expected to decline slightly as population growth is limited.

The City has a stable institutional/governmental sector that includes primarily local government, schools, visitor serving public facilities, and a public hospital. This sector is expected to keep pace with the growth of the city.

Additional detailed information regarding meter connections and water usage over the past five years can be found in **Appendix H**.

4.7.3 Industrial Sector

The City has a small industrial sector, primarily centered on food production (wineries, canning and bottling) and light manufacturing. The City serves all industrial customers

within the City of Hollister. There has been a 38 percent increase in industrial connections since 2000.

4.7.4 Landscape/Recreational Sector

Landscape irrigation connections have increased by 41 percent for the City's service area and 16 percent for Sunnyslope's service area between 2000 and 2004. Water usage in this sector increased approximately 37 percent for the City and 26 percent for Sunnyslope. While the City's increased water usage seems to parallel its new connections, Sunnyslope saw a dramatic rise in usage compared to the number of new connections, indicating these additional connections are high volume water users.

4.7.5 Agricultural Sector

Agricultural water demands constitute approximately 75 percent of the total water use in Zone 6, and approximately 56 percent of the three subbasins included in this study. Agricultural use of CVP water has increased, while agricultural groundwater use has decreased since 2000. When compared with total water use, agricultural use has declined from 81 percent of total use in 2000 to the 75% reported above in Zone 6, and declined from 67 percent to 56 percent in the three subbasins of interest. There are current efforts to slowly begin converting some agricultural lands to urban land uses within the study area as described in the Hollister and San Benito County General Plans and analyzed in Appendix F. The conversions from agricultural to urban land uses are projected to reduce overall water use for the same lands.

Section 5: Supply and Demand Comparison Provisions

Law

> 10635 (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from the state, regional, or local agency population projections within the service area of the urban water supplier.

The purpose of this section is to assess the reliability of the study area's water services during normal, dry, and multiple dry years.

5.1 Supply and Demand Comparison

Table 5-1 compares current and projected groundwater and imported water supply and M&I and agricultural demand. It indicates that in average precipitation years, the City, Sunnyslope, and the District have sufficient water to meet their customers' needs, through 2030. This analysis was based on the assumptions described in the water supply reliability section under normal supply and demand conditions.

Table 5-1. Projected Average Year Supply And Normal Year Demand Comparison

	2010	2015	2020	2025	2030
Supply totals [(a)]	29,925	29,925	29,925	29,925	29,925
Demand totals [(a)]	21,494	20,968	20,451	19,886	19,562
Difference	8,431	8,957	9,475	10,040	10,364

Units of Measure: Acre-feet per year

(a) See Section 3.4.1 and Table 3.1 for additional background information and data for imported and groundwater supply and M&I and agricultural demand during normal water years.

Table 5-1 indicates there are sufficient water supplies to meet normal demand in average hydrologic years.

Table 5-2 presents a supply and demand comparison where demand does not fluctuate in conjunction with a change in supply. This analysis demonstrates that if supply were to be reduced because of a water supply shortage, the existing supply may not be sufficient to meet demands.

Table 5-2. Single Dry Year And Multiple Dry Water Years

Water Supply Sources	Average/Normal Water Year 2005	Single Dry Water Year 2005	Multiple Dry Water Years		
			Year 1 2006	Year 2 2007	Year 3 2008
Supply totals [(a)]	29,925	20,932	20,987	19,595	19,595
Percent Shortage	N/A	30%	30%	35%	35%
Demand totals [(a)]	21,828	21,828	21,743	21,658	21,684
Difference	8,097	(896)	(756)	(2,063)	(2,089)

Unit of Measure: Acre-feet per year

(a) See Sections 3.4.1, 3.4.2, and 3.4.3 and Tables 3.1, 3.2, and 3.4 for additional background information and data for supply and demand during normal, single dry, and multiple dry water years, respectively.

Table 5-2 shows that in a single dry water year or during the first year of a multiple year drought, there could be a shortage of over 700 acre-feet per year (AFY). During the second and third years of multiple year droughts, this shortage increases to approximately 2,000 AFY, representing approximately 10 percent of demands. As discussed in Section 3.4.1 and Appendix F, it should be noted that in future years, conversion of agricultural to urban land uses will likely result in additional supply as urban demands are estimated to be lower than agricultural demands. This then results in elimination of shortfalls during dry years in 2028 – 2030 demand conditions.

Table 5-3, 5-4, & 5-5 will detail how supply options and demand options can alter the outcome of a projected water shortage.

Table 5-3 modifies the comparison by increasing the supply available for use with the inclusion of groundwater banking in previous years where demands did not equal the available supply. Additional groundwater withdrawals that exceed the sustainable yield of the aquifer is acceptable for short periods of time (e.g., three year drought), as the aquifers will recover during years with above-average rainfall and/or through groundwater recharge of imported water. However, as described in earlier sections, the City and Sunnyslope might not have sufficient groundwater pumping capacity at the present time to extract previously banked water in excess of the sustainable yield. Additional wells may be required in the future to pump in excess of the sustainable yield to satisfy deficiencies in imported supplies.

This comparison demonstrates that changes in supply, through groundwater banking, are sufficient to meet the demands in a multi-year dry period. It is assumed that during a single dry water year or during the first of multiple dry water years, groundwater withdrawals can be increased to 18,000 AFY, or 2,000 AF in excess of the sustainable yield. During the remaining multiple dry water years, groundwater pumping could be increased even more to 20,000 AFY, or 4,000 AF in excess of the sustainable yield.

Table 5-3. Reliability And Comparison With Additional Groundwater Pumping for Supply

Water Supply Sources	Average/Normal Water Year 2005	Single Dry Water Year 2005	Multiple Dry Water Years		
			Year 1 2006	Year 2 2007	Year 3 2008
Supply totals [(a)]	29,925	22,932	22,987	23,595	23,595
Demand totals [(a)]	21,828	21,828	21,743	21,658	21,684
Difference	8,097	1,104	1,244	1,937	1,911

Unit of Measure: Acre-feet per year

(a) See Sections 3.4.1, 3.4.2, and 3.4.3 and Tables 3.1, 3.2, and 3.4 for additional background information and data for supply and demand during normal, single dry, and multiple dry water years, respectively.

As shown, groundwater provides a reliable source of water during times of drought that can make up for deficiencies from other sources.

Table 5-4 modifies the comparison by implementing demand management measures and other consumption reduction methods. This comparison holds supply at the same level as **Table 5-2.**

This analysis assumes a 0 percent reduction in M&I and agricultural demand during a single dry water year and during the first year of a multiple year drought. During the second and third years of the multiple year drought, M&I demand is assumed to decrease 10 percent and 15 percent respectively. Agricultural demands are assumed to remain constant. Results are shown below.

Table 5-4. Reliability and Comparison With Implementation of Demand Management Measures

Water Supply Sources	Average/Normal Water Year 2005	Single Dry Water Year 2005	Multiple Dry Water Years		
			Year 1 2006	Year 2 2007	Year 3 2008
Supply totals [(a)]	29,925	20,932	20,987	19,595	19,595
Demand totals [(a)]	21,723	21,828	21,743	20,731	20,261
Difference	8,314	-896	-756	-1,136	-666

Unit of Measure: Acre-feet per year

(a) See Sections 3.4.1, 3.4.2, and 3.4.3 and Tables 3.1, 3.2, and 3.4 for additional background information and data for supply and demand during normal, single dry, and multiple dry water years, respectively.

Table 5-4 demonstrates that the implementation of conservation measures resulting in the assumed demand reduction is not sufficient to eliminate shortfall during a water supply shortage. The development of a recycled water source could provide the agriculture sector with a reliable source of water and relieve stresses on the potable water supply for M&I uses. Additional demand management measures could also be implemented, but could result in demand hardening which would require available supplies to be more reliable.

Table 5-5 modifies the comparison by increasing supply and modifying water user habits through conservation measures. It demonstrates that most circumstances of shortage can be planned for and managed.

Table 5-5. Reliability And Comparison With Additional Groundwater Pumping for Supply And Implementation of Demand Management Measures

Water Supply Sources	Average/Normal Water Year 2004	Single Dry Water Year 2005	Multiple Dry Water Years		
			Year 1 2006	Year 2 2007	Year 3 2008
Supply totals [(a)]	29,925	22,932	22,987	23,595	23,595
Demand totals [(a)]	21,828	21,828	21,742	20,731	20,261
Difference	8,097	1,104	1,245	2,864	3,334

Unit of Measure: Acre-feet per year

(a) See Sections 3.4.1, 3.4.2, and 3.4.3 and Tables 3.1, 3.2, and 3.4 for additional background information and data for supply and demand during normal, single dry, and multiple dry water years, respectively.

As shown through this analysis, the City, Sunnyslope, and District can meet their demands in both single and multiple dry water years through the use of both supply and demand options. However, active water efficiency improvements, additional water supplies, and demand management measures will be necessary to meet projected water demands, especially in the near future. Demands in **Table 5-5** more closely resemble current demands, whereas demands closer to the planning horizon of 2030 are estimated to be less as a result of conversion of agricultural lands to urban uses within the HSA.

Section 6: Water Demand Management Measures

Law

> 10631 (f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:
> (1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:……..

The City, Sunnyslope, and the District are committed to implementing water conservation and water recycling programs. The WRA has hired a Water Conservation Coordinator that is a District employee, to serve the water conservation needs for the WRA members. The purpose of this section is to summarize both demand management measures that have been implemented since the 2000 UWMP and scheduled measures to be implemented in the near future. To prepare for periods of extended drought, the Hollister area's water managers can continue with water management activities already underway, as well as explore other strategies to assure adequate supplies of water to both agricultural and municipal and industrial customers.

The City of Hollister is signatory to the CUWCC MOU for urban water conservation in California. Signatory agencies agree to follow guidelines for developing, implementing and evaluating water conservation best management practices (BMPs) to be included in their UWMP. As a signatory to the CUWCC MOU, the City reports implementation of BMPs directly to the CUWCC database (http://www.cuwcc.org/home.html). Although the District and Sunnyslope have not signed the MOU, they report on BMP implementation to the CUWCC as requested by the USBR through the CVP contract agreement. Implementation of BMPs by the District and Sunnyslope is requested by the WRA and information compiled is entered into the CUWCC database by the WRA.

Signatories to the CUWCC MOU are required to report the status of each BMP implementation every two years. Reporting includes the status for two consecutive years. As of May 2008, reporting for year 2006 is the most recent information available at the CUWCC database. In addition to the CUWCC reporting requirements, the Water Conservation Coordinator reports to the WRA during the WRA meetings, providing the status of BMP implementation, ongoing activities, and scheduled events in the Hollister service area. For the purposes of this 2008 UWMP, the three agencies agreed to use the CUWCC guidelines.

A summary of the BMPs implemented for the three agencies is provided in Appendix I. In addition, CUWCC BMP annual reports for the City are included in Appendix I.

6.1 DMM1 – Interior and Exterior Water Audits for Single Family and Multi-Family Customers

IMPLEMENTATION DESCRIPTION

The local program began in 2000 and includes promoting and conducting single-family and multi-family residential water use surveys, which will be provided at no additional charge to the customer. The focus of the program is on older neighborhoods with pre-1980 plumbing and the second priority is on other pre-1992 housing. Houses constructed after 1992 were required by state building codes to utilize water conserving plumbing fixtures. The goal of this program is to survey 200 single-family and 50 multi-family residences per year. These surveys include the following elements:

- Check for leaks, including toilets, faucets, and meter check;
- Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, as necessary;
- Check toilet flow rates and, , direct customer to ultra low flush toilet (ULFT) replacement programs, as necessary; and replace leaking toilet flappers and floats if applicable;
- Check irrigation system and timers;
- Review or develop customer irrigation schedule ;
- Evaluate water softener operations and test water hardness to ensure proper settings;
- Promote the retrofit program and provide other information on local water resource topics.

The City, and Sunnyslope, through the WRA's Water Conservation Coordinator, and staff of each water utility, provide bill stuffers to all their customers that promote WRA programs. In addition, print ads are run on a weekly basis in local newspapers (Free Lance and Pinnacle newspapers). The WRA also utilizes the Community Media Access Partnership (CMAP), a non-profit public, education, and government access media center that serves Hollister and San Juan Bautista, to promote their programs and provide Public Service Announcements (PSA). CMAP also broadcast all WRA Board Meetings to the community.

The WRA also publishes a newsletter biannually entitled, "*Water Conservation Update*". The newsletter includes seasonal water conservation measures such as turning off irrigation systems in the fall and offering free irrigation inspections in the spring along with promoting WRA programs. To reach the large Spanish speaking population in the area, the WRA post flyers in Spanish and has utilized the local Spanish radio station (KMPG) to encourage participation in all WRA programs. The WRA website is another vehicle used to promote their programs (www.wrasbc.org). See Section DMM7 – Public Information for a more detailed description of the public information activities undertaken by the City and Sunnyslope.

The results of the residential water survey will be provided to the customer with water saving recommendations and specific local information packets prepared as part of the public information program described for DMM 7. The individual contacts made during the survey will be used to actively promote the other programs and services offered by the Water Conservation Program, including retrofit and rebate programs offered under

other BMPs. Both English and Spanish speaking persons will conduct the survey, and both English and Spanish language materials will be available.

IMPLEMENTATION SCHEDULE AND CONSERVATION SAVINGS

Based on CUWCC information, the potential water savings from this BMP are estimated to be 0.5 gpcd for repair of toilet leaks and 10 percent savings on outdoor landscaping uses. The savings realized if this program succeeds will reduce both water demand within the residential households and wastewater flow generation. Combined annual water saving indoors is expected to be approximately 1 AF, while annual outdoor water savings is expected to be approximately 5 AF.

Table 6-1. DMM 1 Implemented and Planned Surveys.

Year	Single Family Surveys	Multi- Family Surveys	Estimated Annual Indoor Water Savings (AF)	Estimated Annual Outdoor Water Savings (AF)	Estimated Cumulative Water Savings (AF)
2001	191	88	1	5	6
2002	153	115	1	5	12
2003	368	27	1	5	18
2004	357	72	1	5	24
2005	393	40	1	5	30
2006	351	128	1	5	36
2007	323	2	1	5	42
2008[e]	200	50	1	5	48
2009[e]	200	50	1	5	54
2010[e]	200	50	1	5	60

e = estimate based on target objectives

METHODS TO EVALUATE EFFECTIVENESS

For each dwelling unit a Water Conservation Assistant completes a customer data form (including number of people per household, number of bathrooms, age of clothes washer and water softener, and approximates landscaped area square footage). This data is used to analyze the customer's water use pre- and post-audit, and to refine the program.

The City and Sunnyslope staff review customer water use records and compare historic with current use. If current use rises above historic use, staff will flag the customer's account and offer a survey.

BUDGET

Proposed annual budget: $18,000, includes Job Training Program staff, brochures, and other miscellaneous materials (this budget item does not reflect the costs associated with ultra-low flush toilets - see DMM 16 – Ultra-Low Flush Toilet Replacement, or DMM 2 – Plumbing Retrofit). This budget amount assumes $72.00/residence is available for the program. For the fiscal year 2007 – 2008 (October 1, 2007 through September 30, 2008), the WRA approved a budget of $18,000 for conducting single and multi-family

residential surveys and audits. Both the City and Sunnyslope have a budget of $5,850 and the District has a budget of $6,000 for DMM 1 related activities.

6.2 DMM2 – Plumbing Retrofit

IMPLEMENTATION DESCRIPTION

This BMP consists of notifying single-family and multi-family residential customers through all the methods described under DMM 1, of the availability of free, high-quality, low-flow showerheads (rated 2.5 gpm or less), , toilet flappers and faucet aerators (rated 2.2 gpm or less). These devices would be offered for installation during the water use survey. In addition, these devices would be provided by the water purveying agencies on request to customers who are not taking advantage of the free water survey. The retrofit kits would be available at the offices of the local sponsors. In addition, these kits would be made available as part of the public information campaign, which will include having a presence at local public events, fairs, and utilizing organizations such as Hometown Hello that welcome new residents to the County.

The City requires low-flow plumbing fixtures be installed as a condition of the building permits issued by the Building Department for the remodeling of a home or business. Sunnyslope is considering low-flow retrofits for remodeling as well. The Water Conservation Program sponsors will annually track the type and number of retrofits completed, devices distributed, and the annual program costs.

Many urban areas have adopted "Retrofit on Resale" programs through use of the authorities of the water purveyor. These programs require that all homes be retrofitted with low water use fixtures and ultra low flow toilets at the time of resale. There are various mechanisms for enforcement and for ensuring that the retrofit actually occurs as required by the local codes. For example, the local water purveyor will not turn on a new connection until the retrofit has been certified.

IMPLEMENTATION SCHEDULE AND CONSERVATION SAVINGS

Implementation of the plumbing retrofit program began in 2001. To meet the objectives of the retrofit program, a high priority must be given to the development and implementation of a promotional effort and public information campaign which will be developed as part of the public awareness program (DMM 7). One of the concerns raised is homeowner replacement of low-flow shower heads with dual and/or “designer” high-flow showerheads.

The CUWCC states that the local sponsors will maintain distribution and/or direct installation programs so that devices are distributed to not less than 10 percent of single-family connections and multi-family units each reporting period. The target objectives for the plumbing retrofit program are shown in **Table 6-2**. It is estimated that 90 percent of both single-family and multi-family residences will be fitted with high-quality, low-flow showerheads by 2010. Most homes have retrofitted due to hard water effects.

Table 6-2 presents estimated annual and cumulative water savings, assuming 5 gpcd can be saved from the program. As much as 160 AFY water demand savings could be realized with this BMP.

Table 6-2. DMM 2 Implementation Schedule

Year	Showerheads, Aerators, and Leak Detection Tablets		Estimated Annual Water Savings (AF)	Estimated Cumulative Water Savings (AF)
	Single Family	Multi-Family		
2001	329	88	13	13
2002	191	115	12	25
2003	483	33	13	38
2004	367	77	13	51
2005	463	0	9	60
2006	470	116	20	80
2007	457	0	20	100
2008[e]	522	133	20	120
2009[e]	522	133	20	140
2010[e]	522	133	20	160

e = estimate based on target objectives

METHODS TO EVALUATE EFFECTIVENESS

Refer to DMMs 1 and 16.

BUDGET

The conservation kits that would be made available for distribution and use by the local residents would cost approximately $20 per kit. On an annual basis, assuming that about 650 residences will be retrofitted with the contents of these kits, the costs to the program will be about $13,000. For the fiscal year 2007 – 2008, the WRA's total budget for plumbing retrofits is $6,500. Of this amount, $2,113 was allocated for the City and Sunnyslope, and $2,167 for the District.

6.3 DMM3 – Distribution System Water Audits, Leak Detection and Repair

IMPLEMENTATION DESCRIPTION

A water audit is a thorough examination of the accuracy of water agency records and system control equipment. Leak detection is the systematic method of using listening equipment to survey the distribution system, identify leak sounds, and pinpoint the exact locations of hidden underground leaks so that maintenance and repair activities can be prioritized and scheduled. The overall goals of a water audit and leak detection program are to identify, quantify and verify water and revenue losses at the purveyor level. Water audits and leak detection programs help to identify inaccurate meters

and to identify leaks early, before they can cause property damage or create a circumstance of legal liability.

Both the City and Sunnyslope have leak detection equipment, and a dedicated leak detection program is expected to be implemented in coordination with the District. The City has been actively implementing DMM 3 by completing a pre-screening audit on a regular basis to keep records of the total supply into their system and all metered sales. While the pre-screening is conducted almost every month (on an average), metered sales are read bimonthly. Therefore, monthly metered sales reported are approximate values and may not reflect actual monthly metered deliveries. In addition, water production estimates may not reflect all water transfers between the City and Sunnyslope. A balance sheet is maintained to account for water exchanges at non-metered connections between the City and Sunnyslope. Through the pre-screening audits, the City continues to make efforts to improve their water accounting system.

As a signatory to the CUWCC MOU, the City reports estimated annual water auditing results to the CUWCC every two years. Comparisons of the City's metered sales and total supply into the system show that water losses were approximately 7 percent for 2005 and less than 1 percent for 2006. Water losses reported in recent years have been less than 10 percent. As a result, a full-scale system audit has not been required since the late 1990s where the last full- scale system audit was conducted in coordination with the District.

Sunnyslope also performs pre-screening audits and maintains in-house records of monthly water purchase, metered sales, and groundwater pumping. In coordination with the District, Sunnyslope implemented a full-scale system audit in the late 1990s using an independent contractor. Since then, no significant water losses have been encountered. During 2005 and 2006, unaccounted water losses were reported to be less than 1percent. Leaks are typically detected through water ponding on the ground as clayey type of soil encountered within Sunnyslope results in water ponding when leaks occur. Once detected, leaks are repaired by Sunnyslope crews.

The District is the local water wholesaler and has audited its system. The audit identified problems with the meters and systems control and monitoring practices. Efforts are currently underway to update the metering and systems control technology for the San Felipe distribution system within Zone 6.

It is recommended that the City and Sunnyslope continue to conduct annual water audits and leak detection and incorporate these activities into its yearly operations in order to pinpoint problem areas and prioritize water main replacements. This type of approach will help identify opportunities to improve the overall system operation and billing system, and for benchmarking current conditions to track the benefits of systems improvements related to water conservation.

IMPLEMENTATION SCHEDULE

It is recommended that implementation of a system water audit and leak detection program continue. Both the City and Sunnyslope will coordinate and maintain an active distribution system auditing program and repair identified leaks when discovered. The results of the pre-screening audit will be documented using the completed American Water Works Association (AWWA) Audit Worksheets for each completed audit period. It

is estimated that an extensive leak detection and repair program will be conducted over a 2 to 3-year period.

The City has permanently incorporated this DMM into its operations and maintenance procedures, and established a three-year rotation schedule. City crews will survey at least 70 miles of main and laterals per year on an on-going basis.

METHODS TO EVALUATE EFFECTIVENESS
The accounting staff annually review the data records to confirm that the unaccounted for water losses stay under 6 - 7 percent.

CONSERVATION SAVINGS
It is estimated that the City's and Sunnyslope's water distribution systems are presently losing anywhere between 5 – 10 percent of the water pumped from the systems' wells or from Lessalt prior to delivery to customers. Some of this loss may be the results of inaccurate meters which are discussed in DMM 4 that follows. A system water audit and leak detection program will likely reduce system losses by approximately 5 percent. Based on the combined system demand of approximately 6,000 AF, a savings of 300 AF could be realized with the implementation of such a program.

BUDGET
Hiring an independent contractor to conduct an extensive water audit and system leak detection program is estimated to cost approximately $30,000 to $50,000 over a 3-year period. Following this initial audit, annual audits are expected to cost approximately $5,000. The cost of system repairs is not included in this estimate.

Currently, the City and Sunnyslope do not have a designated budget for DMM 3 related activities. Pre-screening audits and leak repairs are typically handled as part of their system maintenance expenditure.

6.4 DMM4 – Metering with Commodity Rates

IMPLEMENTATION DESCRIPTION
This BMP is believed to be completely implemented in the City's service area in that there are no known unmetered connections in either the City or Sunnyslope's service areas. Both the City and Sunnyslope have a meter replacement program. The City has been replacing approximately 700 to 800 meters annually. As of early 2008, nearly half of the City's old meters have been replaced with new meters that allow reading through a radio. Currently, the City has 6,032 accounts in their service area (most up to date information as reported in 2006). It is anticipated that the City could potentially finish replacing the remaining old meters in their service area in about four years if the City continues to replace meters at a rate of 700 to 800 meters annually.

Sunnyslope began the meter replacement program about 10 years ago, replacing about 200 to 300 meters each year. Approximately 600 meters will be replaced in the next couple of years to complete the meter replacement program across the entire system. Old meters, such as those installed when the meter replacement program first started, typically have a battery life of 10 years. Following the completion of the entire meter replacement program, Sunnyslope will begin implementing the next cycle of meter replacement program to retrofit the old meters with new ones that have a longer life time

(average of 12 to 15 years). Currently, Sunnyslope has 5,241 accounts in its billing system (most up to date information reported as of December 2007). If Sunnyslope continues to have a replacement rate of 600 meters annually, it would take about nine years to replace meters in its entire service area.

Based on the City's records, the total number of commercial/institutional/industrial accounts in 2006 was 509 (435 commercial and institutional accounts, both combined, and 74 industrial accounts). According to the latest BMP reporting in 2006, 391 commercial/institutional/industrial customers in the City have mixed-use meters. The number of mixed-use meters appears to drop in recent years as the City retrofits mixed-use meters with dedicated irrigation meters. The City reported 409 commercial/industrial/industrial accounts with mixed-use meters in 2005 compared to over 500 customers with mixed-use meters in 2004. The City is making continuous efforts to identify the number of accounts by customer type correctly. Based on the City's records, information reported to the CUWCC during 2006 is the most recent and representative information of the current number of accounts in their service area. It is recommended that the City conduct a feasibility study to assess the merits of a program to offer incentives for customers with mixed-use meters to switch to dedicated landscape meters.

Water and sewer pricing rate structure implemented by the City, Sunnyslope and the District will be discussed as part of DMM 11 – Conservation Pricing, Water and Sewer Service.

IMPLEMENTATION SCHEDULE
The City, Sunnyslope, and the District will continue to install and read meters on all new services, and will continue to conduct its meter calibration and replacement program.

METHODS TO EVALUATE EFFECTIVENESS
Periodic review of customer water use, comparing current water use per capita with historic data.

CONSERVATION SAVINGS
Metered accounts may result in a 20 percent reduction in demand compared to non metered accounts.

BUDGET
Meter installation costs are part of new service connection fees.

6.5 DMM5 – Large Landscape Water Audits and Incentives

IMPLEMENTATION DESCRIPTION
Both the City and Sunnyslope continue to implement landscape audit and incentive programs. As of 2006, the City reported 122 dedicated irrigation meter accounts within its service area recording water use at city parks, schools, landscape areas at multi-family complexes, and commercial and institutional sites. In December 2007, the number of dedicated irrigation accounts within the Sunnyslope service area was 52, as reported by Sunnyslope to the DWR under the drinking water program reporting

requirements. The current number of dedicated irrigation meter accounts (as of March 2008) is still estimated to be 122 for the City and 52 for Sunnyslope. Since 2000, per meter water usage for landscape meters within the City's service area has decreased slightly, while it has increased within Sunnyslope's service area.

The three agencies have agreed to undertake a program to audit and survey the large landscape customers within their service areas. Even if some of the large landscape water users are surveyed and found to be using water-efficient irrigation practices, the program action will provide a good example to other water users. Implementation of such a program would consist of:

- Contact via letter and telephone the landscape irrigation customers to actively market landscape surveys.
- Develop and distribute public information (See BMP 7) related to low water use and drought tolerant plants appropriate for the local area, local climate and sources of information on irrigation requirements from the California Irrigation Management Information System (CIMIS), and other related landscape water conservation.
- Provide customer notices prior to the start of the irrigation season alerting them to check their irrigation systems and make repairs as necessary. Provide customer notices at the end of the irrigation season advising them to adjust their irrigation system timers and irrigation schedules.
- Determine the landscaped areas for large water users and assist in developing irrigation schedules by assigning evapotranspiration based water use budgets equal to no more than 100 percent of reference evapotranspiration per square foot of landscape area in accordance with information available from CUWCC and/or local data produced by the CIMIS.
- Provide a letter at the end of the year to the largest water use accounts identified showing the relationship between the water budget and actual consumption.

It is recommended that irrigation surveys be conducted for large landscape irrigation customers to calculate water budgets for the various sites -- the amount of water necessary for that site based on the size of the landscape and the climate. The water budget is then used as the water allotment for that site, and any water use which exceeds the water budget is billed at a higher rate.

As mentioned above, the City and Sunnyslope have been implementing landscape audits and surveys. Landscape surveys first target large water users with dedicated landscape meters. ETo-based landscape budget information is provided to accounts that receive surveys. During surveys, irrigation schedules are reviewed and recommendations are provided with a report. Follow-up surveys are also offered, but customer participation to follow-up surveys has been limited. As a follow-up, landscape customers who were previously surveyed are contacted by phone to check how survey recommendations were implemented. In addition, the City staff review landscape customers' water use monthly. If the water budget is exceeded for three consecutive months, the customer is offered technical assistance. On-site follow-up evaluations are recommended for customers whose annual water use exceeds their water budget.

As part of DMM5 program implementation, information listed below is compiled and submitted to the CUWCC:

- Number of dedicated irrigation meter accounts
- Number of dedicated irrigation meter accounts with water budgets
- Aggregate water use for dedicated landscape accounts with budgets
- Aggregate budgeted water use for dedicated landscape accounts with budgets
- Number of large landscape surveys offered and accepted
- Estimated annual water savings by customers receiving surveys and implementing recommendations

The WRA requests information from Sunnyslope and the District about the first four bulleted items. Information on the last two items is compiled by the WRA for the City, Sunnyslope, and the District. As requested by the USBR, the implementation status for Sunnyslope and the District is reported to the CUWCC by the WRA. As a signatory to the CUWCC MOU, the City reports the program implementation status to the CUWCC directly. Information reported by the City to the CUWCC on the last two items is provided by the WRA.

LANDSCAPE WATER CONSERVATION REQUIREMENTS

The Urban Water Management Act Law Section 10631 (f) (1) (F) and California Water Code Section 65590 et seq. (AB325) contain requirements for new and existing commercial, industrial, institutional, and residential customers. The CUWCC has stated that this DMM has been fulfilled with amendments to the state code, which adopted a model landscape conservation ordinance that set forth minimum guidelines for cities to follow.

The Urban Water Management Act language also applies to existing landscapes which must be in compliance when a building permit is obtained from the permitting authority. The permitting authorities for the Hollister area are the City of Hollister and County of San Benito. The model ordinance applies to all new and rehabilitated landscaping, more than 2,500 square feet in area for public and private development projects that require a local permit.

DWR draft evaluation criteria for an UWMP state that required information could include the following:

- Enactment and implementation of a landscape water conservation ordinance that is identical to the State Model Landscape Ordinance, or uses a water budget approach with water allowances for landscaping needs, or has rules and regulations that promote water conservation without tracking usage.
- Cooperation between cities, counties, and the green industry in the service area to develop and implement landscape water conservation ordinances.
- Provide guidelines, information and incentives for installation of more efficient landscapes and water savings practices.
- Review and development of irrigation schedules.
- Measure total landscaped and total irrigable area.

The last three bulleted activities above are being implemented for existing water users as part of DMM 1, residential water surveys/audits, and DMM 5 for the large landscape conservation program.

In October 2007, a new law (AB 566) was passed by the legislature and signed by the Governor to further promote water use efficiency in landscape irrigation. AB 566 requires the state's model local landscape ordinance (per the Water Conservation in Landscaping Act) to include climate information for irrigation scheduling based on the CIMIS system. The County of San Benito adopted Ordinance 594, "An Urgency Ordinance Requiring the Development of a Water Conservation Plan to Conform to the Water Conservation Principles," in February 1991. This ordinance contained requirements for new or rehabilitated landscapes and was intended to comply with the Water Conservation in Landscaping Act requirements. In addition, the ordinance created prohibitions and limits on certain water uses, specified water savings devices, and contained mandatory conservation measures.

The City of Hollister has also adopted ordinances that meet the intent of the state legislation. The City of Hollister Planning staff is actively enforcing the requirements adopted in the local ordinance for new developments as well as rehabilitation projects. The County of San Benito is not actively enforcing its ordinance at the present time.

Prior to the next UWMP update, the City and Sunnyslope should evaluate their ordinances for conformance to AB566 which require the model ordinance to include climate information for irrigation scheduling and was signed by the Governor on 8 October 2007 and the CUWCC Model Landscape Ordinance which is currently undergoing revision.

IMPLEMENTATION SCHEDULE and METHODS TO EVALUATE EFFECTIVENESS

The City has permanently incorporated Large Landscape Conservation Requirements into its ordinances. The City has completed several surveys since 2000, and plans to complete the remaining large landscape customers' water use surveys over the next five years. The City will continue to implement this DMM by annual review of customers' water use, and by offering on-site follow-up evaluations to customers whose total water use exceeds their total annual water budget.

During 2005, 2006, and 2007, the City conducted three, one, and three landscape audits, respectively, in its service area. The City has been providing audits mainly to institutional/commercial customers, city parks, schools, and other large landscape customers.

As part of the program implementation, Sunnyslope performed one landscape audit in 2005 and two in 2006, targeting mainly parks and schools within the service area. The City, Sunnyslope, and the District will continue to implement this program, following the overall target of providing large landscape audits to 3 percent of existing accounts each year. In addition to large landscape audits, single-family residential surveys are also offered as discussed under DMM12 below.

CONSERVATION SAVINGS

Landscapes that are upgraded based on survey recommendations could result in a 5 – 10 percent reduction in water demand for a savings of between 25 and 50 AFY.

BUDGET
No added costs are anticipated for more rigorous enforcement of state and locally mandated landscaping requirements for new developments. This work is to be completed with existing City and County staff.

It is estimated that the cost per landscape account survey and follow up work will be approximately $1,500. For the fiscal year 2007 – 2008, the budget for DMM5 related program implementation is $6,000. The City, Sunnyslope, and the District has a scheduled budget of approximately $2,000 per agency.

6.6 DMM6 – High Efficiency Washing Machine Rebate Program

IMPLEMENTATION DESCRIPTION
DMM 6 consists of offering financial incentives, if cost-effective, for the purchase of high efficiency washing machines. This DMM has the goal of transforming the clothes washer market by increasing market share of high efficiency washing machines.

The CUWCC is working with the California Energy Commission and the Federal Department of Energy to revise energy and water savings standards for clothes-washer manufacturers. Therefore, over time these devices are expected to become more efficient, more commonplace, and less expensive on the retail market.

IMPLEMENTATION SCHEDULE
The implementation of high efficiency washing machine rebate program has been very active and successful. Currently, the financial incentive is $100 per washer. Since 2002, nearly $1,650 rebates have been issued. As part of the rebate processing, customers are also offered an on-site inspection for a home water checkup and provided with free showerheads, toilet and faucet kits during the site inspection, at no charge. Customers usually receive their rebates within 4 – 6 weeks following the site inspection.

METHODS TO EVALUATE EFFECTIVENESS
The WRA has been implementing this DMM consistently since 2002. This DMM was budgeted for 250 rebates for the current fiscal year.

CONSERVATION SAVINGS
The CUWCC reports water savings estimate of 5,250 gallons per year per high-efficiency washing machine.

BUDGET
The fiscal year budget approved by the WRA is $25,000 for high efficiency washing machine rebate program, including a separate budget of approximately $8,100 for the City and Sunnyslope, and a budget of $8,300 for the District.

6.7 DMM7 – Public Information

IMPLEMENTATION DESCRIPTION

Regardless of economic or engineering feasibility, social acceptance is key to water conservation, and will only be achieved with dedicated public involvement and public information. Public involvement is necessary for gaining support and acceptance of a Water Conservation Plan. The support and awareness of the community leaders, interest groups and the public must be obtained if the plan is to be funded, implemented and successful in reducing water demand.

The Hollister area public information efforts for the Water Conservation Plan will include a focused marketing campaign to promote the incentives provided by the participating agencies. This includes the water survey/audit (BMP 1), the residential fixtures retrofit (BMP 2) effort, and the ULFT rebate program (BMP 14). The effectiveness of this program will be gauged by the measurable progress in meeting the stated BMP goals and objectives for other programs.

A more general effort will include an active public information program to promote water conservation in general, and to create an understanding regarding how water conservation is key to the overall water management for the Hollister area, including the management of local groundwater and the need to construct additional capital facilities to improve water supply reliability and quality. The general program will include:

- Providing speakers to community groups and the media;
- Paid and public service advertising;
- Bill inserts to promote water conservation practices and promote the capital facilities program;
- Customers' bills showing use in gallons per day for the last billing period compared to the same period the year before;
- Programs to coordinate with other government agencies, industry groups, public interest groups, and the media. Production of a local lawn watering guide.

The City, Sunnyslope and the District are relatively small purveyors and cannot provide for a dedicated public information officer. The coordination of the public information program is currently tasked to a Water Conservation Coordinator employed by the WRA and to the management staff at each of the organizations.

In recent years, a number of activities have been undertaken by the Water Conservation Coordinator as part of the implementation of the public information DMM in the Hollister Service Area. A public information event is scheduled at least four times in a year. A newsletter titled “Water Conservation Update” is published biannually and distributed to all customers with water bills. Bill inserts are sent out to all customers to promote water conservation. Bills are sent out bimonthly by the City and monthly by Sunnyslope and the District.

Bill inserts focus on various topics depending on the time of the year. For instance, during spring, the focus is on offering free irrigation inspections; during fall, the focus shifts to providing recommendations to customers to turn off their irrigation systems. During March, bill inserts focus on water softener rebates. During September and October, irrigation newsletters are sent out to customers.

In addition to bill inserts, information on water conservation is provided to customers during toilet give-away days. Printed advertisements are also posted in local newspapers two to three times a week. On average, one hardcopy newsletter is distributed to customers on various topics. Public information fliers are also prepared in Spanish and posted in laundromats, supermarkets, and local markets to reach out Spanish speaking communities.

Several public service announcements (PSAs) and video presentations concerning water conservation and resource protection continue to air on the local Community Media Access Partnership (CMAP) television especially during February and April. The WRA meetings are broadcast at CMAP seven times in a year.

The WRA also participates in community events such as the Water Awareness Month Festival in May, the County Fair, and Farmer's Market to provide water conservation information to the public and answer public's questions. A welcome package with valuable information, tips, and retrofit kits on water conservation is provided to new residents through Hometown Hello program.

Implementation of this DMM is reported to the CUWCC every two years. Implementation status for Sunnyslope and the District is submitted to the CUWCC by the WRA, as required by the USBR. The City reports DMM implementation to the CUWCC directly, to meet their signatory compliance to the Urban MOU. In addition to the CUWCC reporting requirements, implementation of DMMs, including public information, is reported to the WRA by the Water Conservation Coordinator during the WRA monthly meetings. Monthly reporting to the WRA includes the status of BMP implementation, ongoing activities, and scheduled events in the Hollister service area. Public information materials are included in Appendix J.

IMPLEMENTATION SCHEDULE

The City and Sunnyslope will continue to provide public information services and materials to remind the public about water and other resource issues through the activities coordinated by the WRA Water Conservation Coordinator. In 2006, a number of public information activities were coordinated throughout the Hollister Service Area, including 24 paid advertisements, 30 public announcements, 8 bill inserts/newsletters/brochures, and 6 media events, as reported at the CUWCC database.

METHODS TO EVALUATE EFFECTIVENESS

The City will track the public's response to the information provided.

CONSERVATION SAVINGS

The City has no method to quantify the savings of this DMM but believes that this program is in the public's interest.

BUDGET

The budget approved for the fiscal year 2007 – 2008 is $25,000, for meeting coordination and materials. Each of the three agencies (the City, Sunnyslope, and the District) has their own separate budget of approximately $8,000. A small portion of the budget was allocated for the City of San Juan Bautista.

6.8 DMM8 – School Education

IMPLEMENTATION DESCRIPTION

The City, Sunnyslope, and the District, through the WRA's Water Conservation Coordinator, continue to promote water conservation and other resource efficiencies at school facilities and to educate students about these issues. Implementation consists of a school program to promote water conservation and related benefits. The City will continue working with school districts and private schools in the area to provide instructional assistance, educational materials, and classroom presentations that identify urban, agricultural and environmental issues and conditions in the local watershed. In 2004, over 1800 students were reached through this program. Many national and state organizations have worked to develop water conservation oriented curriculum and teaching materials to reduce costs associated with duplicating this effort and facilitate incorporation of these materials into classroom teaching.

The support of the local teaching community, school boards, and superintendents has been and will continue to be essential for a successful program. The designated Water Conservation Coordinator will identify points of contact and initiate the activity to coordinate with the school district. Since the 2000 UWMP, actions thus far completed include the following:

- Identification of points of contact within school system and initiation of a program meeting with key educators, placing emphasis on teacher in-service training programs;
- Development of an educational resources center either within the schools or at another central location;
- Purchase of educational resource materials for programs.

The water conservation coordinator will continue to work with a core group of educators to:

- Actively participate in further developing a curriculum for local use;
- Develop educational materials and water fact sheets specific to the local conditions;
- Participate in student workshops or in presenting the information in the classroom setting;
- Participate in establishing programs and teacher training workshops which provide in-service credits;
- Develop program to actively promote resource materials and availability within the school system.

One exemplary program has been developed by the Western Water Education Foundation (WWEF) in Sacramento. This program has been developed to support a nationally recognized in-school water education curriculum. Project WET (Water Education for Teachers) is a recognized interdisciplinary K-12 water education program rated A+ in the Department of Education's Water Education Compendium. Project WET provides accredited water education for teachers. The WWEF provides full service

teacher training and all course materials. These materials meet the state education framework requirements, and grade appropriate materials shall be distributed to grade levels K-3, 4-6, 7-8, and high school.

When local agencies purchase materials for a minimum of 20 teachers, the WWEF staff will help make contact with local educators, schedule workshops, supply the education coordinator to train teachers, and work to include information on local issues. In addition to Project WET, there are a number o f highly rated programs focusing on different grade levels, including: California Water Story (grades 4-6); Project Water Science (grades 6-10); Groundwater Education (grades 7-12); and California Water Problems (grades 10-12). Many of the materials have Spanish language versions available. In addition, the WWEF can provide single copies of site licenses for the Hydroexplorer computer games. This educational software package comes in three levels for ages 5-10, Grades 4-6, and grades 7-12.

In recent years the WRA's Water Conservation Coordinator has participated in various school education events. Education efforts include events and materials reaching out students in all grades with a focus on 5th grade students. In 2008, students in the After School Program as part of Hollister Youth Alliance are targeted as part of the school education outreach. Some educational outreach activities include coordination with teachers and giving classroom presentations on water related topics (e.g., hydrologic cycle). Field trips are also organized to educate students during outdoor fun activities. Students are taken to garden shows at Bonfante Gardens and to the Lessalt Water Treatment Plant, in an effort to educate students on a variety of water related topics. A Farm Day is an annual event targeting all county 3rd graders for a demonstration of the groundwater model to students. During presentations and school outreach programs, some of course materials prepared by the Project WET are used.

School education materials are included in Appendix J.

IMPLEMENTATION SCHEDULE

Implementation will continue as planned by the three participating agencies as the fiscal year 2007 – 2008 budgets for each agency have been approved for funding school education program activities in their service areas. The school education program has been very successful in recent years, reaching out to thousands of students county-wide and giving nearly 100 classroom presentations. During 2006, the WRA school education program targeted 4th to 6th grade students. A total of 120 students were reached, two class presentations were conducted; and one teacher workshop was organized. The program also focused on sending 2nd – 5th grade teachers to the Project WET training and providing supplementary class exercises with two field trips.

METHODS TO EVALUATE EFFECTIVENESS

To document this BMP implementation, the following specific information will be tracked and presented in the annual report:

- Number of school presentations made during reporting period;
- Number and type of curriculum materials developed and/or provided by water purveying agencies, including confirmation that curriculum materials meet state education framework requirements and are grade-level appropriate.

- Number of students reached;
- Number of in-service presentations or teacher's workshops conducted during reporting period;
- Annual budget for school education programs related to conservation.

POTENTIAL WATER SAVINGS
The potential water savings for this BMP are not quantified.

ESTIMATED PROGRAM COSTS
The cost of implementation the school education program has been around $2,500 to $3,000 annually. The budget approved for the fiscal year 2007 – 2008 is $4,000 for school education related activities. Each of the three agencies has a separate budget of approximately $1,300 for meetings and materials.

6.9 DMM9 – Commercial and Industrial Water Conservation

IMPLEMENTATION DESCRIPTION
As of 2008, the City served approximately 539 metered accounts that were commercial, industrial or institutional (CII). Sunnyslope currently serves approximately 40 accounts that fall into one of these user categories. The water use survey, landscape water conservation program, and retrofit programs being implemented for residential and multi-family customers, will also be promoted to CII water users.

The City, Sunnyslope, and the District have agreed to establish as a priority the implementation of DMMs 1, 2, and 14 for institutional customers with assistance from the WRA's Water Conservation Coordinator. Institutional water surveys will continue on an annual basis and will include all public buildings, schools, and City- and County-owned facilities. Services to improve the water use efficiency for large landscaped areas (DMM 5) will be included in the incentive program for commercial and institutional customers.

Water uses vary greatly by industry and require unique expertise for conduct of water audits and surveys. The City recently completed an analysis of all CII customers by monthly and annual water usage, to identify the top users within this customer class. The City offers audits to all customers, including commercial, institutional, and industrial customers. The City contacts these customers by letter, and follows up with telephone calls, to offer audits performed by professional consultants. The cost for industrial water audits is approximately $1,000. There are a number of contractors throughout the state that target water audits to specific industries, and a list of contractors is maintained by AWWA.

As part of the DMM9 implementation, the WRA's Water Conservation Coordinator targets all hotels in the area (about 12 hotels) to raise water conservation awareness in this sector. Cards with water conservation information are delivered to hotels to be placed in hotel rooms. In addition, water use surveys and other incentive programs are offered among commercial/industrial/institutional customers. Customers that

receive water use surveys are primarily evaluated for possible retrofits of ultra-low flush toilets and pre-rinse spray valves.

IMPLEMENTATION SCHEDULE and CONSERVATION SAVINGS

The WRA program attempts to contact as many facilities as possible to implement this DMM. In the City's service area, 54 surveys were offered to CII accounts during 2006 and all surveys were completed. The City also conducted 50 phone follow-ups from previously surveyed CII accounts. In the Sunnyslope service area, 2006 implementation activities included about 100 offered surveys, 200 completed surveys, 40 site follow-ups, and 50 phone follow-ups from previously surveyed CII accounts, as reported to the CUWCC database.

Savings evaluations are provided to the City and the customer by a consultant.
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METHODS TO EVALUATE EFFECTIVENESS

The City will continue to implement this DMM by annual review of customers' water use, and by offering on-site follow-up evaluations to customers whose total water use exceeds their total annual water budget.

BUDGET

The annual budget approved for the fiscal year 2007 – 2008 is $5,000. Each of the three agencies has a separate budget of approximately $1,600 for consultant and interns.

6.10 DMM10 – New Commercial and Industrial Water Use Review

IMPLEMENTATION DESCRIPTION

The City building and planning departments coordinate the implementation of this DMM. An industrial engineering consultant reviews the building plans to determine the water use efficiency before a permit is issued to the new customer.

IMPLEMENTATION SCHEDULE

The City will continue to implement this DMM.

METHODS TO EVALUATE EFFECTIVENESS

The consultant reports on all plan improvements and compares it with historical data to determine the increase in water use efficiency.

CONSERVATION SAVINGS

Commercial water reduction attributable to this DMM is difficult to isolate from potential savings from other programs or DMMs such as the ULFT program. Savings are expected to be approximately 5 percent of commercial usage.

BUDGET

Proposed annual budget: $2,500 for consultant (building department staff costs are separately budgeted).

6.11 DMM11 – Conservation Pricing, Water Service and Sewer Service

IMPLEMENTATION DESCRIPTION

The CUWCC MOU requires that member agencies eliminate non-conserving water pricing and adopt water conservation pricing structures. This DMM applies to pricing of both water and sewer service. The CUWCC defines "non-conserving pricing" as those fee structures which do not provide incentives to customers to reduce use, such as declining block rates or fixed rates regardless of the quantity used. "Conservation pricing" provides incentives to customers to reduce average or peak use, or both.

All water rates and charges at the City, District, and Sunnyslope are established through ordinance by the appropriate governing body. Currently, both the City's and Sunnyslope's rate structures for water service are increasing block structures while sewer service rates are flat for all customers. The City adopted rates and charges for water services in February 2005 through Resolution No. 2005-24. Rates and charges are effective for five years beginning from the fiscal year 2004-2005 through the fiscal year 2008-2009. Water rates and service charges are scheduled to increase every year during this period. The City is not anticipating a rate structure adjustment in 2008. The City applies an increasing rate structure with three rate blocks for single-family residential, multi-family residential, and commercial/institutional customers and two rate blocks for industrial and landscape irrigation customers.

The City adopted wastewater service rates in September 2006 for five years beginning from the fiscal year 2006-2007 through the fiscal year 2010-2011. Sewer rates are scheduled to increase each year during this period to fund the upgrade and expansion of the wastewater treatment plant, operation, and maintenance of the sewer system. The City's current efforts for preparation of a Wastewater Master Plan may result in rate increases in the future.

The current water pricing used by Sunnyslope was established in December 2003 through Ordinance 62. Water service rates adopted in December 2006 are still effective. Sunnyslope is reviewing the existing water rate structure to potentially add a 4th block. For sewer services, Sunnyslope Ordinance 64 was adopted in March 2007 to establish increasing rates, fees, and charges. Sewer rate structure currently effective includes a flat charge that varies depending on a customer type (single family residential, multi-family residential, commercial/industrial and others). For single and multi-family customers, the rate includes a flat charge plus a new additional charge depending on average winter usage during February and March. Industrial customers, which are monitored for water quality, are metered, and charged according to quality and volume of discharge. Charging sewer service rates in proportion to metered water usage might provide additional incentive to customers in the Sunnyslope service area to reduce wastewater generation through reduced water consumption.

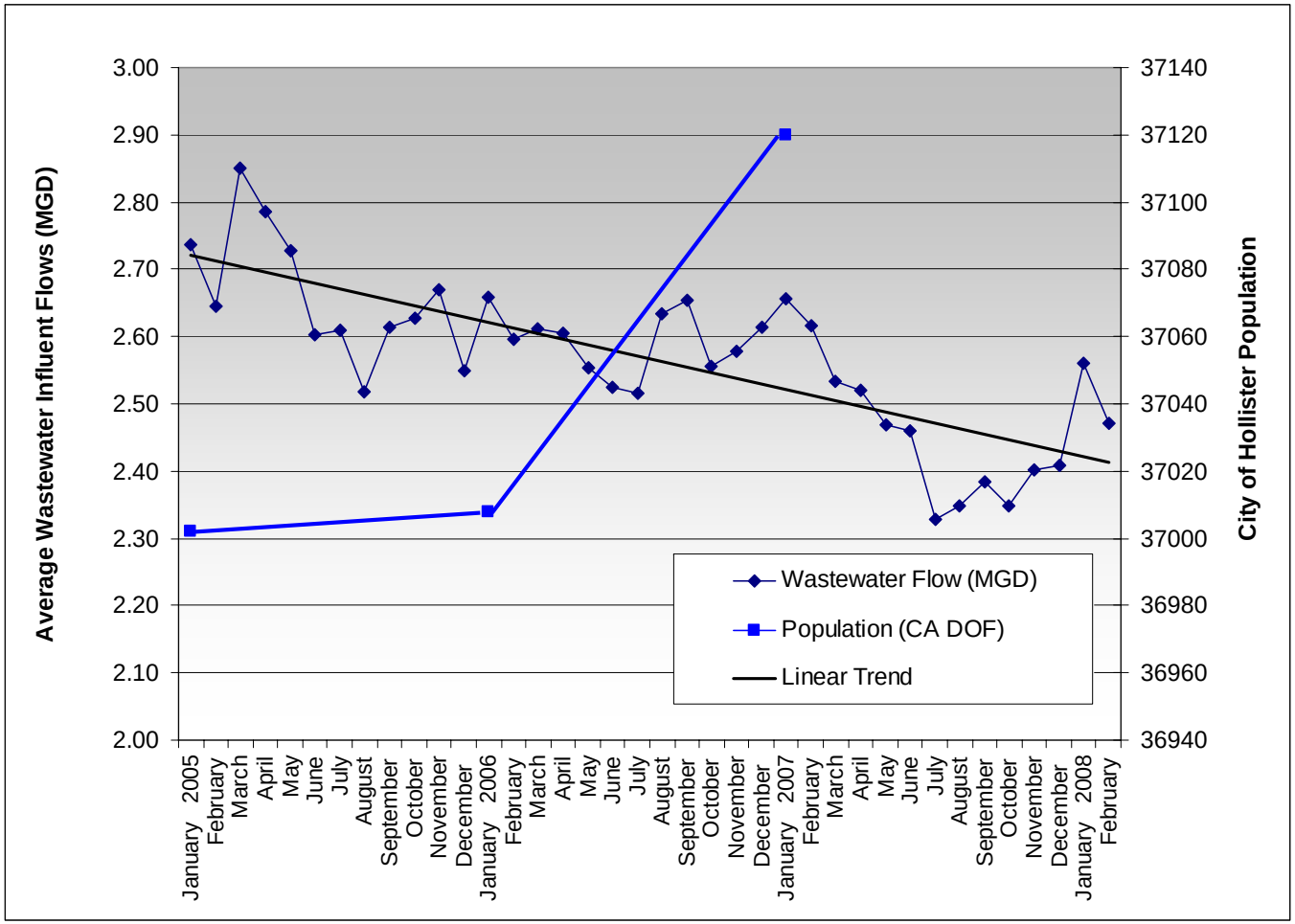
The District applies water charges for non-agricultural use (M&I) to cover the operations and maintenance costs associated with the delivery of water. The current M&I water pricing was established based on the Board approved Proposition 218 Notice dated November 2007. For small parcels (10 acres or less), the District applies a reduced rate. As a wholesaler of raw water, the District does not provide potable water services of any CVP water and does not provide sewer services.

Water and sewer fee schedules are included in Appendix K.

METHODS TO EVALUATE EFFECTIVENESS

Comparison with previous average usage rates might provide some information regarding the effectiveness of changing from non-conserving to conservation pricing. It is assumed that the economic incentive to customers to conserve water under conservation pricing structures is sufficient to make this program efficient.

The City's records indicate a significant decline in wastewater flows over the last three years, much of which is likely attributable to water conservation activities. Figure 6-1 shows daily wastewater influent flows (averaged per month) from Hollister Domestic Wastewater Treatment Plant and the City of Hollister's population for 2005, 2006, and 2007. Wastewater flow influent reduced from 2.74 MGD in January 2005 to 2.47 MGD in February 2008. Although the City of Hollister's new development has begun to slow down over the past few years, likely due to the City Ordinance limiting growth, the population has increased slightly during the period where wastewater flows have been declining (see population data from CA Department of Finance in Table 4-1). Decline in wastewater flows is attributed to the increasing block structure in the water rate in combination with other water conservation activities undertaken in the City's service area.



Source: Data for wastewater flows were obtained from the City of Hollister. Daily flows are based on the sum of actual flows to Domestic Wastewater Treatment Plant and diverted flows to the Industrial Treatment Plant.

Figure 6-1. Waste Water Inflows from Hollister Domestic Wastewater Treatment Plant and City of Hollister's Population

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CONSERVATION SAVINGS
It is expected that the majority of conservation savings will occur with the largest water users, who will see larger returns for conserving water. The expected annual water savings is 100 AFY compared to the scenario where non-conserving pricing is used.

BUDGET
This DMM is not expected to cost the agencies anything, as they have already implemented conservation pricing structures.

6.12 DMM12 – Landscape Water Conservation for New and Existing Single Family Homes

IMPLEMENTATION DESCRIPTION: As discussed under DMM 6, the City has a landscape ordinance which pertain to new and existing single family homes, and an active landscape conservation program. The City is also considering a financial incentive program to help existing homeowners convert to more water efficient landscapes (which may include landscape materials, irrigation conversions, automatic controllers, soil moisture sensors, gray water, etc.). The WRA's Water Conservation Coordinator offers water use surveys and audits to single family residences in the Hollister Service Area. These audits are modified versions of audits offered to large landscape customers. During water use surveys, a water schedule is designed depending on water needs of lawn and gardens and sprinkler's outputs are checked.

The WRA also offers home conservation checkups and water conservation kits including free showerheads, faucet aerators, water softener check, toilet leak checks and a free hose nozzle upon request. Water saving devices are installed at homes wherever there is potential to save water. The WRA also provides free literature to customers upon request on issues related to water quality, general water conservation and landscape irrigation.

In addition, the City requires new home developments and parks to install dual metering to track indoor and outdoor usage. In the City's service area, financial incentives have not received much consideration due in part to budget constraints. Sunnyslope currently serves three customers that are categorized as agriculture because they operate packing sheds; they do not receive irrigation water.

IMPLEMENTATION SCHEDULE: The City has permanently incorporated this DMM into its ordinances, and will continue to distribute brochures to all new service connections.

METHODS TO EVALUATE EFFECTIVENESS: Refer to DMM 1 and 6.

CONSERVATION SAVINGS: Refer to DMM 1 and 6.

BUDGET: The budget for this DMM is already included under DMM1 and DMM6. The total budget for these DMMs is $23,000 for the fiscal year 2007 -2008, as described above under these DMMs.

6.13 DMM13 – Water Waste Prohibition

IMPLEMENTATION DESCRIPTION: The City, Sunnyslope, and the District have all established "No-Waste" ordinances within their service areas, which are actively enforced. Signatories to the CUWCC MOU are also expected to support efforts to develop state law regarding exchange-type water softeners that would:

- Allow the sale of only more efficient, demand-initiated regenerating (DIR) models;
- Develop minimum appliance efficiency standards that
  - I) Increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used;
  - II) Implement an identified maximum number of gallons discharged per gallon of soft water produced;
- Allow local agencies, including municipalities and special districts, to set more stringent standards and/or to ban on-site regeneration of water softeners if it is demonstrated and found by the agency's governing board that there is an adverse effect on the reclaimed water or groundwater supply.

As reported at CUWCC database, all four agencies under the WRA (City, Sunnyslope, District, and City of San Juan Bautista) have water waste prohibition ordinances. These ordinances are in effect and state that wasting water and allowing excess water to run off lawn and down the street is prohibited. Currently, no active enforcement of these ordinances is in effect although customers are encouraged to follow the ordinance.

Since 2007, the agencies have initiated a water softener rebate program that encourages people to upgrade from their timer-based models (pre-1999) to demand-initiated regenerating (DIR) models. Due to the problems that salt has created in the area, it is expected that this program will reduce salt loads to the wastewater treatment facility. The program continues to include water softener checks in home water audit programs and includes information about DIR and exchange-type water softeners in educational efforts to encourage replacement of less efficient timer models. The program is particularly attractive to customers that receive their potable water from the Lessalt water treatment plant that has water that does not require softening because of lower total dissolved solids than local groundwater.

IMPLEMENTATION SCHEDULE: The City has permanently incorporated this DMM into its ordinances. The water softener replacement program has been implemented throughout the Hollister service area. Currently, the rebate offer is $150 (per household) for a water softener replacement, $250 for a water softener replacement with offsite service, and $300 for a water softener demolition. The WRA has an overall target of 1,000 water softener replacement rebates by December 2009.

In addition to these replacement activities, public awareness and educational materials that address water waste and water softeners are also covered through activities in DMM7 and DMM8.

METHODS TO EVALUATE EFFECTIVENESS: All citations and violations related to water waste in general and water waste related to water softeners are reported annually. Over the period of implementation of this DMM, the City has seen a reduction in the number of

violations. The City and Sunnyslope are in the process of reviewing the results of the water-softener rebate program. Information on the water softener rebate program is posted on the WRA website and hard copies of rebate forms are provided at each agency's office. Since the water softener replacement program started in 2007, 88 rebates were issued: 66 in 2007 and 22 in 2008 (as of March 2008). The distribution of 2007 rebates by each agency is as follows: 26 by the City, 35 by Sunnyslope, 1 by the District, and 4 by the City of San Juan Bautista.

CONSERVATION SAVINGS: The City has no method to quantify the savings of this DMM but believes that this program is in the public's interest.

BUDGET: Enforcement costs are a part of the water department's overhead. The District received a state grant through Proposition 50 funding for water softener replacement. This grant is in collaboration with the Santa Clara Valley Water District (SCVWD) who ran a successful Water Softener Rebate Pilot Program in 2003. The District is the Lead Agency and the funding level for this program is $305,000. The grant period runs through December 2009.

The WRA approved a budget of $150,000 for the fiscal year of 2007 – 2008 for implementing water softener replacement program and other salt reduction measures. The City and the District have a separate budget of $62,000 and $75,000, respectively. Both Sunnyslope and City of San Juan Bautista have their own separate budget of $6,500 for implementing similar activities. This budget covers, in addition to water softener replacement/demolition rebates, other salt reduction related activities, such as contractor costs (labor, inspections, processing rebates, database maintenance), covering activities by the water conservation program manager, advertising, and bill inserts.

6.14 DMM14 – Water Conservation Coordinator

IMPLEMENTATION DESCRIPTION

The City, Sunnsylope, and the District are members of the Water Resources Association (WRA) of San Benito which leads water conservation efforts within county areas. The District hired a full-time Water Conservation Program Manager shortly before 2000. This person's duties focus primarily on ongoing programs within the District to encourage wise water use among the agricultural community and within the Hollister Urban Area. The duties of this position (and any support staff, as necessary) shall include the following:

- Coordination and oversight of conservation programs and BMP implementation;
- Preparation and submittal of the CUWCC BMP Implementation Report with exception of the City since they are a signatory of the MOU with the CUWCC. The WRA segregates the City's water and sewer customers from BMP activities and the City's Utility Technician enters this information into the CUWCC's database along with all the other BMP data. The WRA reports BMP activities for the District ,San Juan Bautista and SSCWD into the CUWCC database as required by the USBR
- Communication and promotion of water conservation issues to agency senior management;
- Coordination of agencies' conservation programs with operations and planning staff;
- Preparation of annual conservation budget;
- Participation in the CUWCC, including regular attendance at CUWCC meetings;

- Reporting to the governing bodies of the participatory agencies on the progress of the Water Conservation Program.

The WRA website provides information on all conservation efforts within the County. A landscape/irrigation specialist and a part time assistant are also on staff. Also, the City Utility Technician is a certified and functional Conservation Practitioner since 2003.

IMPLEMENTATION SCHEDULE
The City will continue to implement this DMM.

METHODS TO EVALUATE EFFECTIVENESS
The City will continue to survey the institutions and educators on the number of programs, materials and attendance at water conservation activities.

CONSERVATION SAVINGS
The City has no method to quantify the savings of this DMM but believes that this program is in the public's interest.

BUDGET
The approved budget for the fiscal year 2007 – 2008 is $89,000 for water conservation staff costs. Each of the three agencies (the City, Sunnyslope, and the District) has a separate budget of approximately $30,000.

6.15 DMM15 – Financial Incentives

IMPLEMENTATION DESCRIPTION
The City, Sunnyslope, and the District, through the WRA, have actively been providing financial incentives for conservation efforts since 2000. The pilot water softener rebate program (see DMM 13), high efficiency washing machine rebate program, ULFT rebate program (see DMM 16), and additional free services such as landscape and agricultural audits and free literature are all examples of financial incentives provides.
As described in DMM13 above, 88 water softener replacement rebates have been issued since this rebate program started in 2007. The goal is to issue 1,000 rebates by December 2009.

The toilet replacement rebate program began in 2000 and has been implemented successfully, as described below in DMM16. Since 2001, over 6,000 ULFTs have been installed.

In addition to the reporting submitted to the CUWCC, implementation of this DMM is reported to the WRA by the Water Conservation Coordinator every month. Monthly reporting to the WRA includes the status of rebates, ongoing activities, and scheduled events in the Hollister service area.

IMPLEMENTATION SCHEDULE
The City anticipates continuing financial incentive programs for this DMM in the future.

METHODS TO EVALUATE EFFECTIVENESS
Actual water use will be monitored and compared with the estimated water savings proposed in the project loan/grant applications.

CONSERVATION SAVINGS
See conservation savings associated with DMMs 1, 2, 5, 13, and 16.

BUDGET
The budget for this DMM is already included within DMMs 1, 2, 5, 13, and 16. The fiscal year 2007 -2008 budget for these DMMs totals to $185,000. Of this, $150,000 is allocated specifically for the water softener replacement and salt reduction measures that will be undertaken in the Hollister service area.

6.16 DMM16 – Ultra-Low Flush Toilet Replacement

IMPLEMENTATION DESCRIPTION
The WRA website provides information on the ultra-low flush toilet replacement program, including what to look for when purchasing new toilets. The financial incentive currently is $75 per toilet, and an additional $10 is given when residents deliver their old toilet to the District, as administrator of the program. In addition, the WRA provides a free toilet pick up day at the District office on a quarterly basis during the calendar year, limited to two free toilets per residence. Toilet replacement rebates are for replacing old toilets (pre-1992) with new ones that have 1.6 gallons per flush or lower. Customers usually receive their rebates within 30 – 45 days. All public facilities in the City now have ULF toilets, urinals, showerheads, and self-closing faucets. The program has been extremely successful, with over 6,000 ULFTs installed since 2001.

IMPLEMENTATION SCHEDULE
The City will continue to implement this DMM at the current goal of replacing 540 toilets per year until the City's goal is met: at least 80 percent of all non-conserving and low-flush model toilets in the City will be replaced with ultra-low flush models.

Table 6-3. DMM 16 Implementation Schedule And Water Savings.

Year	# of ULFT Retrofits
2001	112
2002	520
2003	1794
2004	783
2005	604
2006	513
2007	497
2008[e]	540
2009[e]	540
2010[e]	540

e = estimate based on target

METHODS TO EVALUATE EFFECTIVENESS

The City will calculate annual ULFT replacement program water savings to confirm the savings are within 10 percent of calculated retrofit-on-resale water savings, using the CUWCC MOU Exhibit 6 methodology and water savings estimates. Exhibit 6 has become an industry standard for evaluation of ULFT replacement programs.

CONSERVATION SAVINGS
Projected total annual water savings from toilet retrofits at full implementation are 244 AFY, both in water demand and wastewater generation.

BUDGET
The fiscal year 2007 – 2008 budget is $52,000 for materials, rebates, and advertising costs. Each of the three agencies (the City, Sunnyslope, and the District) has their own budget of approximately $17,000.

6.17 Agricultural Water Conservation Programs

Currently, the City has no agricultural customers in their service area. As of December 2007, Sunnyslope reports a total of 52 agricultural and residential irrigation customers. Sunnyslope also indicates that currently only three customers are listed as agricultural customers, but they are packing houses and do not use agricultural water for irrigation. Therefore, the majority of the 52 irrigation customers are assumed to apply irrigation water in residential areas.

As described earlier, the District is committed to water conservation within its jurisdiction and is an active promoter of such practices with agricultural customers within the HSA. The District has undertaken several water conservation management measures over the years to encourage agricultural water customers to use water wisely. The District has developed the Water User's Handbook, which outlines rules and regulations for efficient use of CVP water, and updates it regularly. The WRA Conservation Coordinator also works with agricultural customers to promote conservation measures. The District is also committed to providing educational programs in the classroom aimed at agricultural water conservation, such as "Ag in the Classroom (Farm Day)," and other agricultural workshops for local farmers within the HSA.

The District will consider becoming a signatory to the MOU Regarding Efficient Water Management Practices by Agricultural Water Suppliers in California as established by the Agricultural Water Management Council (http://www.owue.water.ca.gov/agmanage/details/awmc/detail.cfm) . The Agricultural Water Management Council has a goal to advance efficient water management through voluntarily planning, implementing, and evaluating irrigation practices.

Section 7: Water Shortage Contingency Plan

This section describes measures and actions to be undertaken by the City, Sunnyslope, and the District in the event of a catastrophic interruption of water supplies. Several options are considered and described in detail below. A strategy for early drought recognition and response is presented, and shortage response levels and stages of action are described.

7.1 Preparation for Catastrophic Water Supply Interruption

Law

> 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:
>
> 10632 (c) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.

7.1.1 Water Shortage Emergency Response

In 1991, the City water, fire, and emergency services departments developed a comprehensive water shortage contingency plan in accordance with the requirements of Assembly Bill 11X, which was subsequently incorporated into the City's Emergency Response Plan. The City's plan is consistent with provisions in both the County and District's Emergency Response Plan. Both plans contain procedures for the distribution of potable water in a disaster that are consistent with guidelines prepared by the California State Office of Emergency Services.

The County plan recommended the following: (1) the purchase of water purification equipment; (2) purchase of standby generators and auxiliary pumps; and (3) construction of emergency water conveyance and supply storage facilities. As a result, a National Association of Clean Water Agencies (NACWA) wide emergency conveyance system was completed in 1994. As of June 1995, all of the crucial items have been acquired and/or constructed. Operation testing and maintenance are performed monthly on emergency equipment.

In addition, specific water-critical customers have been identified. Water-critical customers include hospitals, nursing facilities, schools, and a few individual customers with medical conditions dependent on continuous water availability. Likely potable water distribution sites have been identified. Standby procurement documents have been developed for emergency bulk purchase of bottled water; standby arrangements have also been made with several local trucking firms to provide tankers to distribute potable water. All existing water supply storage, treatment, and distribution, and wastewater treatment facilities are now inspected monthly.

During declared shortages, or when a shortage declaration appears imminent, the City Engineer activates a City water shortage response team. The team includes: water, fire, planning, health, emergency services, public affairs, community services, and the Mayor's Office. During a declared water shortage, the City will accept applications for new building permits but will not issue permits until the shortage declaration is rescinded. An appeal process was established after several protests were brought to the City Council during 1991.

7.1.2 Supplemental Water Supplies

To offset future potential water shortages due to drought or disaster, the City is considering the following supplemental water supplies including desalination, water transfers, and local surface water supplies.

7.1.2.1 Desalination

One of the options currently being considered by the City and Sunnyslope is desalination of brackish groundwater. In July 2003, a Groundwater Softening – Demineralization Feasibility Study was prepared for Sunnyslope to evaluate the water quality improvement potential and conceptual costs and operations of a pellet softening plant and a membrane demineralization plant for groundwater treatment. The study concluded that the best groundwater softening/demineralization process would be a Reverse Osmosis (RO) Facility with brine disposal to the San Benito River. However, the conceptual construction capital costs of the RO Demineralization and Brine Disposal Facilities were several times that of a Surface Water Treatment Facility.

There are additional factors to consider. RO technology continues to improve, which could further drive down costs in the future making this option more viable. Also, although surface treatment might be a less expensive alternative, the City and Sunnyslope might still consider brackish groundwater desalination as being a preferred alternative due to increased reliability. A surface water treatment system would be dependent upon the imported surface water supplies, which might stop during a catastrophic water supply interruption. Groundwater, although not of the best quality, represents the most reliable source of water for the City, Sunnyslope, and the District. The quality of the local groundwater supplies could be improved through desalination, making it more favorable to customers. Brine disposal regulation may pose significant challenges to further consideration of RO.

Please see Section 3.8 for further information on desalination.

7.1.2.2 Water Transfers

Water transfers are another available method to alleviate water scarcity issues that may be experienced by the City, Sunnyslope, and the District now and increasingly in the future. Water transfers on the California spot water market are increasingly becoming more common. Additionally, water transfers or transfer of entitlements with other CVP contractors is a possibility. This would likely require extensive negotiations through the District as the CVP contract holder.

Please see the Transfer or Exchange Opportunities section in Section 3.7.

7.1.2.3 Long Term Additional Water Supply Options

The District has existing water rights to local surface supplies, including Pacheco Creek, Arroyo de las Viboras, and Arroyo de Picachos. However, these surface supplies are generally available in the winter through late spring, when demands are lowest. There is the potential to more actively recharge available surface water supplies for storage until summer months when demands increase. No other water supply sources are currently used, although recycled water has the potential to offset a large portion of water demand. Current efforts are focused primarily on introducing recycled water supply into the system and on improving the reliability and quality of the groundwater supply.

The following table summarizes the actions the water agencies will take during a water supply catastrophe (e.g. federal disaster claim or other state or federally mandated action).

Table 7-1. Preparation Actions for a Catastrophe.

Examples of Actions	Check if Discussed
Determine what constitutes a proclamation of a water shortage.	✓
Stretch existing water storage.	✓
Obtain additional water supplies.	✓
Develop alternative water supplies.	✓
Determine where the funding will come from.	✓
Contact and coordinate with other agencies.	✓
Create an Emergency Response Team/Coordinator.	✓
Create a catastrophe preparedness plan.	✓
Put employees/contractors on-call.	✓
Develop methods to communicate with the public.	✓
Develop methods to prepare for water quality interruptions.	✓

7.2 Water Shortage Contingency Ordinance/Resolution

Law

> 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:
>
> 10632 (h) A draft water shortage contingency resolution or ordinance.

The District, the City, and Sunnyslope have all passed ordinances/resolutions to address shortages in water supply. These are discussed in greater detail below and included in Appendix L.

7.2.1 Hollister Area Water Shortage Response

Water conservation practices have been introduced in the Hollister area in the past decade, and efforts to promote water-wise practices will continue throughout the area. The City, Sunnyslope and the District adopted water conservation ordinances in the early 1990's, in response to a multiple-year drought in California.

The agencies providing water services to the Hollister area will continue to refine their water shortage response plans and criteria to declare a water shortage emergency.

7.3 Stages of Action

Law

> 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:
>
> 10632 (a) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply and an outline of specific water supply conditions which are applicable to each stage.

7.3.1 Rationing Stages and Reduction Goals

The Hollister area water agencies have developed a four-stage rationing plan, summarized in **Table 7-2**, to follow during declared water shortages. The rationing plan includes voluntary and mandatory rationing, depending on the causes, severity and anticipated duration of the water supply shortage.

Table 7-2. Water Rationing Stages and Reduction Goals.

Shortage Condition	Stage	Customer Reduction Goal	Type of Rationing Program
Up to 15%	I	15%	Voluntary
15 – 25%	II	25%	Mandatory*
25 - 35%	III	35%	Mandatory*
35 - 50%	IV	50% or >	Mandatory*

* For those customers with pumps in the ground and overlying water rights, compliance with any rationing program mandated by local water agencies would likely be voluntary.

7.3.2 Priority by Use

The priorities for use of available potable water during shortages were based on input from the three water agencies and legal requirements set forth in the California Water Code, Sections 350-358. Water allocations would be established for all customers according to the following ranking system:

- Minimum health and safety allocations for interior residential needs (includes single family, multi-family, hospitals and convalescent facilities, retirement and mobile home

communities, and student housing, and fire fighting and public safety)

- Commercial, industrial, institutional/governmental operations (where water is used for manufacturing and for minimum health and safety allocations for employees and visitors), to maintain jobs and economic base of the community (not for landscape uses)
- Permanent agriculture (orchards, vineyards, and other commercial agriculture which would require at least five years to return to production).
- Annual agriculture (floriculture, strawberries, other truck crops)
- Existing landscaping
- New customers, proposed projects without permits when shortage declared.

The District, City, and Sunnyslope agree that a degree of social responsibility will have to play a role in the actual allocation of water during a shortage. To this end, the economic impact to employees or other persons dependent on the use of water (i.e. golf course maintenance workers, row crop harvesters) will be taken into account if water reductions are necessary.

7.3.3 Water Shortage Stages and Triggering Mechanisms

As water purveyors, the District, City, and Sunnyslope must provide the minimum health and safety water needs of the community at all times. The water shortage response is designed to provide a minimum of 50 percent of normal supply during a severe or extended water shortage. The rationing program triggering levels shown below were established to ensure that this goal is met.

Rationing stages may be triggered by a shortage in one water source or a combination of sources. Although an actual shortage may occur at any time during the year, a shortage (if one occurs) will usually be forecasted by the San Benito County Water District by mid-spring each year. If it appears that the area faces a dry year, the District will begin contacting the agricultural community in March, so that individual farmers can minimize potential financial impacts. The District will also notify the City and Sunnyslope, as well as its own M&I customers, to begin the process of water reductions appropriate to a particular shortage stage.

The main water sources are groundwater and imported water. Rationing stages may be triggered by a supply shortage or by contamination in one source or a combination of sources. The specific criteria for triggering the Hollister area's rationing stages are shown below in **Table 7-3**.

Table 7-3. Water Shortage Stages and Triggering Mechanisms

Percent Reduction of Supply	Stage I Up to 15%	Stage II 15 - 25%	Stage III 25 - 35%	Stage IV 35 - 50% or more
		Water Supply Condition		
Current Supply	Total supply is 85 – 90% of "normal." **And** Below "normal" year is declared.	Total supply is 75 – 85% of "normal." **And** Below "normal" year is declared	Total supply is 65 – 75% of "normal." **Or** Second consecutive below "normal" year is declared.	Total supply is less than 65% of "normal." **Or** Third consecutive below "normal" year is declared.
Future Supply	Projected supply insufficient to provide 80% of "normal" deliveries for the next two years.	Projected supply insufficient to provide 75% of "normal" deliveries for the next two years.	Projected supply insufficient to provide 65% of "normal" deliveries for the next two years.	Projected supply insufficient to provide 50% of "normal" deliveries for the next two years.
Groundwater	No excess groundwater pumping undertaken.	First year of excess groundwater pumping taken, must be "replaced" within four years.	Second year of excess groundwater pumping taken, must be "replaced" within four years.	No excess groundwater pumping available. **Or** Reduced groundwater pumping due to replenishment of previously pumped groundwater.
Water Quality	Contamination of 10% of water supply (exceeds primary drinking water standards)	Contamination of 20% of water supply (exceeds primary drinking water standards)	Contamination of 30% of water supply (exceeds primary drinking water standards)	Contamination of 40% of water supply (exceeds primary drinking water standards)
Disaster Loss	Disaster Loss	Disaster Loss	Disaster Loss	Disaster Loss

7.3.4 Water Allotment Methods

The District, the City, and Sunnyslope have established the following allocation method(s) for each customer type. Depending on the water shortage stage, the District may mandate the use of groundwater in lieu of imported water for various customer types in order to assure adequate supplies of imported water for M&I uses.

Single Family	Percentage Reduction (Stage I), Per-Capita (Stages II, III, IV)
Multi-Family	Percentage Reduction (Stage I), Per-Capita (Stages II, III, IV)
Commercial	Percentage Reduction

Industrial	Percentage Reduction
Govt./Institutional	Percentage Reduction
Agricultural - Permanent	Percentage Reduction or Per Acre - vary by efficiency
Agricultural - Annual	Percentage Reduction or Per Acre - vary by efficiency
Recreational	Percentage Reduction - vary by efficiency
New Customers	Per-capita (no allocation for new landscaping during a declared water shortage

Based on criteria for reducing customer demand found in **Table 7-3** the following estimates of reduction are made. In a Stage I scenario, voluntary cutbacks would be requested by the water purveyors to obtain a water use reduction of up to 15 percent. In successive stages, the current plan would limit residential users on a per capita basis, with the remainder of the customer groups subject to a percentage reduction. This policy will ensure that those customers who are already conserving water will not be further penalized with a simple percentage reduction cutback. The water shortage contingency plan allows for any customer to appeal his/her classification on the basis of use or the allotment on the basis of incorrect calculation.

It should be noted that the groundwater basin underlying the Hollister area is not adjudicated; therefore, no agency can prevent agricultural customers from withdrawing as much groundwater as they need to maintain their crops. Compliance with mandated cutbacks may have to be achieved through other means, such as water use rates.

7.4 Prohibitions, Consumption Reduction Methods and Penalties

Law

> 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:
>
> 10632 (d) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.
> 10632 (e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.
> 10632 (f) Penalties or charges for excessive use, where applicable.

7.4.1 Mandatory Prohibitions on Water Wasting

The City and Sunnyslope both adopted ordinances in 1990, for their respective service areas, that address "no waste" of water; Sunnyslope's ordinance specifically discusses the drought that resulted in the passage of the Ordinance. The District maintains a *Water User's Handbook* which sets forth policies and procedures for efficient use of CVP water. The San Benito County Board of Supervisors adopted a Water Conservation

Plan prepared by the County Planning Department in 1991. Copies of the "no waste" ordinances and San Benito County's plan are provided in **Appendix L**. Some elements of these ordinances are summarized below in **Table 7-4**.

Table 7-4. Consumption Reduction Methods.

Examples of Consumption Reduction Methods	Stage When Method Takes Effect
Demand reduction program	All stages
Reduce pressure in water lines	III, IV
Flow restriction	IV
Restrict building permits	II, III, IV
Restrict for only priority uses	III, IV
Use prohibitions	All stages
Water shortage pricing	All stages
Per capita allotment by customer type	IV
Plumbing fixture replacement	All stages
Voluntary rationing	I
Mandatory rationing	II, III, IV
Incentives to reduce water consumption	All stages
Education Program	All stages
Percentage reduction by customer type	II, III, IV
Other	

7.4.2 Excessive Use Penalties

Any customer violating the regulations and restrictions on water use set forth in the “No Waste" Ordinance shall receive a written warning for the first such violation. Upon a second violation, the customer shall receive a written warning and the District may install a flow-restrictor. If a flow-restrictor is placed, the violator shall pay the cost of the installation and removal. Any willful violation occurring subsequent to the issuance of the second written warning shall constitute a misdemeanor and may be referred to the District Attorney’s office for prosecution pursuant. Misdemeanor convictions could include imprisonment and/or fines. The length of time for imprisonment and the magnitude of the fine vary between the City and Sunnyslope. If water service is disconnected, it shall be restored only upon payment of a reconnection charge.

These penalties apply at any time but are likely to be more closely adhered to during drought periods.

7.5 Revenue and Expenditure Impacts and Measures to Overcome Impacts

Law

> 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:
>
> 10632 (g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier…
>
> 10632 (g) [An analysis of the impacts of each of the] proposed measures to overcome those [revenue and expenditure] impacts, such as the development of reserves and rate adjustments.

All surplus revenues that the District, the City and Sunnyslope collect, are currently deposited in Rate Stabilization Funds, conservation funds, recycling funds, and other capital improvement funds. The agencies have estimated projected ranges of water sales by shortage stage to best understand the impact each level of shortage will have on projected revenues and expenditures by each shortage stage.

The water revenue analysis was undertaken first with no additional water purchases and no rate increases in Stage I, and then with a 25 percent rate increase at Stage II, 50 percent at Stage III, and a 100 percent increase at Stage IV. To cover increased expenses and decreased sales, rate increases would need to be “severe".

7.6 Reduction Measuring Mechanisms

Law

> 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:
>
> 10632 (i) A mechanism for determining actual reductions in water use pursuant to the
> urban water shortage contingency analysis.

7.6.1 Mechanisms to Determine Reductions in Water Use

Under normal water supply conditions, potable water production figures are recorded daily by the City of Hollister and Sunnyslope. Totals are reported monthly to the Water Supervisor and incorporated into the water supply report.

During a Stage I or Stage II water shortage, daily production figures will be reported to the Water Supervisor of each agency. The Supervisor will compare the weekly production to the target weekly production to verify that the reduction goal is being met. Weekly reports will be forwarded to the General Manager of Sunnyslope and the Public Works Director at the City of Hollister. Monthly reports will be sent to the City Council and the Sunnyslope Board of Directors. If reduction goals are not met, the respective

Manager will notify the governing board of each agency so that additional action can be taken.

During a Stage III or Stage IV water shortage, the procedure listed above will be followed, with the addition of a daily production report to the Manager of each agency.

Section 8: Water Recycling

This section provides an overview of wastewater generation, collection, treatment, and disposal, potential recycled water demands, and a method for moving forward with a recycled water program in the HSA and surrounding regions. Although recycled water will be available in the near term, reuse opportunities within the HSA are not targeted for implementation because of water quality concerns. As efforts to improve potable water quality become more effective, recycled water quality will also improve and reuse within the HSA will become more likely.

A planning process for bringing recycled water to the Hollister service area is ongoing. As explained in the following sections, both the City and Sunnyslope are in the planning process to use recycled water within the HSA. Some recycled water use could displace current potable use. The District is also in the process of preparing a Recycled Water Master Plan, which is scheduled to be completed in July 2008. This is an upgrade to an earlier study that was limited to San Juan Valley only. This upgraded Recycled Water Master Plan covers a broader geographic area within the entire HSA and would generate up to 750 AFY of Title 22 water from the San Juan vegetable wash project; In addition, the Hollister WWTPs will generate up to 5,600 AFY (5 MGD) of Title 22 water by 2023.

8.1 Hollister Area Wastewater System Description

Law

> 10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies and shall include all of the following:
>
> 10633 (a) A description of the wastewater collection and treatment systems in the supplier's service area…

The City of Hollister is served by two wastewater treatment plants: the Domestic Wastewater Treatment Plant (WWTP) and the Industrial WWTP. Several other wastewater collection, treatment and disposal systems are in operation throughout the study area for this UWMP, as described below.

Refer to **Figure 3-4** in Section 3 for locations of the wastewater treatment facilities.

8.1.1 Hollister Domestic Wastewater Treatment Plant

The Hollister Domestic WWTP, located west of downtown Hollister, began operating in March 1980 and was renovated in 1987 to increase capacity. In 2002 and 2003, the City constructed interim improvements at the treatment plant to improve treatment efficiency. The treatment plant receives wastewater flow from all municipal and most industrial customers within the City limits, including portions of the Sunnyslope service area. The treatment system consists of a mechanical grinder, an odor control biofilter, an influent lift station, a magnetic flow meter, and a Dual Powered Multi Cellular (DPMC) treatment system. A schematic representation of the treatment process is shown in **Figure 8-1**. The DPMC system consists of two types of basins: a

complete-mix aeration basin for BOD removal and three partial-mix settling basins for settling of suspended solids. 27 acres of evaporation/percolation ponds are used for the discharge of treated effluent. The treatment facility waste discharge permit allows the WWTP to discharge 2.69 MGD and the capacity of the percolation ponds is approximately 2.5 MGD (RMC, 2005).

Disposal capacity deficiencies recently experienced at the Domestic WWTP have been managed by diverting a portion of the domestic wastewater to the Hollister Industrial WWTP (RMC, 2005).

A Cease and Desist Order and an Administrative Civil Liability Order were issued by the RWQCB in 2002 due to permit violations at the Industrial WWTP. These orders placed additional restrictions and requirements on Hollister, such as banning new sewer connections, reducing suspended solid levels in treated effluent, constructing new headworks and an emergency storage basin, implementing the Long-term Wastewater Management Program, studying the impacts of wastewater disposal near the Domestic and Industrial WWTPs, and funding conservation efforts (RMC, 2005).

Since 2005, the City has been preparing an EIR to determine the potential environmental effects of a proposed recycled water project using recycled water produced at the new membrane bioreactor facility at the Domestic Wastewater Treatment. The EIR is expected to be completed by April/May 2008. The City is anticipating recycled water production will begin in late 2008, with the treatment capacity to produce up to an average of 3.0 MGD of tertiary treated effluent. Offsite reuse will start by spring 2009 with locations at the Riverside Park (formerly known as the Brigantino Site) and Hollister Municipal Airport, both within the HSA) and the San Juan Oaks Golf Course (outside of HSA).

8.1.2 Hollister Industrial Wastewater Treatment Plant

The Hollister Industrial WWTP began operating in 1971 and is currently located on 78 acres less than a mile east of the Domestic WWTP. The facility was constructed to treat effluent from local tomato canneries, one of which currently operates from mid-June through mid-October. The WWTP also treats a portion of the City's domestic wastewater year-round and intermittent local urban stormwater runoff. (Schaaf & Wheeler, 1999; RMC, 2005)

The treatment system at the Industrial WWTP consists of a headworks, two standby primary sedimentation basins, two aeration ponds, four disposal percolation ponds, a standby sludge drying pond, a pump station, and floating aerators. The treatment process at the Industrial WWTP is similar to that described for the existing Domestic WWTP (Schaaf & Wheeler, 1999).

During canning season, the waste discharge permit allows the Industrial WWTP to process 3.5 MGD (average daily flow) of cannery waste and 0.18 MGD of domestic wastewater. During the non-canning season, the waste discharge permit allows the WWTP to process 1.72 MGD of domestic wastewater and stormwater. The estimated maximum cannery wastewater flow is 4.0 MGD, and the maximum sustained disposal capacity is 2.6 MGD. The Industrial WWTP receives approximately 0.2 million gallons of stormwater flow per inch of rainfall. (RMC, 2005)

Secondary effluent at the Industrial WWTP is discharged to evaporation and percolation ponds, which recharge the Hollister West and San Juan groundwater sub-basins. (RMC, 2005)

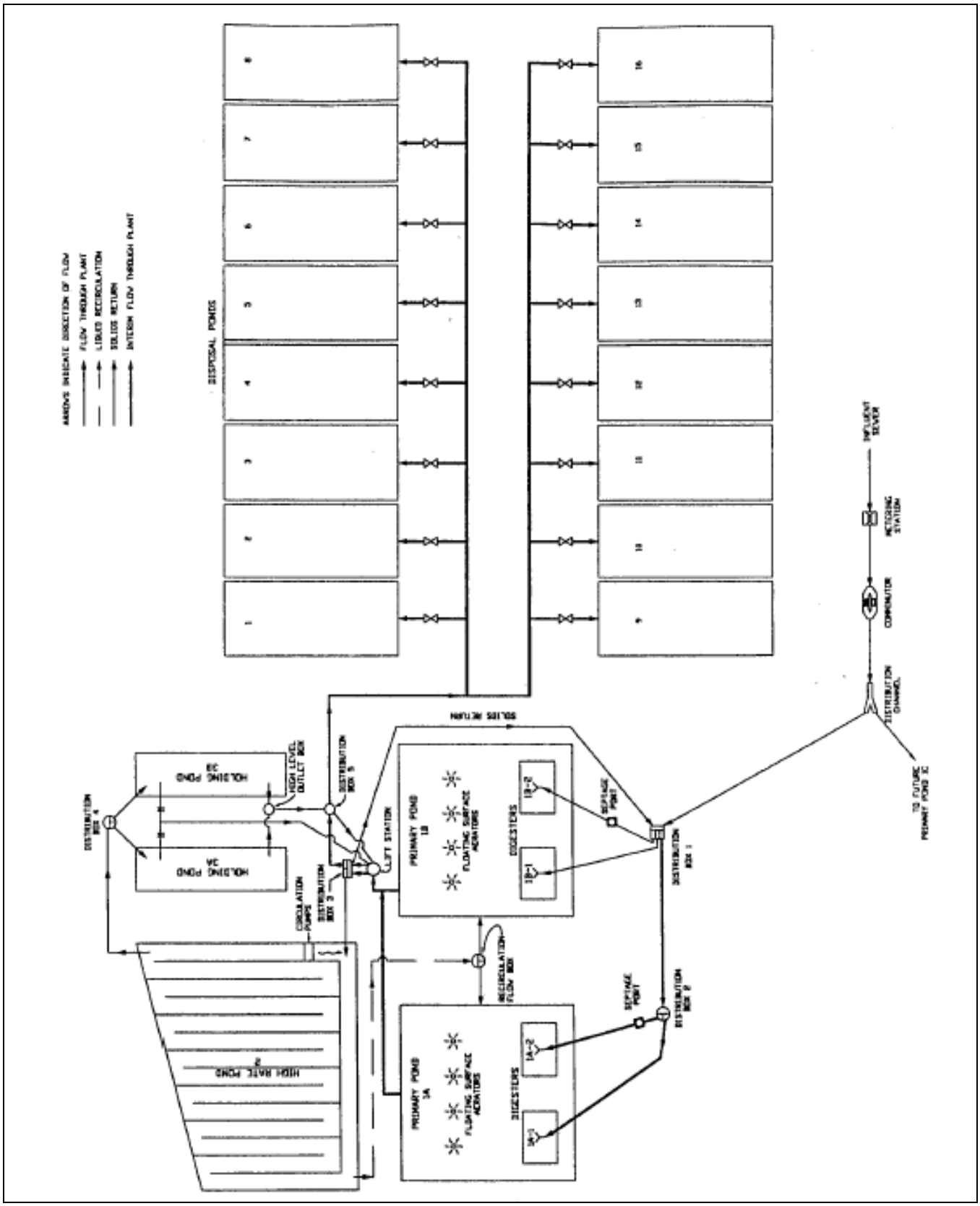

Figure 8-1. Schematic of Hollister Domestic Wastewater Treatment Plant.

8.1.3 Sunnyslope County Water District Wastewater Services

Hollister's Domestic WWTP receives wastewater from portions of Sunnyslope's service area that lie within the limits of the City. Local collection, treatment and disposal systems serve other areas of Sunnyslope that are outside the City limits. (Schaaf & Wheeler, 1999)

Two domestic wastewater treatment plants, serving the Ridgemark Estates community, are managed by Sunnyslope. Two treatment systems comprise the Ridgemark Estates WWTP: Ridgemark I and Ridgemark II. Ridgemark I facilities are comprised of two treatment ponds and four disposal ponds on 8.83 acres. The disposal capacity of the percolation ponds is anticipated to decrease as the ponds become plugged by silts and solids. Ridgemark II facilities are comprised of two treatment ponds and two disposal ponds on 7.74 acres. The two facilities are connected by a pipeline to allow flow to be diverted from Ridgemark II to Ridgemark I. The combined average daily discharge from the two facilities is 0.26 MGD. (RMC, 2005)

Planned growth in Sunnyslope and the reduction of capacity due to clogging of the existing basins indicate that additional wastewater disposal capacity is needed to accommodate existing and future demands. Long hydraulic retention times at the Ridgemark facilities result in significant evaporation, contributing to high TDS concentrations in the effluent, which contributes to regional groundwater salinity management issues. The RWQCB recently modified the waste discharge requirements, reducing the allowed levels of total dissolved solids, sodium, chloride, nitrate, ammonia, and total suspended solids in Sunnyslope's secondary effluent (RMC, 2005).

Sunnyslope is implementing an improvement project for upgrading the Ridgemark WWTP to improve wastewater effluent quality in urban areas. This improvement project was developed to comply with new regulations imposed by RWQCB for TDS, chloride, ammonia, nitrate, suspended solids, and sodium and to reduce total dissolved solids, chloride, and sodium levels in wastewater effluent. As of January 2008, Sunnyslope is in non-compliance with total dissolved solids and chloride. Currently, the final design of Sequencing Batch Reactor (SBR) system is ongoing and CEQA is in progress. The final design is expected to be completed and submitted for bidding in 2009.

Sunnyslope has been in coordination with the Ridgemark Golf Course and a new campus for Gavilan Community College, to provide recycled water following the completion of the improvement project. The Ridgemark Golf Course is one of the largest landscape irrigation customers. Recycled water use at the golf course would make potable water use available for other uses.

Cielo Vista Estates is another residential development within Sunnyslope's service area and is comprised of approximately 75 single-family homes located at the intersection of Airline Highway and Fairview Road. Wastewater from the community is treated by a SBR system and secondary effluent is infiltrated to the groundwater basin via a leach line system. The Cielo Vista development is complete and new connections to the wastewater system are not anticipated. (Schaaf & Wheeler, 1999)

8.1.4 Tres Pinos Wastewater Treatment Facility

Until early 1998, the Tres Pinos Water District (TPCWD) managed a wastewater treatment facility, comprised of a pond system similar to the Hollister Domestic WWTP. The facility, located near Tres Pinos Creek, treated and percolated the wastewater flows generated by the community of Tres Pinos. Three of the four treatment ponds were washed away by flooding of

Tres Pinos Creek in 1998, and the fourth pond was badly damaged. Until new facilities were constructed, wastewater flows were diverted to a holding pond, which was periodically pumped by a private company and wastewater was transferred to one of the Sunnyslope's Ridgemark facilities. (Schaaf & Wheeler, 1999)

New facilities, consisting of two clay-lined aerated treatment ponds and two disposal ponds, were constructed outside the flood plain, approximately seven miles southeast of Hollister. The treatment capacity of the new facilities is 0.06 MGD, which will provide service for approximately 750 people. The facility currently treats approximately 0.025 MGD of wastewater and serves an estimated population of 350. (RMC, 2005)

8.1.5 Additional Wastewater Facilities

Rural single-family homes throughout the Hollister Valley are served by on-site septic systems. Single- and multi-tract residential developments within the urban planning area boundary are also served by septic systems. San Benito County Planning Department's policy requires a minimum of one-acre lots for septic system installation. (Schaaf & Wheeler, 1999)

8.1.6 Projected Future Wastewater Flows

The City and the County have passed ordinances to control the rate of future growth in the region. The population in San Benito County is estimated to increase by 39 percent between 2002 and 2022. (RMC, 2005) The projected future wastewater flows are estimated using the population growth estimates. Residential growth will also occur in unincorporated areas in the Hollister area; however, wastewater generated by new developments will typically be treated by septic systems or by onsite package treatment plants with effluent discharge to the groundwater basin. San Benito County's General Plan requires tertiary treatment for new residential developments with lot sizes less than one acre that are outside the existing wastewater service areas. The effluent from tertiary facilities would meet California Code of Regulations Title 22 requirements for unrestricted use; however, the high salt concentrations would likely preclude the use of such effluent for irrigation.

8.1.7 Wastewater Collection and Treatment Summary

Law

> 10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies and shall include all of the following:
>
> 10633 (a) A […] quantification of the amount of wastewater collected and treated…

Table 8-1 provides a summary of the volume of wastewater collected and treated at each wastewater treatment facility within the plan area.

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Table 8-1. Current and Projected Wastewater Collection and Treatment

Treatment Plant Name	2000 (AFY)[a]	2005 (AFY)[b]	2008 (AFY)[c]	2010 (AFY)[c]	2015 (AFY)[c]	2020 (AFY)[c]	2022 (AFY)[b]	2025 (AFY)[d]	2030 (AFY)[d]
Hollister Domestic WWTP	2,710	2,800	3,028	3,179	3,559	3,938	4,090	4,318	4,697
Hollister Industrial WWTP	518[e]	1,140	1,232	1,293	1,446	1,599	1,660	1,752	1,905
Ridgemark I	231[e]	210	219	225	239	254	260	269	284
Ridgemark II	-	110	112	113	116	119	120	122	125
Tres Pinos WWTP	21	28	29	30	31	33	34	35	36
Cielo Vista[f]	18	18	18	18	18	18	18	18	18
Septic Systems	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Total	3,498	4,306	4,638	4,858	5,409	5,961	6,182	6,514	7,065

(a) Unless otherwise noted, values are based on 1998 average daily influent (Source: Table 4-1, Hollister Area Urban Water Management Plan 2000, Schaaf & Wheeler, July 1999)
(b) Source: Table 2-3 of the San Benito County Regional Recycled Water Project Draft Feasibility Study Report, RMC, May 2005
(c) Values have been obtained by interpolation, assuming flows increase linearly over time between 2005 and 2022.
(d) Assumes population growth (and thus increase in wastewater flow) continues at a constant rate for all treatment facilities except Cielo Vista WWTP.
(e) Value is based on 1998 average annual effluent percolation data. Effluent flows from Ridgemark I and II are combined and listed as Ridgemark I data. (Source: Table 4-2, Hollister Area Urban Water Management Plan 2000, Schaaf & Wheeler, July 1999)
(f) The Cielo Vista Estates development was completed before the 2000 Urban Water Management Plan and no further connections to that wastewater system are planned (Source: Hollister Area Urban Water Management Plan 2000, Schaaf & Wheeler, July 1999)

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8.2 Wastewater Disposal and Recycled Water Uses

Law

> 10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies and shall include all of the following:
>
> 10633 (a) A description of the […] methods of wastewater disposal.
>
> 10633 (b) A description of the recycled water currently being used in the supplier's service area, including but not limited to, the type, place and quantity of use.
>
> 10633 (c) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.
>
> 10633 (d) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years.

This section provides an overview of the wastewater disposal methods currently in use, the potential recycled water uses, and projected recycled water use over the next 25 years in the Hollister Area.

The current requirements for recycled water use are administered by Title 22 of the California Code of Regulations, referred to hereafter as Title 22. **Table 8-2** summarizes the allowed recycled water uses and treatment requirements, as defined in Title 22.

Table 8-2. Title 22 Recycled Water Treatment Requirements and Allowed Uses.

Treatment Level	Allowed Uses
Disinfected Tertiary Recycled Water[(a)]	• Irrigation: ♦ Food Crops (in contact with edible portion) ♦ Parks & Playgrounds ♦ School Yards ♦ Residential Landscaping ♦ Golf Courses (unrestricted access) • Recreational Impoundments (unrestricted) • Cooling Towers • Evaporative Condensers • Spraying & Mist Devices • Toilet/Urinal Flushing • Priming Drain Traps • Industrial Processes • Structural Fire Fighting • Decorative Fountains • Commercial Laundries • Backfill (potable water pipes) • Snowmaking • Car Washes
Disinfected Secondary 2.2 Recycled Water[(b)]	• Irrigation of Food Crops (not in contact with edible portion)
Disinfected secondary 23 Recycled Water[(c)]	• Irrigation: ♦ Cemeteries ♦ Freeway Landscaping ♦ Golf Courses (restricted access) ♦ Nursery Stock & Sod (unrestricted) ♦ Pasture Land ♦ Non-edible Vegetation • Non-Mist Cooling & Air Conditioning • Boiler Feed • Non-Structural Fire Fighting • Backfill (non-potable piping) • Soil Compaction • Mixing Concrete • Dust Control • Washdown
Undisinfected Secondary Recycled Water	• Irrigation: ♦ Orchards & Vineyards (not in contact with edible portions) ♦ Non-Food Bearing Trees ♦ Fodder, Fiber Crops & Pasture ♦ Seed Crops ♦ Nursery Stock & Sod (restricted) • Sanitary Sewer Flushing

(a) Disinfected Tertiary Recycled Water: coagulation and filtration are required; disinfection of coliform bacteria to less than 2.2 MPN/100 ml (seven-day median); average turbidity of 2 NTU

(b) Disinfected Secondary 2.2 Recycled Water: disinfection of coliform bacteria to less than 2.2 MPN/100 ml (seven-day median), 23 MPN/100 ml maximum

(c) Disinfected Secondary 23 Recycled Water: disinfection of coliform bacteria to less than 23 MPN/100 ml (seven-day median), 240 MPN/100 ml maximum

In July 2003, the DPH (as DHS) released revised draft regulations addressing the use of recycled water for groundwater recharge for potable reuse. The draft regulations provide requirements to address concerns with microorganisms, nitrogen, regulated contaminants, and total organic carbon. Generally, the regulations require reverse osmosis treatment for all recycled water used for direct groundwater recharge.

8.2.1 Existing Wastewater Disposal and Recycled Water Use

As discussed in previous sections, the secondary effluent from all wastewater treatment facilities in the Hollister region is disposed of through evaporation and/or percolation. Wastewater percolation results in reuse of treated wastewater through groundwater pumping, and the effluent percolated to the groundwater is included as part of the annual groundwater budget. This disposal practice is not considered a groundwater recharge project and is therefore not required to meet RWQCB and DPH regulations for groundwater recharge projects (described in more detail below). (RMC, 2005)

The current treatment processes at Hollister area wastewater treatment facilities meets the requirements for undisinfected secondary recycled water as defined by Title 22. However, the high levels of TDS in the undisinfected secondary effluent may preclude local reuse on orchards and vineyards or non-food bearing trees. Treatment upgrades would be required to expand the allowed uses to other types of irrigation or industrial processes. The 2000 UWMP (Schaaf & Wheeler, July 1999) provided a summary of additional recycled water opportunities in the Hollister Area. The opportunities to expand recycled water uses as described in the 2000 UWMP included:

- Upgrade the facilities at the Hollister Domestic WWTP to include disinfection and use the disinfected secondary recycled water to irrigate the San Juan Oaks golf course, located about 2 miles from the Hollister Domestic WWTP. The disadvantages of this option are the facility costs and the high mineral content of the recycled water could be detrimental to landscaping. Additionally, the San Juan Oaks golf course is located outside of the HSA planning area analyzed for the purposes of this UWMP. San Juan Oaks golf course, Riverside Park (formerly the Brigantino Site), and the Hollister Airport are planned recycled water reuse sites following completion of the upgrades at the Hollister Domestic WWTP.
- Drill shallow wells in the vicinity of the Domestic WWTP disposal beds to extract the WWTP effluent after it has been filtered by the soil, resulting in a higher quality effluent. Disinfection facilities would likely be required, depending on the reuse application.
- Upgrade the treatment process at the Hollister Domestic WWTP to meet Title 22 requirements for disinfected tertiary recycled water. Implementation of this option would require substantial capital investments as well as increase operating and maintenance costs. The high TDS of the resulting recycled water restrict reuse options. Upgrades to meet this requirement are currently under construction.
- Upgrade the treatment process at the Ridgemark I and Ridgemark II treatment facilities to meet Title 22 requirements. The high TDS of the resulting recycled water restrict reuse options.

Recycled water demand projections were not provided in the 2000 UWMP and implementation of recycled water projects in the Hollister area have been deferred, pending further evaluation. The San Benito County Regional Recycled Water Project Draft Feasibility Study Report (RMC, May 2005) provides a detailed evaluation of recycled water opportunities in and around the Hollister area; the report is discussed in subsequent sections.

8.2.2 Regional Recycled Water Plan

The District manages the water resources in the County and would like to augment existing water supply and improve water supply reliability. The District collaborated with the Cities of Hollister and San Juan Bautista, San Benito County, and Sunnyslope to produce the San Benito County Regional Recycled Water Project Draft Feasibility Study Report (RMC, May 2005). The Study investigates the feasibility of developing a regional recycled water system in the northern part of San Benito County. The Feasibility Study provides the foundation for information in subsequent sections of this UWMP. However, most potential recycled water identified in the Feasibility Study goes to uses or percolation activities outside the HSA and the three subbasins of interest to this study. The EIR to be completed by the City of Hollister by mid-2008 will address some of the recycled water reuse options within the HSA that may occur until the other measures to reduce wastewater salinity are implemented. Recycled water reuse at the Hollister Airport and the Riverside Park site (both within the HSA) and at San Juan Oaks golf course (outside the HSA) is proposed in the EIR. Reduced salinity will allow for additional uses for recycled water.

The Draft Feasibility Study concludes:

- A regional recycled water system would reduce the dependency on existing water supplies, enhance water supply reliability, provide an acceptable wastewater management and disposal strategy, and enhance groundwater level management strategies.
- Landscape irrigation, agricultural irrigation, and industrial uses are feasible existing markets for recycled water. Groundwater recharge is not a feasible use of recycled water due to the stringent treatment requirements and brine disposal challenges. Environmental enhancement is a potential future recycled water market.
- The recommended regional project includes a two-phase implementation strategy that could supply up to 9,400 AFY of disinfected tertiary recycled water to the San Juan Valley project area. This area is located outside of the HSA planning area boundaries considered in this UWMP.

Details of the Feasibility Study and the recommended recycled water project are included in the following sections.

8.2.3 Additional Opportunities for Recycled Water Use

The potential recycled water demands described in this section are based on the Title 22 allowed uses, as outlined in **Table 8-2**.

8.2.3.1 Potential Urban Recycled Water Demand

The Draft Feasibility Study provides a detailed market assessment of potential recycled water demands in northern San Benito County. This section summarizes the information contained in that report for the City's and Sunnyslope's service areas.

Landscape irrigation is the primary opportunity for recycled water use in the Hollister Area. Golf courses, park, schoolyards, and cemeteries provide the highest water demands due to the large turf areas. Several opportunities also exist for using recycled water to supply industrial customers. In the City's and Sunnyslope's service areas, 35 sites were identified as potential recycled water customers. Ridgemark Golf Course and San Juan Oaks Golf Course are the largest users of water for landscape irrigation in the region. Ridgemark is located within the Hollister service area but San Juan Oaks Golf Course is located outside of the planning area. Potential industrial customers include Granite Rock Quarry, and several concrete companies. The total potential recycled water demand for existing landscaping is 1,260 AFY. The total potential recycled water demand for existing industrial users is 835 AFY. Outside of the potential recycled water demands for existing landscaping discussed above, as of September 2008, two of the additional proposed reuse sites are at the Hollister Municipal Airport which will plant 100 acres of turf for dust control with a demand of about 365 AFY and the Riverside Park site (formerly the Brigantino Site) which is planned for 43 acres of irrigated playing fields for a demand of about 157 AF; both of these sites are within the HSA.

For existing irrigation and industrial customers, site facilities must be retrofitted before the site can be supplied with recycled water to ensure the potable water system is isolated from the recycled water system. The complexity of site retrofit varies greatly and depends on the complexity of the onsite water systems. Site retrofit requirements are regulated by DPH. Currently, the City requires new development and parks be constructed with dual plumbing to allow for separate potable water use from non-potable outdoor uses.

Future developments may provide additional recycled water demands. The San Juan Oaks Golf Course expansion plans include a second 18-hole golf course, a 9-hole golf course, 200 residential units, and a 200-room resort hotel. The additional landscape demands for this development are estimated to be 390 AFY.

Indoor uses of recycled water, like toilet flushing, are typically considered only for future development because retrofit of existing sites is overly complex and costly to be considered feasible.

The potential for urban recycled water demand was not considered further for the purposes of supply and demand analysis within the HSA UWMP due to spatial and temporal constraints. Either the potential recycled water users are located outside of the three groundwater subbasins of interest in this study, or the required infrastructure to serve recycled water within these urban areas is not considered to be feasibly constructed within the near future.

8.2.3.2 Potential Agricultural Recycled Water Demand

Agricultural irrigation provides significant potential recycled water demands in the Hollister area. Vegetable row crops, fruit and nut trees are the predominant agricultural products in northern San Benito County. Approximately 54,100 AFY of water is used for

agricultural irrigation in the Feasibility Study Area, which far exceeds the potential recycled water supply. Therefore, the agricultural market assessment in the Feasibility Study identified target agricultural areas based on proximity to potential recycled water sources and grower desire for CVP water service. The potential agricultural market areas and estimated irrigation demands identified in the Feasibility Study are:

- San Juan Valley CVP Service Area: 9,540 AFY (not including Northwest Area of San Juan Valley)
- Freitas Road Area: 4,600 AFY
- Wright and Buena Vista Road Area: 2,290 AFY

Use of recycled water in these areas may involve the use of existing water conveyance facilities and/or construction of new facilities. Blending to manage water quality and water costs may be an important issue to address with potential recycled water customers. These areas are located outside of the HSA planning area included for analysis within this UWMP. Therefore, the potential for agricultural recycled water demand was not considered for the purposes of supply and demand analysis.

8.2.3.3 Environmental Uses

Environmental uses of recycled water include stream flow augmentation, lake recharge, wildlife habitat restoration, wetland enhancement, and constructed wetlands. Determining the suitability of recycled water for environmental uses would require evaluating the potential impacts to local groundwater supplies, agricultural lands, and environmental habitats. No specific environmental projects are planned at this time in the Hollister area; however, opportunities for environmental reuse projects should be reevaluated in the future.

8.2.3.4 Groundwater Recharge

Groundwater recharge is an allowed use of recycled water; as mentioned previously, DPH issued draft regulations for groundwater recharge projects for potable reuse. The challenges of implementing a groundwater recharge project include the treatment requirements (RO, ultraviolet disinfection, etc.), brine disposal, and monitoring requirements. Percolation basins and injection wells are the prime methods of groundwater recharge. The current practice in the Hollister area of disposing of secondary wastewater effluent through percolation ponds is not considered a groundwater recharge project and is therefore not required to meet RWQCB and DPH regulations for groundwater recharge projects.

Due to the complexity and high cost of implementing a groundwater recharge project, it is not considered a feasible use of recycled water in the Hollister area.

8.2.3.5 Potential Recycled Water Demand Summary

Table 8.3 provides a summary of the existing and future potential recycled water uses in and around the Hollister Area.

Table 8-3. Potential Recycled Water Demands (a)

Destination	Treatment Level	Time of use	2005 (AFY)	2010 (AFY)	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)
Agricultural Irrigation	Secondary or better	April – Nov	16,430	16,430	16,430	16,430	16,430	16,430
Landscape Irrigation	Secondary or better	April – Nov	1,260	2,172(b)	2,172	2,172	2,172	2,172
Industrial	Secondary or better	All year	835	835	835	835	835	835
Total			18,525	19,437	19,437	19,437	19,437	19,437

(a) Assumes no change in land use or type of agricultural crops. Changes to existing land use will modify the recycled water demands over time.

(b) Includes 365 AFY of reuse at Hollister Airport and 157 AFY at Riverside Park identified in 2008.

8.2.4 Projected Recycled Water Use

As described in previous sections, the primary markets for recycled water in San Benito County HSA are agricultural and landscape irrigation and industrial uses. Much of the agricultural products include crops that may be consumed raw, and much of the landscape irrigation market includes golf courses with unrestricted access, parks and schoolyards. Title 22 requires the use of disinfected tertiary recycled water for these applications. Therefore, wastewater treatment plant upgrades would be required in order to serve most of the potential recycled water customers in the HSA. Additionally, significant new infrastructure would be required and conveyance systems must be reconfigured and/or constructed to deliver recycled water to potential customers.

The use of recycled water for irrigation raises water quality concerns with respect to salinity levels and other constituents that may affect crops and landscaping. The salinity levels and concentrations of constituents like chloride and sodium in secondary effluent from Hollister area wastewater treatment facilities are likely to adversely affect sensitive crops and landscape plants and may impact soil conditions.

Generally, agricultural sites present the most cost-effective opportunities for delivering recycled water because large demands can be met without requiring an extensive distribution system and site retrofit costs are minimized. Urban irrigation and industrial sites that are located near wastewater treatment facilities may also be cost-effective to serve with recycled water.

The recycled water project recommended in the Feasibility Study considers water quality issues, treatment plant upgrades, distribution system construction, operation and maintenance, and financial aspects associated with implementing a recycled water project. The recommended project includes a two-phased implementation strategy:

- Feasibility Study Phase I: Treatment facilities would be located at the Hollister Domestic WWTP and recycled water would be supplied to agricultural customers in the Freitas Road Area, which is adjacent to but outside of the HSA. Additional recycled water disposal is planned at the Hollister Airport (within the HSA) and

San Juan Oaks golf course (outside of the HSA). Recycled water production capacity would be 5 MGD. Recycled water delivery would begin in 2008 with anticipated demand of approximately 1,010 AFY, eventually expanding up to 2,340 AFY. Recycled water would likely be blended with CVP water to manage salinity levels until 2015, after which, recycled water salinity levels will be reduced to a maximum of 700 mg/l with a target salinity of 500 mg/l. Once recycled water salinity levels are reduced, blending will no longer be required, and up to 5,280 AFY of recycled water can be delivered in the Phase I service area.

- Feasibility Study Phase II: The distribution service area would be expanded to include the remainder of the San Juan Valley area (the CVP service area) which is outside of the HSA. A total of up to 9,400 AFY of recycled water would be supplied to agricultural irrigation customers and 390 AFY could be supplied to the San Juan Oaks Golf Course. Treatment facilities at the Hollister Domestic WWTP would be expanded to a capacity of 8 MGD and additional recycled water supplies would have to be developed to fully realize the potential recycled water demands in the service area. Possible sources for additional recycled water include Sunnyslope's WWTPs, San Juan Bautista WWTP, Hollister Industrial WWTP, and effluent from vegetable processing facilities.

- In addition, Sunnyslope is considering its own recycled water project using the Ridgemark wastewater treatment facilities.

Since the areas slated to receive recycled water in the future are located outside of the three groundwater subbasins of interest in this study, recycled water use was not included for further analysis in this UWMP. **Tables 8-4** and **8-5** provide the projected future wastewater disposal methods and recycled water uses in the Hollister Area.

Table 8-4. Existing and Projected Wastewater Disposal

Destination	Treatment Level	2005 (AFY)	2008 (AFY)	2010 (AFY)	2015 (AFY)	2020 (AFY)	2022 (AFY)	2025 (AFY)	2030 (AFY)
Septic Systems	Any	unknown	unknown	unknown	unknown	unknown	unknown	unknown	unknown
Evaporation/ Percolation Ponds	Undisinfected Secondary	4,306	3,627	3,468	3,069	681	432	445	463
Total		4,306	3,628	3,468	3,069	681	432	445	463

(a) Values are based on existing and projected wastewater flows. (Source: Table 2-3 of the San Benito County Regional Recycled Water Project Draft Feasibility Study Report, RMC, May 2005).
(b) Assumes wastewater flows increase linearly over time between 2005 and 2022 and that recycled water demands increase linearly over time between 2008 and 2015.
(c) Assumes San Juan Bautista WWTP is developed as the additional recycled water source; effluent from Ridgemark I & II, Tres Pinos, and Cielo Vista WWTPs will continue to be disposed of through use of percolation ponds.

Table 8-5. Projected Future Recycled Water Use in Greater Hollister Area*

Destination	Treatment Level	2005 (AFY)	2008 (AFY)	2010 (AFY)	2015 (AFY)	2020 (AFY)	2022 (AFY)	2025 (AFY)	2030 (AFY)
Agricultural Irrigation	Disinfected Tertiary	0	0	335	830	830	830	4200	4200
Total		0	0	335	830	830	830	4200	4200

* Projected recycled water uses within the HSA are expected to be 0 AFY.

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8.2.5 Planned Recycled Water Projects

Since the completion of the Feasibility Study in 2005 that identified a Phase I and Phase II recycled water program for the region, the City of Hollister has completed an Environmental Impact report (Source: City of Hollister web site) to determine the potential effects of a proposed recycled water project closer to the City. The proposed project is composed of two phases that are distinct from those identified in the Feasibility Study. The two City Phases use the new membrane bioreactor (MBR) Facility that is currently in the construction stages at the DWTP in Hollister. This facility is expected to produce a high quality effluent appropriate for reuse and will meet all Title 22 requirements starting in 2008. The facility will have the capacity to produce an average of 3.0 MGD of tertiary treated effluent.

In City Phase 1, most of the water would continue to be disposed of by percolation at the DWTP and the IWTP. Approximately 0.3 MGD was proposed to be disposed of by spray fields, gradually increasing to a peak of 0.74 MGD by 2013. Spray fields would consist of networks of pipelines and sprinklers similar to existing agricultural and urban practices used in the region. Some of the disposal spray field locations are within the HSA (e.g. Hollister Airport) and recycled water is not expected to displace potable water use at these locations. San Juan Oaks golf course, which is outside the HSA is also a proposed disposal site in Phase 1. As part of further project development, an additional proposed reuse site at the Riverside Park site (formerly the Brigantino Site) was identified which is planned for 43 acres of irrigated playing fields for a demand of about 157 AF. In addition, the Hollister Municipal Airport site concept has been refined to including planting of 100 acres of turf for dust control with a demand of about 365 AFY. Both of these sites are within the HSA. The treated effluent is expected to have an average salinity of approximately 1, 200 mg/L through 2013, which will limit the suitability for irrigation of some crops as discussed in section 8.4.

Implementation of City Phase 2 of this project is dependant on reduced salinity levels in the recycled water supply that would be provided by demineralization of the City's potable water supply. When the TDS levels of the recycled water supply decrease to 700 mg/L or less, recycled water may be used on high value crops currently being grown in the region. In Phase 2, recycled water would be distributed to agricultural users in the San Juan Valley. It is expected that by 2023, 4,200 AFY of recycled water could be used in the San Juan Valley from a potential recycled water supply from the Hollister WWTPs of 5,600 AFY (5 MGD)..

8.2.6 Recycled Water Project Technical and Economic Feasibility

The Draft Feasibility Study lists the following criteria in determining the feasibility of implementing a recycled water project in the HSA, as identified by the District and other stakeholders:

- No negative impact to groundwater quality
- Maximize use of recycled water use (more than 3,000 AFY)
- Cost effective (less than $500 per acre foot)
- Meet salinity goals from MOU

- Provide equity and fairness for involved parties
- Acceptance by regulatory agencies
- Public acceptance
- Coordinates with other existing & planned water and wastewater projects in San Benito County

Two major considerations for recommending a project in the Draft Feasibility Study were that the long-term project maximizes the use of recycled water from all sources and provides equity in water quantity, quality, and reliability.

8.3 Encouraging Recycled Water Use

Law

> 10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies and shall include all of the following:
>
> 10633 (e) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.

This section includes 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.

8.3.1 Implementation Strategy

Implementation of the recommended recycled water project would include public outreach efforts, a detailed market evaluation of agricultural growers, environmental compliance, RWQCB and DPH regulatory permitting, and funding initiatives. An effective implementation strategy will include the following efforts.

- Develop a public outreach plan.
- Obtain input from stakeholders and potential recycled water customers.
- Perform engineering evaluations to refine treatment facility upgrade requirements, project design criteria, backflow prevention strategy, and distribution pipeline alignments.
- Determine site retrofit requirements.
- Refine project costs and develop a detailed funding strategy to pursue grants and loans and to analyze local funding mechanisms and constraints.
- Develop a rate and revenue plan.
- Complete environmental compliance requirements (CEQA and/or NEPA).
- Develop memorandums of understanding between agencies participating in the recycled water project.

- Develop user agreements.

The WRA is committed to implementing the recommended recycled water project and is scheduled to develop a Recycled Water Facility Plan and environmental compliance documentation in mid 2008. Subsequent implementation efforts will be more clearly defined after completion of the Facility Plan.

8.3.2 Proposed Actions to Encourage Use of Recycled Water

8.3.2.1 Public Outreach

A public outreach plan will be a key action to encourage the use of recycled water. Educating potential recycled water users about the benefits of using recycled water and responding to any concerns that may be raised about the safety or quality of recycled water are key to gaining public support and implementing a successful recycled water project. The public outreach plan should include public meetings, educational materials, project update newsletters, stakeholder meetings, and press coverage.

8.3.2.2 State and Federal Funding

Grants and/or loans should be pursued to help offset the costs of the recycled water project. Obtaining funding can help build community support for the project because it results in reduced taxpayer or ratepayer burden. Many state and federal funding programs are available to assist communities in developing a recycled water project from the planning level through construction.

8.3.2.3 Financial Incentives

Financial incentives may be considered to encourage potential recycled water users to accept recycled water in lieu of other available sources, as well as to offset the inconveniences imposed during project construction and site retrofit. Considerations include paying for site retrofit costs and for discounting the cost of recycled water in relation to other water sources. The level at which recycled water is discounted in relation to other sources and the duration of the discount should be carefully considered when developing a rate and revenue plan.

8.3.2.4 Use Ordinances

Use ordinances can be a useful method for encouraging and/or requiring recycled water use for specific applications within the project area. Ordinances can be very general or very specific, depending on the needs and goals of the agency adopting the ordinance. Use ordinances can also encourage the use of recycled water by prohibiting the use of potable water for certain applications. Use ordinances may be difficult to implement in the Hollister area due to the various agencies involved and jurisdictions within which the project lies. However, this option should be considered wherever possible.

8.3.2.5 Regional Planning

A regional recycled water planning effort can build momentum in a region, thus increasing public support. The regional planning effort begun with the Draft Feasibility Study will be continued in developing the Recycled Water Facility Plan and

environmental compliance documents. This regional planning and implementation effort should be continued to the extent possible as the project develops and progresses.

8.3.2.6 Recycled Water Reliability

The reliability and long-term availability of recycled water is a benefit that may not be fully appreciated by the public or potential customers. The HSA is heavily dependent on imported water, so guaranteeing the reliability of recycled water may encourage customers to participate in the recycled water program. Additionally, developing long-term contracts/use agreements that include such a guarantee may further improve project participation.

8.3.2.7 Recycled Water Quality

Recycled water quality can be a major concern for the public and potential customers, and should be addressed adequately in the public outreach plan. Stakeholder concerns may arise regarding public health issues as well as regarding crop/plant health issues. Providing a guarantee of water quality may help assure the public of each agency's commitment to providing safe water of a consistent quality. Such understanding by the public and potential customers is paramount to a successful program.

Table 8.6 provides a summary of the recommended methods to encourage recycled water use in the HSA.

Table 8-6. Recommended Methods to Encourage Recycled Water Use.

Methods to Encourage Recycled Water Use
Public education
Subsidized Costs
Rate Discounts/ Incentive Program
Long-Term Contracts (Price/Reliability)
Grants
Low interest loans
Use Ordinances
Regional Planning
Water Quality Guarantee
Other ("guarantee" recycled water supply reliability)

8.3.3 Actions Taken and Projected Results

Actions taken to promote water recycling in the Hollister area are limited to the participation in a regional Feasibility Study and securing grant funding to help fund the Feasibility Study and Facility Plan.

Once the Feasibility Study has been finalized and the participating agencies reach consensus on next steps, additional steps will be performed to continue the momentum

begun with the Feasibility Study. At this time it is not possible to determine specifically how much recycled water use will result from individual promotion activities.

8.4 Recycled Water Optimization Plan

Law

> 10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies and shall include all of the following:
>
> 10633 (f) 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 and to promote recirculating uses.

The Feasibility Study includes several project optimization measures in its recommended alternative. Specifically, the following considerations have been incorporated into the recommended project:

- The production of disinfected tertiary recycled water suitable for unrestricted use by Title 22 improves project flexibility because the potential market for the recycled water is not limited by water quality (except for groundwater recharge).
- The market for recycled water use is primarily comprised of agricultural customers who use large volumes of recycled water. This reduces the number of overall user agreements that must be implemented and simplifies the retrofit process.
- Targeting large agricultural uses reduces the infrastructure requirements for delivering recycled water. This reduces construction costs and minimizes the impacts of construction on residents.
- During Phase I of the project, the recycled water will be blended with CVP water to ensure salinity levels are acceptable for the irrigated crops. Potential customers may be more amenable to using recycled water if water quality is not a concern with respect to plant health.

The following additional efforts should be made as the project planning progresses:

- To the extent possible, ensure pipeline alignments are located in areas that are not environmentally sensitive. Minimizing environmental impacts may result in a more efficient environmental compliance process and may improve public support for the project.
- Once the pipeline alignment has been refined, evaluate upcoming road construction and utilities improvements to determine if recycled water pipelines can be installed in conjunction with those projects.
- Maintain communication and educational programs with agricultural customers to ensure water quality concerns are addressed throughout the life of the project.

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Section 9: Water Service Reliability

Law

> 10635 (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.
>
> (b) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.
>
> (c) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.
>
> (d) Nothing in this article is intended to change existing law concerning an urban water supplier's obligation to provide water service to its existing customers or to any potential future customers.

This section provides an overview of water service reliability. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 25 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years.

The single dry year supply is estimated to include a 25 percent reduction from average, or normal water year supply for CVP supplies, for urban users and 75 percent reduction of CVP supplies for agricultural users. Single dry year demand is assumed to be 100 percent of demand, as it is assumed there would be no effect on customer usage until the second year of a dry year sequence.

For the multiple dry year analysis, two scenarios were analyzed: 1) no changes to demand were assumed to occur, and 2) certain levels of demand reductions are achieved during the second and third years of drought. In the scenario with demand reductions, both agricultural and M&I demands are assumed to decrease by 15 percent and 25 percent during the second and third years of the drought, respectively. Demands return to 100 percent after the three-year drought.

In the multiple dry year analysis, supply reductions for the M&I sector reflect a 25 percent reduction in CVP supply during the first year of a dry year sequence, and a 35 percent reduction in CVP supply in the second and third years. For the agricultural sector, supply reductions reflect a 75 percent reduction in CVP supply during the first year of a dry year sequence, and an 85 percent reduction in CVP supply in the second and third years. The reductions in supply arise mainly from imported water cutbacks. The fourth and fifth year are assumed to be recovery years of projected average supply and demand.

Quantities in all tables are in AFY unless otherwise noted.

9.1 Projected Normal Water Year Supply and Demand

As described earlier in Section 3.4.1, the District, the City, and Sunnyslope have enough water to supply their M&I and agricultural customers in a normal water year. **Table 9-1** through **9-3** compare the water supply and demand for normal water years through 2030. Table 3-1 in Section 3.4.1 also contains additional background information, details, and calculations regarding supply and demand projections during normal water years.

Table 9-1. Projected Supply During Normal Water Year – AFY.

	2010	**2015**	**2020**	**2025**	**2030**
Supply	29,925	29,925	29,925	29,925	29,925
% of projected normal	100	100	100	100	100

Table 9-2. Projected Demand During Normal Water Year – AFY.

	2010	**2015**	**2020**	**2025**	**2030**
Demand	21,494	20,968	20,451	19,886	19,562
% of projected normal	100	100	100	100	100

Table 9-3. Projected Supply and Demand Comparison During Normal Water Year – AFY.

	2010	**2015**	**2020**	**2025**	**2030**
Supply Totals	29,925	29,925	29,925	29,925	29,925
Demand Totals	21,737	20,968	20,451	19,886	19,562
Difference (Supply minus Demand)	**8,431**	**8,957**	**9,474**	**10,039**	**10,363**
Difference as % of Supply	28.17%	29.93%	31.66%	33.55%	34.63%
Difference as % of Demand	39.22%	42.72%	46.33%	50.48%	52.98%

As shown, the District, the City, and Sunnyslope have sufficient supply to provide reliable water services in the future during normal water years. Any surplus water would allow the agencies to forego groundwater pumping in excess of water needed in addition to the imported supply, thereby saving in pumping costs and allowing additional groundwater storage for subsequent years.

9.2 Projected Single Dry Water Year Supply and Demand

This section presents the single dry year supply and demand comparison. The analysis reveals that supply deficiencies will occur early in the analysis in 2010 but are expected to diminish in the future with conversion of agricultural demands to urban demands discussed in Appendix F. In addition, supplemental local groundwater can be used to meet the modest (805 AFY) deficit without jeopardizing the long-term yield of the groundwater aquifer.

Table 9-4 through **9-6** compare the water supply and demand for single dry water years through 2030. Table 3-2 in Section 3.4.2 contains additional background information, details, and calculations regarding supply and demand projections during single dry water years.

Table 9-4. Projected Supply During Single Dry Water Year – AFY.

	2010	**2015**	**2020**	**2025**	**2030**
Supply	20,932	20,932	20,932	20,932	20,932
% of projected normal	25% Ag/75% M&I	25% Ag/75% M&I	25% Ag/75% M&I	25% Ag/75% M&I	25% Ag/75% M&I

Table 9-5. Projected Demand During Single Dry Water Year – AFY.

	2010	**2015**	**2020**	**2025**	**2030**
Demand	21,737	20,964	19,086	19,539	19,562
% of projected normal	100	100	100	100	100

Table 9-6. Projected Supply and Demand Comparison During Single Dry Water Year - AFY.

	2010	2015	2020	2025	2030
Supply Totals	20,932	20,932	20,932	20,932	20,932
Demand Totals	21,737	20,964	19,086	19,539	19,562
Difference (Supply minus Demand)	**-805**	**-32**	**1,846**	**1,393**	**1,370**
Difference as % of Supply	-3.85%	-0.15%	8.82%	6.66%	6.55%
Difference as % of Demand	-3.70%	-0.15%	9.67%	7.13%	7.01%

The comparison shows that water service reliability is only a problem during the first stages of the planning horizon. Then, supply is shown to exceed demand even in single dry water years.

9.3 Multiple Dry Year Scenarios

This section presents multiple dry year supply and demand comparisons. The analyses are performed in five year planning horizons, beginning with 2006 – 2010 and ending with 2026 – 2030. For each planning horizon, a three-year drought occurs the first three years, with the remaining two years being normal water years. The second and third year of the drought assume further reductions in CVP delivery from 75% delivery in the first year to 65% delivery in the second and third year. The analysis shows that there will be supply deficiencies during the second and third years during a three-year drought in the first few planning horizons. However, the supplemental local groundwater and the surplus water available in years four and five offsets the deficiencies experienced during the three-year drought. Additionally, later planning horizons do not experience supply deficiencies due to decreased demand resulting from future agricultural to urban land conversion.

Two scenarios are presented for each planning horizon: one in which demand reductions occur during the second and third years of the drought and another in which no demand reductions occur. In the scenario with demand reduction, both agricultural and M&I demands are assumed to decline by 15 percent and 25 percent during the second and third years of the multiple year drought, respectively. As expected, reducing demands drastically improves the reliability of service during all planning horizons, although the differences are more pronounced in the near future.

See Section 3.4.3 for additional background information, details, and calculations regarding supply and demand projections during multiple dry water years.

9.3.1 Planning Horizon 1: 2006-2010

Table 9-7. Projected Supply During Multiple Dry Water Years (2006 - 2010).

	2006	2007	2008	2009	2010
Supply (AFY)	20,987	19,595	19,595	29,925	29,925
% of projected normal	25% Ag/75% M&I	15% Ag /65% M&I	15% Ag/65% M&I	100%	100%

Table 9-8. Projected Demand During Multiple Dry Water Years (2006 - 2010) – AFY.

Scenario		2006	2007	2008	2009	2010
No Demand Changes	Demand (AFY)	21,743	21,658	21,684	21,589	21,494
	% of projected normal	100%	100%	100%	100%	100%
Including Demand Changes	Demand (AFY)	21,743	18,409	16,263	21,589	21,494
	% of projected normal	100%	85%	75%	100%	100%

Table 9-9. Projected Supply and Demand Comparison During Multiple Dry Water Years (2006 – 2010).

Scenario		2006	2007	2008	2009	2010
No Demand Changes	Supply Totals	20,987	19,595	19,595	29,925	29,925
	Demand Totals	21,743	21,658	21,684	21,589	21,494
	Difference (supply minus Demand)	**-756**	**-2,063**	**-2,089**	**8,336**	**8,430**
	Difference as % of Supply	-3.6%	-10.5%	-10.7%	27.9%	28.2%
	Difference as % of Demand	-3.5%	-9.5%	-9.6%	38.6%	39.2%
Including Demand Changes	Supply Totals	20,987	19,595	19,595	29,925	29,925
	Demand Totals	21,743	18,409	16,263	21,589	21,494
	Difference (supply minus Demand)	**-756**	**1,186**	**3,332**	**8,336**	**8,430**
	Difference as % of Supply	-3.6%	6.1%	17.0%	27.9%	28.2%
	Difference as % of Demand	-3.5%	6.4%	20.5%	38.6%	39.2%

9.3.2 Planning Horizon 2: 2011-2015

Table 9-10. Projected Supply During Multiple Dry Water Years (2011 - 2015).

	2011	2012	2013	2014	2015
Supply	20,987	19,595	19,595	29,925	29,925
% of projected normal	25% Ag/75% M&I	15% Ag /65% M&I	25% Ag/75% M&I	100%	100%

Table 9-11. Projected Demand During Multiple Dry Water Years (2011 - 2015).

Scenario		2011	2012	2013	2014	2015
No Demand Changes	Demand	21,389	21,283	21,178	21,073	20,969
	% of projected normal	100%	100%	100%	100%	100%
Including Demand Changes	Demand (AFY)	21,389	18,091	15,883	21,073	20,969
	% of projected normal	100%	85%	75%	100%	100%

Table 9-12. Projected Supply and Demand Comparison During Multiple Dry Water Years (2011 – 2015).

Scenario		2011	2012	2013	2014	2015
No Demand Changes	Supply Totals	20,987	19,595	19,595	29,925	29,925
	Demand Totals	21,389	21,283	21,178	21,073	20,969
	Difference (supply minus Demand)	**(401)**	**(1,688)**	**(1,583)**	**8,852**	**8,956**
	Difference as % of Supply	-1.9%	-8.6%	-8.1%	29.6%	29.9%
	Difference as % of Demand	-1.9%	-7.9%	-7.5%	42.0%	42.7%
Including Demand Changes	Supply Totals	20,987	19,595	19,595	29,925	29,925
	Demand Totals	21,389	18,091	15,883	21,073	20,969
	Difference (supply minus Demand)	**(401)**	**1,504**	**3,711**	**8,852**	**8,956**
	Difference as % of Supply	-1.9%	7.7%	18.9%	29.6%	29.9%
	Difference as % of Demand	-1.9%	8.3%	23.4%	42.0%	42.7%

9.3.3 Planning Horizon 3: 2016-2020

Table 9-13. Projected Supply During Multiple Dry Water Years (2016 - 2020).

	2016	2017	2018	2019	2020
Supply	20,987	19,595	19,595	29,925	29,925
% of projected normal	25% Ag/75% M&I	15% Ag /65% M&I	25% Ag/75% M&I	100%	100%

Table 9-14. Projected Demand During Multiple Dry Water Years (2016 - 2020).

Scenario		2016	2017	2018	2019	2020
No Demand Changes	Demand	20,864	20,760	20,657	20,554	20,451
	% of projected normal	100%	100%	100%	100%	100%
Including Demand Changes	Demand	20,864	17,646	15,493	20,554	20,451
	% of projected normal	100%	85%	75%	100%	100%

Table 9-15. Projected Supply and Demand Comparison During Multiple Dry Water Years (2016 – 2020).

Scenario		2016	2017	2018	2019	2020
No Demand Changes	Supply Totals	20,987	19,595	19,595	29,925	29,925
	Demand Totals	20,864	20,760	20,657	20,554	20,451
	Difference (supply minus Demand)	**123**	**(1,165)**	**(1,062)**	**9,371**	**9,474**
	Difference as % of Supply	0.6%	-5.9%	-5.4%	31.3%	31.7%
	Difference as % of Demand	0.6%	-5.6%	-5.1%	45.6%	46.3%
Including Demand Changes	Supply Totals	20,987	19,595	19,595	29,925	29,925
	Demand Totals	20,864	17,646	15,493	20,554	20,451
	Difference (supply minus Demand)	**123**	**1,949**	**4,102**	**9,371**	**9,474**

	Difference as % of Supply	0.6%	9.9%	20.9%	31.3%	31.7%
	Difference as % of Demand	0.6%	11.0%	26.5%	45.6%	46.3%

9.3.4 Planning Horizon 4: 2021-2025

Table 9-16. Projected Supply During Multiple Dry Water Years (2021 - 2025).

	2021	**2022**	**2023**	**2024**	**2025**
Supply	20,987	19,595	19,595	29,925	29,925
% of projected normal	25% Ag/75% M&I	15% Ag /65% M&I	25% Ag/75% M&I	100%	100%

Table 9-17. Projected Demand During Multiple Dry Water Years (2021 - 2025).

Scenario		**2021**	**2022**	**2023**	**2024**	**2025**
No Demand Changes	Demand	20,337	20,224	20,111	19,998	19,886
	% of projected normal	100%	100%	100%	100%	100%
Including Demand Changes	Demand	20,337	17,190	15,083	19,998	19,886
	% of projected normal	100%	85%	75%	100%	100%

Table 9-18. Projected Supply and Demand Comparison During Multiple Dry Water Years (2021 – 2025).

Scenario		2021	2022	2023	2024	2025
No Demand Changes	Supply Totals	20,987	19,595	19,595	29,925	29,925
	Demand Totals	20,337	20,224	20,111	19,998	19,886
	Difference (supply minus Demand)	**651**	**(629)**	**(516)**	**9,927**	**10,039**
	Difference as % of Supply	3.1%	-3.2%	-2.6%	33.2%	33.5%
	Difference as % of Demand	3.2%	-3.1%	-2.6%	49.6%	50.5%
Including Demand Changes	Supply Totals	20,987	19,595	19,595	29,925	29,925
	Demand Totals	20,337	17,190	15,083	19,998	19,886
	Difference (supply minus Demand)	**651**	**2,405**	**4,512**	**9,927**	**10,039**
	Difference as % of Supply	3.1%	12.3%	23.0%	33.2%	33.5%
	Difference as % of Demand	3.2%	14.0%	29.9%	49.6%	50.5%

9.3.5 Planning Horizon 5: 2026-2030

Table 9-19. Projected Supply During Multiple Dry Water Years (2026 - 2030).

	2026	2027	2028*	2029*	2030*
Supply	20,987	19,595	19,595	29,925	29,925
% of projected normal	25% Ag/75% M&I	15% Ag /65% M&I	25% Ag/75% M&I	100%	100%

* This analysis has slightly different assumptions than the multiple dry year analysis presented in Table 3-4 and therefore the results vary from that table.

Table 9-20. Projected Demand During Multiple Dry Water Years (2026 - 2030).

Scenario		2026	2027	2028	2029	2030
No Demand Changes	Demand	19,774	19,662	19,551	19,556	19,562
	% of projected normal	100%	100%	100%	100%	100%
Including Demand Changes	Demand	19,774	16,713	14,663	19,556	19,562
	% of projected normal	100%	85%	75%	100%	100%

Table 9-21. Projected Supply and Demand Comparison During Multiple Dry Water Years (2026 – 2030).

Scenario		2026	2027	2028	2029	2030
No Demand Changes	Supply Totals	20,987	19,595	19,595	29,925	29,925
	Demand Totals	19,774	19,662	19,551	19,556	19,562
	Difference (supply minus Demand)	**1,214**	**-67**	**44**	**10,369**	**10,364**
	Difference as % of Supply	5.8%	-0.3%	0.2%	34.7%	34.6%
	Difference as % of Demand	6.1%	-0.3%	0.2%	53.0%	53.0%
Including Demand Changes	Supply Totals	20,987	19,595	19,595	29,925	29,925
	Demand Totals	19,774	16,713	14,663	19,556	19,562
	Difference (supply minus Demand)	**1,214**	**2,882**	**4,932**	**10,369**	**10,364**
	Difference as % of Supply	5.8%	14.7%	25.2%	34.7%	34.6%
	Difference as % of Demand	6.1%	17.2%	33.6%	53.0%	53.0%

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Appendix A

Notice of Public Meeting

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PUBLIC NOTICE

Topic: 2008 Urban Water Management Plan Update

Who: City of Hollister, San Benito County Water District, and the Sunnyslope County Water District

What: Public meeting on the 2008 Urban Water Management Plan Update for the Hollister Area and notice of availability of the draft document

When/ Where:

December 15, 2008 6:30 p.m.	December 17, 2008 7:30 p.m.	December 18, 2008 5:15 p.m.
City of Hollister City Hall Council Chambers 375 Fifth St Hollister Ca 95023	San Benito County Water District Board Room 30 Mansfield Rd Hollister CA 95023	Sunnyslope County Water District Board Room 3570 Airline Hwy Hollister CA 95023

Why: Interested members of the public and local businesses of the Hollister area of San Benito County are encouraged to provide comments to the City of Hollister, Sunnyslope County Water District, and San Benito County Water District and to participate in the review process for the 2008 Urban Water Management Plan (UWMP.) The City of Hollister, Sunnyslope County Water District, and San Benito County Water District are the principal water purveyors for the Hollister portion of San Benito County. The Urban Water Management Planning Act requires water agencies and major water retailers in San Benito County to update their UWMP every five years. The Hollister area plan was last updated in 2000. This UWMP update includes updated Hollister area water demand projections to the year 2030, compares available supplies to meet demands and presents water demand management measures to reduce long-term water demand.

Review: The draft UWMP 2008 is available for review at the public locations listed below for 30 days beginning November 14, 2008. Electronic copies are posted on the following web sites:

City of Hollister	San Benito County Water District	Sunnyslope County Water District
http://hollister.ca.gov	www.sbcwd.com	www.sscwd.org

(click on “2008 Urban Water Management Plan”). Comments can be made at the public meeting, or written comments may be sent during the 30-day comment period to each respective agencies: Steve Wittry (City of Hollister),

Jeff Cattaneo, (San Benito County Water District), or Bryan Yamaoka (Sunnyslope County Water District.

City of Hollister, Engineering Department
420 Hill Street, Building C
Hollister, CA 95023

Sunnyslope County Water District
3570 Airline Hwy,
Hollister, CA 95023

San Benito County Water District
30 Mansfield Road
Hollister, CA 95024

San Benito County Free Library
470 5th Street
Hollister, CA 95023

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NOTICE OF PUBLIC HEARING
2008 URBAN WATER MANAGEMENT PLAN UPDATE
SAN BENITO COUNTY WATER DISTRICT

NOTICE IS HEREBY GIVEN that the Board of Directors of the San Benito County Water District has received the 2008 Urban Water Management Plan Update.

Said report is available for examination at the District Office, 30 Mansfield Road, Hollister, California, Monday through Friday, from 8:00 a.m. to 4:00 p.m.; at the San Benito County Public Library, 470 Fifth Street, Hollister; the City of Hollister, Engineering Department, 420 Hill Street, Building C, Hollister; and Sunnyslope County Water District, 3570 Airline Highway, Hollister.

The Board of Directors of the San Benito County Water District will hold a public hearing on Wednesday, January 28, 2009, at 7:30 p.m. for the purpose of receiving public comment on said report. The hearing will be held at the District Office, 30 Mansfield Road, Hollister, California. Upon close of the public hearing, the Board will consider approval of a resolution to adopt the 2008 Urban Water Management Plan Update.

BOARD OF DIRECTORS SAN BENITO COUNTY WATER DISTRICT

BY: /s/Sara Singleton
Manager of Administration and Finance

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Appendix B

List of Groups who Participated in the Development of This Plan

City of Hollister

Sunnyslope County Water District

San Benito County Water District

San Benito County Planning Department

Water Resources Association of San Benito County Water Conservation Coordinator

Kennedy/Jenks Consultants

Todd Engineers

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Appendix C

Comments on the Plan

No comments were received on the Public Draft Review during the public review period.

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Appendix D

Resolution of Adoption of the UWMP

(to be completed when Plan adopted – sample notices from 2000 UWMP attached)

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5. The President shall recommend to the Board of Directors additional procedures, rules, and regulations to carry out effective and equitable allocation of water resources.

ADOPTED at a regular meeting of the Sunnyslope County Water District Board of Directors on this 10th day of June 1999, by the following vote:

AYES: Nelson, Hailstone, R. Anderson, D. Anderson & Fitch.

NOES: None.

ABSENT: None.

ABSTAIN: None.

SUNNYSLOPE COUNTY WATER DISTRICT

Marchel Nelson, President

(SEAL)

ATTEST:

Bryan M. Yamaoka, Secretary

APPROVED AS TO FORM

Lloyd Lowrey, District Counsel

C:\My Documents\Resolutions\UWMP2000.doc

RESOLUTION No. 99-100

DUPLICATE OF ORIGINAL
ON FILE IN THE
OFFICE OF THE CITY CLERK
CITY OF HOLLISTER

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF HOLLISTER ADOPTING THE HOLLISTER AREA URBAN WATER MANAGEMENT PLAN 2000

WHEREAS the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act) during the 1983-1984 regular session, and as amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare an Urban Water Management Plan, the primary objective of which is to plan for the conservation and efficient use of water, and

WHEREAS the City of Hollister is an urban supplier of water, providing water to approximately 5,000 customers, and

WHEREAS the Plan shall be periodically reviewed, and the City shall make amendments or changes to its Plan which are indicated by the review, and

WHEREAS the City of Hollister in cooperation with The Sunnyslope County Water District and the San Benito County Water District has prepared and circulated for public review a draft Hollister Area Urban Water Management Plan 2000, and

WHEREAS the three public agencies properly noticed and held a public hearing regarding said draft Plan on April 26, 1999.

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF HOLLISTER as follows;

1. The Hollister Area Urban Water Management Plan 2000 is hereby adopted and filed with the City Clerk;
2. The City Manager is hereby authorized and directed to file the Hollister Area Urban Water Management Plan 2000 with the California Department of Water Resources and the California Urban Water Conservation Coalition;
3. The City Manager is hereby authorized and directed to implement the Water Conservation Program as set forth in the Hollister Area Urban Water Management Plan 2000, which includes recommendations to the City Council regarding procedures, rules, and regulations to carry out effective and efficient water conservation programs;
4. In a water shortage, the City Manager is hereby authorized to declare a Water Shortage Emergency and provide recommendations to the City Council according to the Water Shortage Stages and Triggers indicated in the Plan;

5. The City Manager shall recommend to the City Council additional procedures, rules, and regulations to carry out effective and equitable allocation of water resources.

PASSED AND ADOPTED THIS 21st day of June, 1999, by the following votes:

AYES: Councilmembers Valdivia, Felice, Duran, Corrales and Mayor Boomer.
NOES: None.
ABSENT: None.
ABSTAIN: None.

Richard K. Boomer, Mayor

ATTEST:

Frank D. Felice, City Clerk

APPROVED AS TO FORM:

Elaine M. Cass, City Attorney

RESOLUTION NO. 99-14

A RESOLUTION OF THE SAN BENITO COUNTY WATER DISTRICT APPROVING, WITH QUALIFICATIONS, THE HOLLISTER AREA URBAN WATER MANAGEMENT PLAN 2000

WHEREAS, the San Benito County Water District (District) has joined in a cooperative effort with the City of Hollister and the Sunnyslope County Water District in the preparation of an Urban Water Management Plan (UWMP) pursuant to Water Code §10620 of the California Water Code; and,

WHEREAS, the study area for the UWMP is the "Hollister Area" comprised of the Hollister East, Hollister West and Tres Pinos Sub-basins as defined in the District's Annual Groundwater Reports and the Groundwater Management Plan for the San Benito County Part of the Gilroy-Hollister Groundwater Basin and does not include the entire District Zone 6 service area; (the benefit area for the importation of Central Valley Project Water); and,

WHEREAS, one of the purposes of the UWMP is to identify and quantify existing and planned sources of available water and the reliability of the water supplies without creating any rights or entitlement to water service or a specific level of water service; and,

WHEREAS, neither the UWMP nor the statute mandating the adoption of the Plan encourages exclusive use of the UWMP by land use entitlement agencies in making water-related land use decisions; and,

WHEREAS, because water is a changing resource, the UWMP must be viewed as a snapshot of water availability and reliability based upon facts available at the time of creating the Plan; that water dynamics change because of forces of nature or human conduct and that, for the above reasons, the exclusive use of the UWMP as a resource tool for making land use decisions is discouraged; that land use entitlement requests must be reviewed on a project by project basis for the purpose of analyzing the availability and reliability of water resources for the project; and,

WHEREAS, current groundwater conditions (quality and quantity) and the distribution of artificial recharge, in-lieu recharge and the disposal of wastewater as described in the Groundwater Management Plan for the San

Benito County past of the Gilroy-Hollister Groundwater basin present major public policy issues which will impact the distribution and availability of water (quality and quantity) in Northern San Benito County including the Hollister Area UWMP study area; and,

WHEREAS, the District acknowledges its responsibility to take all necessary steps to address water supply emergency issues; and,

WHEREAS, the District is committed to water conservation and obligated to specific water conservation measures by virtue of the District water supply contract with United States Department of the Interior, Bureau of Reclamation.

NOW, THEREFORE, the Board of Directors of the San Benito County Water District hereby resolves as follows:

1. The Hollister Area Urban Water Management Plan 2000 (UWMP) dated April, 1999, is hereby adopted by the Board of Directors of the San Benito County Water District (District) and incorporated into this resolution by reference. A copy of the Plan is available for public review during normal business hours at the District Office located at 30 Mansfield Road, Hollister, California.

2. No later than sixty (60) days from June 23, 1999, the District shall deliver the UWMP together with this resolution to the Cities of Hollister, San Juan Bautista, and the County of San Benito.

3. The District Manager is directed to file the UWMP with the State Department of Water Resources no later than thirty (30) days after June 23, 1999.

4. The UWMP, as adopted by the District, is not intended as a tool to be used exclusively by land use planning agencies as a substitute for a comprehensive study and investigation of water availability, reliability, and quality for development projects and land use changes proposed in San Benito County or the Cities of Hollister and San Juan Bautista, for the reasons stated in the recitals to this resolution.

5. The District Manager is hereby directed to implement the Water Conservation programs as funded through the District's Annual Budgets including water shortage contingency analysis and recommendations to the

District Board regarding procedures to carry out effective water conservation and recycling programs in order to meet statutory and contractual obligations.

THE FOREGOING RESOLUTION was adopted at a regular meeting of the Board of Directors of the San Benito County Water District held on June 23, 1999, by the following vote:

AYES:	DIRECTORS:	Perry, Swanson, Tobias, Gonzales, Rupert
NOES:	DIRECTORS:	None
ABSENT:	DIRECTORS:	None

Kenneth Perry
President

ATTEST:

Janet L. Torres
Administrative Services Officer

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RESOLUTION 465
OF THE SUNNYSLOPE COUNTY WATER DISTRICT
ADOPTING THE HOLLISTER AREA URBAN WATER MANAGEMENT PLAN 2000

WHEREAS, the Board of Directors ("Board") of the Sunnyslope County Water District ("District") finds as follows:

WHEREAS, the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act) during the 1983-1984 Regular Session, and as amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare an Urban Water Management Plan, the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS, the District is an urban supplier of water providing water to over 4,822 customers, and

WHEREAS the Plan shall be periodically reviewed at least once every five years, and that the District shall make any amendments or changes to its plan which are indicated by the review; and

WHEREAS the Plan must be adopted by December 31, 1999, after public review and hearing, and filed with the California Department of Water Resources within thirty days of adoption; and

WHEREAS the District therefore, prepared and circulated for public review a draft Urban Water Management Plan, and a properly noticed public hearing regarding said Plan was held by the Board of Directors on April 26, 1999, and

WHEREAS the Sunnyslope County Water District did prepare and shall file said Plan with the California Department of Water Resources by December 1999;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Sunnyslope County Water District as follows;

1. The Hollister Area Urban Water Management Plan 2000 is hereby adopted and filed with the District Secretary;
2. The President is hereby authorized and directed to file the Hollister Area Urban Water Management Plan 2000 with the California Department of Water Resources within 30 days after this date;
3. The President is hereby authorized and directed to implement the Water Conservation Program as set forth in the Hollister Area Urban Water Management Plan 2000, which includes water shortage contingency analysis and recommendations to the Board of Directors regarding necessary procedures, rules, and regulations to carry out effective and equitable water conservation and water recycling programs;
4. In a water shortage, the President is hereby authorized to declare a Water Shortage Emergency according to the Water Shortage Stages and Triggers indicated in the Plan, and implemented necessary elements of the Plan;

RESOLUTION 507

SUNNYSLOPE COUNTY WATER DISTRICT
ADOPTION OF THE HOLLISTER AREA URBAN WATER MANAGEMENT PLAN 2008

WHEREAS, the Board of Directors ("Board") of the Sunnyslope County Water District ("District") finds as follows:

WHEREAS, the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act) during the 1983-1984 Regular Session, and as amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare an Urban Water Management Plan, the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS, the District is an urban supplier of water providing water to over 5,237 customers, and

WHEREAS, the Plan shall be periodically reviewed at least once every five years, and that the District shall make any amendments or changes to its plan which are indicated by the review; and

WHEREAS, the Plan must be adopted by December 18, 2008, after public review and hearing, and filed with the California Department of Water Resources within 30 days of adoption; and

WHEREAS, the District therefore, prepared and circulated for public review a draft Urban Water Management Plan, and a properly noticed public hearing regarding said Plan was held by the Board of Directors on December 18, 2008, and

WHEREAS, the Sunnyslope County Water District did prepare and shall file said Plan with the California Department of Water Resources by December 2008;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Sunnyslope County Water District as follows;

1. The Hollister Area Urban Water Management Plan 2008 is hereby adopted and filed with the District Secretary;

2. The President is hereby authorized and directed to file the Hollister Area Urban Water Management Plan 2008 with the California Department of Water Resources within 30 days after this date;

3. The President is hereby authorized and directed to implement the Water Conservation Program as set forth in the Hollister Area Urban Water Management Plan 2008, which includes water shortage contingency analysis and recommendations to the Board of Directors regarding necessary procedures, rules, and regulations to carry out effective and equitable water conservation and water recycling programs;

4. In a water shortage, the President is hereby authorized to declare a Water Shortage Emergency according to the Water Shortage Contingency Plan indicated in the Plan, and implemented necessary elements of the Plan;

5. The President shall recommend to the Board of Directors additional procedures, rules, and regulations to carry out effective and equitable allocation of water resources.

RESOLUTION 507

ADOPTED at a regular meeting of the Sunnyslope County Water District Board of Directors on this 18th day of December, by the following vote:

AYES: Directors Anderson, Hailstone, Nelson, Keck, and Meraz.

NOES: None.

ABSENT: None.

ABSTAIN: None.

SUNNYSLOPE COUNTY WATER DISTRICT

Dawn V Anderson
Dawn Anderson, President

ATTEST:
Cathy L. Buck
Cathy L. Buck, Secretary Pro Tem

APPROVED AS TO FORM

Lloyd W. Lowrey, Jr
Lloyd Lowrey, District Counsel

DUPLICATE OF ORIGINAL
ON FILE IN THE
OFFICE OF THE CITY CLERK
CITY OF HOLLISTER

RESOLUTION NO. 2008-180

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF HOLLISTER ADOPTING THE HOLLISTER AREA URBAN WATER MANAGEMENT PLAN 2008

WHEREAS, the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act) during the 1983-1984 Regular Session, and as amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare an Urban Water Management Plan ("the Plan") the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS, the City of Hollister ("the City") is an urban supplier of water, providing water more than 6,000 customers, and

WHEREAS, the Plan shall be periodically reviewed, and the City shall make amendments or changes to its Plan which are indicated by the review, and

WHEREAS, the City of Hollister in cooperation with the Sunnyslope County Water District and the San Benito County Water District has prepared and circulated for public review a draft Hollister Area Urban Water Management Plan 2008, and

WHEREAS, the three public agencies properly noticed and held a public hearing regarding said draft Plan on December 15, 2008,

NOW THEREFORE BE IT RESOLVED by the City of Council of the City of Hollister as follows;

1. The Hollister Area Urban Water Management Plan 2008 is hereby adopted and filed with the City Clerk;
2. The City Manager is hereby authorized and directed to file the Hollister Area Urban Water Management Plan 2008 with the California Department of Water Resources and the California Urban Water Conservation Coalition;
3. The City Manager is hereby authorized and directed to implement the Water Conservation Program as set forth in the Hollister Area Urban Water Management Plan 2008, which includes recommendations to the City Council regarding procedures, rules, and regulations to carry out effective and efficient water conservation programs;
4. In a water shortage, the City Manager is hereby authorized to declare a Water Shortage Emergency and provide recommendations to the City Council according to the Water Shortage Contingency Plan indicated in the Plan;

5. The City Manager shall recommend to the City Council additional procedures, rules, and regulations to carry out effective and equitable allocation of water resources.

PASSED AND ADOPTED this 15th day of December 2008, by the following vote:

AYES: Council Members Valdivia, Emerson, Gomez, Friend, and Mayor Sanchez.
NOES: None.
ABSENT: None.

Eugenia Sanchez, Mayor

ATTEST:

Geri Johnson, City Clerk

APPROVED AS TO FORM:

Stephanie Atigh, City Attorney

Appendix E

Excerpt 2000 Urban Water Management Plan

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Appendix E

Sustainable Yield for Hollister East,
Hollister West and Tres Pinos Subbasins

The amounts of groundwater pumping in the three subbasins during water year 1997 provide an estimate of groundwater yield that is adequate for general water resources planning purposes. The amounts of groundwater pumping for this water year were 7,600 AF in the Hollister East subbasin; 3,900 AF in the Hollister West subbasin; and 4,600 AF in the Tres Pinos subbasin. Total pumping for the three subbasins was 16,100 (Jones & Stokes, 1998a)

The following caveats and clarifications must be noted with respect to the estimate of safe, or sustainable yield:

- The subbasin water budgets provided in the annual groundwater reports are not perfectly balanced and were calculated without benefit of a groundwater model. The budgets contains some inaccuracies. However, the sustainable yield estimate is based entirely on historical pumping and groundwater levels, both of which are measured and are more accurate than most of the other items in the water budgets.

- The safe, or sustainable yield is not a fixed, intrinsic characteristic of the groundwater basin. It is strongly influenced by water resources management activities, such as active percolation of San Felipe and Hernandez Reservoir waters, recharge from deep percolation of San Felipe water applied for irrigation, and percolation of treated municipal wastewater -- all of which increase the yield of the groundwater basin. Thus, for example, shifting water use from San Felipe water to local groundwater could decrease the basin yield by decreasing the incidental recharge of San Felipe water. Curtailing any of the active recharge activities (see Appendix C) would obviously also decrease basin yield.

- Water year 1997 was not necessarily a "typical" year in terms of groundwater recharge or pumping. Combined pumping for the three subbasins was about 30% higher in the 1994 water year than in 1997 (Jones & Stokes, 1998a). In addition, rainfall was substantially below normal that year; however, water levels in the three subbasins generally held even or declined only slightly. Based on these observations, the amount of pumping in 1997 is probably a conservative estimate of yield. A general trend toward rising water levels in recent years and the expansion of the San Felipe distribution system in the Hollister West subbasins in 1996 also suggest that the sustainable yield may be greater than the amount of pumping in 1997.

- Pumping and recharge in adjoining subbasins can affect yield in the three subbasins of the Study Area because the subbasin boundaries are not complete barriers to groundwater flow.

Source: Memo Correspondence from Gus Yates, Jones & Stokes Associates, September, 1998

February 23, 1999

Ms. Katherine Oven
Schaaf & Wheeler Consulting Civil Engineers
100 N. Winchester Blvd., Suite 200
Santa Clara, CA 95050

SUBJECT: Estimated Usable Groundwater Storage in the Tres Pinos, Hollister East and Hollister West Subbasins

Dear Katherine,

Jones & Stokes Associates has estimated the amount of usable groundwater presently in storage in the Tres Pinos, Hollister East, and Hollister West subbasins to determine how many years the agricultural and municipal and industrial water users in the Hollister area could rely on this source in the event of a prolonged drought. The amount of groundwater in storage in northern San Benito County has increased substantially since the minimum storage level (around 1977 in most subbasins). This replenished water is available as a backup supply in case a prolonged drought results in drastically reduced deliveries of San Felipe water. The estimated annual water supply deficit that might occur during a hypothetical 3-year drought sometime during 2000-2010 is 8,000-13,000 af/yr.[1] Assuming that normal San Felipe deliveries and positive groundwater budgets are restored when the drought ends, groundwater pumping could be increased to cover the annual deficit. The resulting temporary depletion of groundwater storage would constitiute conjunctive use, not groundwater overdraft.

The amount of usable groundwater storage is assumed to equal the amount of storage between present groundwater levels and the record low levels, which occurred in 1977 in the Hollister East subbasin and in the early 1990s in the Tres Pinos and Hollister West subbasins. An empirical storage factor was first calculated for each subbasin by dividing the net change in storage by the net change in average water level over the past 3 years. The factor was then multiplied by the net change in average water level between the year of the record low water level and October 1998. The result is an estimate of the volume of groundwater presently in storage that could be used without resulting in groundwater levels below the lowest levels ever recorded. The storage changes and water-level changes were taken directly from hydrographs and water budget tables in the annual groundwater

[1] Per Schaaf & Wheeler calculations that assume projected water demands for the years 2000-2010, municipal use of San Felipe water beginning approximately in 2005, and drought cutbacks in San Felipe deliveries of 50% for M&I users and 75% for agricultural users.

JONES & STOKES ASSOCIATES, INC.
2600 V Street, Suite 100 • Sacramento, CA 95818-1914 • 916/737-3000 • Fax 916/737-3030
Internet http://www.jsanet.com • BBS 916/737-3036

reports for water years 1996-1998 and used to calculate the storage factor and present usable groundwater storage as shown in Table 1.

Table 1. Storage Factors and Present Usable Groundwater Storage

Subbasin	1996 - 1998			Record low - 1998	
	Net storage change (af)	Net water-level change (ft)	Storage factor (af/ft)	Net water-level change (ft)	Usable storage in 1998 (af)
Tres Pinos	794	20	300	40	12,200
Hollister East	16,921	15	1,130	75	84,600
Hollister West	18,855	40	470	50	23,500
TOTAL	36,570	n.a.	n.a.	n.a.	120,300

The amount of usable groundwater in storage at the end of water year 1998 was on the order of 120,000 af. If the groundwater budgets in the three subbasins remained in balance during a drought, the usable groundwater storage could cover the municipal supply deficit for 9-15 years. However, groundwater recharge would also decrease during a drought, creating a deficit groundwater budget that would also deplete the usable storage. Assuming rainfall recharge decreased to zero, percolation of natural streamflows decreased to half of the 1997-1998 rates, and all other groundwater budget terms remained at their 1997-1998 levels, an additional deficit of approximately 14,000 af/yr might occur. With a total deficit of 22,000 - 27,000 af/yr, the amount of usable groundwater storage in 1998 would remain available to meet the municipal supply deficit for 4-5 consecutive drought years.

Please call me at (916) 737-3000 if you have any questions regarding the assumptions or calculations used in this analysis.

Sincerely,

Gus Yates
Hydrologist

JONES & STOKES ASSOCIATES, INC.
2600 V Street, Suite 100 • Sacramento, CA 95818-1914 • 916/737-3000 • Fax 916/737-3030
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Appendix F

Agricultural to Urban Land Use Change Estimates Within Hollister Service Area

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Appendix F - Agricultural to Urban Land Use Change Estimates Within Hollister Service Area

In this analysis, the undeveloped lands within the boundary of City of Hollister planning area were delineated into different planning zones according to the anticipated time horizon of development. According to the general development plan, each planning zone was further delineated into sub-zones based on the projected land use. A proportion of the land within the Hollister Service Area[1] is zoned for agriculture. Some of these lands are irrigated while others are not. Based on information (spreadsheet and mark-up of aerial photo) provided by City of Hollister and San Benito County staff, an estimate was made of the total conversion that is likely to occur at build-out. By estimating a proportion of lands that are to convert from irrigated agriculture to urban land use, an estimate of the corresponding reduction in agricultural irrigation can be made. The specific methodology and assumptions made is as follows:

1. An aerial photo taken in November 1999 (attachment F-1) and spreadsheet database (attachment F-2) were provided by City of Hollister planning staff that was developed in conjunction with County planning staff. The spreadsheet had the following information:

- Category of parcel as follows
  - Lands within the City of Hollister LAFCO Sphere of Influence. This area included incorporated land as well as lands that could be annexed within the next five years after the moratorium is lifted.
  - Lands within and outside of the City of Hollister General Plan Planning Area.
  - There are four phases as designated by City of Hollister General Plan Map 6 Phasing Strategy. The City of Hollister General Plan includes a map that depicts a phasing strategy for requests to expand the LAFCO Sphere of Influence for Hollister. These phases (1, 2, 3, and 4) are included as a subset of the Planning Area.
    - Phase 1 as broken down by
      - Santa Ana
      - Park Hill
      - Union/Airline
    - Phase 2 (East of Fairview)
    - Phase 3 (Santa Ana Rural residential mostly)
    - Phase 4 (Buena Vista/west of Park Hill) excluding areas outside of the Hollister Service area but in General Plan Phase 4
- assessor's parcel number (APN),
- acreage for each parcel
- description of existing land-use activity (e.g. Row crop, Ag row, Dry farm, field, orchard, vacant, open, specific crop (apricot, walnut), fallow, house, grazing, vineyard etc.),
- Hollister General Plan (GP) land-use designation (e.g. Agriculture, Industrial, Ind/Air, Indus/OS, Indus/Pub, NorthGate, AP, LDR, HDR, MDR, N Gateway, Commerc, mixed use, RuralRes,

[1] Hollister Service Area - From 30 March 2005 Memorandum documenting meeting between SBCWD, SBC Planning, and City of Hollister. . Also makes mention of Urban Service Area. Accompanied by map entitled Hollister Service Area. "Member of the local agencies noted above met to define a reasonable boundary for area/s adjacent to the City of Hollister where both domestic water and wastewater services can be extended in the foreseeable future."

Appendix F - Agricultural to Urban Land Use Change Estimates Within Hollister Service Area

- whether a development project permit is pending or the City planning department action necessary to develop the project (e.g. Needannex, in city, no alloc, allocated, pend anx, infill annex, island annex, H/annex)
- water usage (groundwater or blue-valve CVP water),
- whether parcel is located within Hollister Planning Area, Hollister City Limits[2], or Hollister LAFCO Sphere of Influence

Approximately 5,900 acres of land in total is available for development within the Hollister Service Area as shown below and in the summary provided at the top of attachment F-2.

Category of Parcel	Acres
General w/in Sphere of Influence (1273 Ac) and COH (373 Ac)	1,646
Hollister Planning Area	
Phase 1 - Santa Ana/Park Hill/Union/Airline	550
Phase 2 - E of Fairview	851
Phase 3 - N. Santa Ana Rural Residential	331
Phase 4 - Buena Vista/W. of Park Hill	803
Other Lands	
General: Need Annex	618
General - outside SOI and Hollister PA	278
Outside Hollister General Plan PA	
General:South of Hollister	229
Phase 2:East of Fairview	686
Subtotal	6,024
Minus Phase 4 NOT in Hollister Service Area	-347.95
South of Hollister from Attach F-1	294.18
Total Lands available for development within Hollister Service Area	**5,971**

2. Based on the information in the description of existing land-use activity, the parcels were categorized into agricultural vs. non-agricultural and whether they were irrigated or not.

Land-Use Type	**Acres**
Agricultural - irrigated	3,589
Agricultural - non-irrigated	2,031
Non-agricultural	209
Total	5,828[1]

[1] This total acreage is slightly less than the total lands available for development of 5,971 acres in the previous table because of data discrepancies within the spreadsheet provided by the City.

[2] Hollister City Limits - From 2005 General Plan – "The Hollister city limits encompass incorporated territory that the City serves and regulates." The City limits are within the SOI based on Map 1 of the General Plan.

Appendix F - Agricultural to Urban Land Use Change Estimates Within Hollister Service Area

3. Based on discussions with City of Hollister planning and engineering staff and with San Benito County Planning staff, estimated timing for development for each parcel was assigned as shown on attachment F-2, 3rd column from the left. Basic assumptions on timing of development were made as follows:

a. Until the lifting of the wastewater discharge moratorium in the City of Hollister, there will be very little increase in water demand since the development will occur only on those parcels that were approved prior to the moratorium. The moratorium is expected to be lifted in April 2008 when the construction of the wastewater treatment plant is planned to be complete. There will be some pent up demand for development which is likely to be complete by 2015.

b. Development is expected to occur:

   1. On lands identified as alloc, no alloc, infill annex, in city, and pend annex in the first 5 years from 2005-2010,

   2. On lands identified as island annex and Phase 1 and Phase 2 East of Fairview (including lands outside of the Hollister General Plan Planning Area) in the 10 year horizon from 2010-2015

   3. On lands identified as need annex in the 15 year horizon from 2015-2020

   4. On lands identified as Phase 3 in the 20 year horizon from 2020-2025

   5. On lands identified as Phase 4 in the 25 year horizon from 2025-2030

For each 5-year planning increment, the distribution of acreages of parcels within the categories of agricultural, non-agricultural, irrigated, non-irrigated was made as shown in the table below. Then, the percentage of irrigated agricultural land as a percentage of all lands was made for each 5 year increment as shown in the far right column. Due to slight discrepancies in the data, the total acreages for irrigated and non-irrigated lands to be converted were normalized to match the acreages shown above in the second table. The overall acreage discrepancy totaled approximately 200 acres, representing about 3.5% of total lands slated for agricultural to urban conversion. This was believed to be within tolerance for the planning purposes of this UWMP.

Estimated Timing of Development (years in the future)	**Ag (acres)**			**Non-Ag (acres)**	**Sum Ag & Non-Ag (acres)**	**Irrigated Ag as % of Total**
5	Irrigated	475	966	53	1019	47%
	Non-Irrigated	491				
10	Irrigated	900	2107	3	2110	43%
	Non-Irrigated	1207				
15	Irrigated	1457	1721	142	1863	78%
	Non-Irrigated	264				
20	Irrigated	269	328	4	333	81%
	Non-Irrigated	60				
25	Irrigated	488	497	7	503	97%

Appendix F - Agricultural to Urban Land Use Change Estimates Within Hollister Service Area

Estimated Timing of Development (years in the future)	Ag (acres)			Non-Ag (acres)	Sum Ag & Non-Ag (acres)	Irrigated Ag as % of Total
	Non-Irrigated	9				
Total	**Irrigated**	**3589**	**5619**	**209**	**5828**	62%
	Non-Irrigated	**2031**				

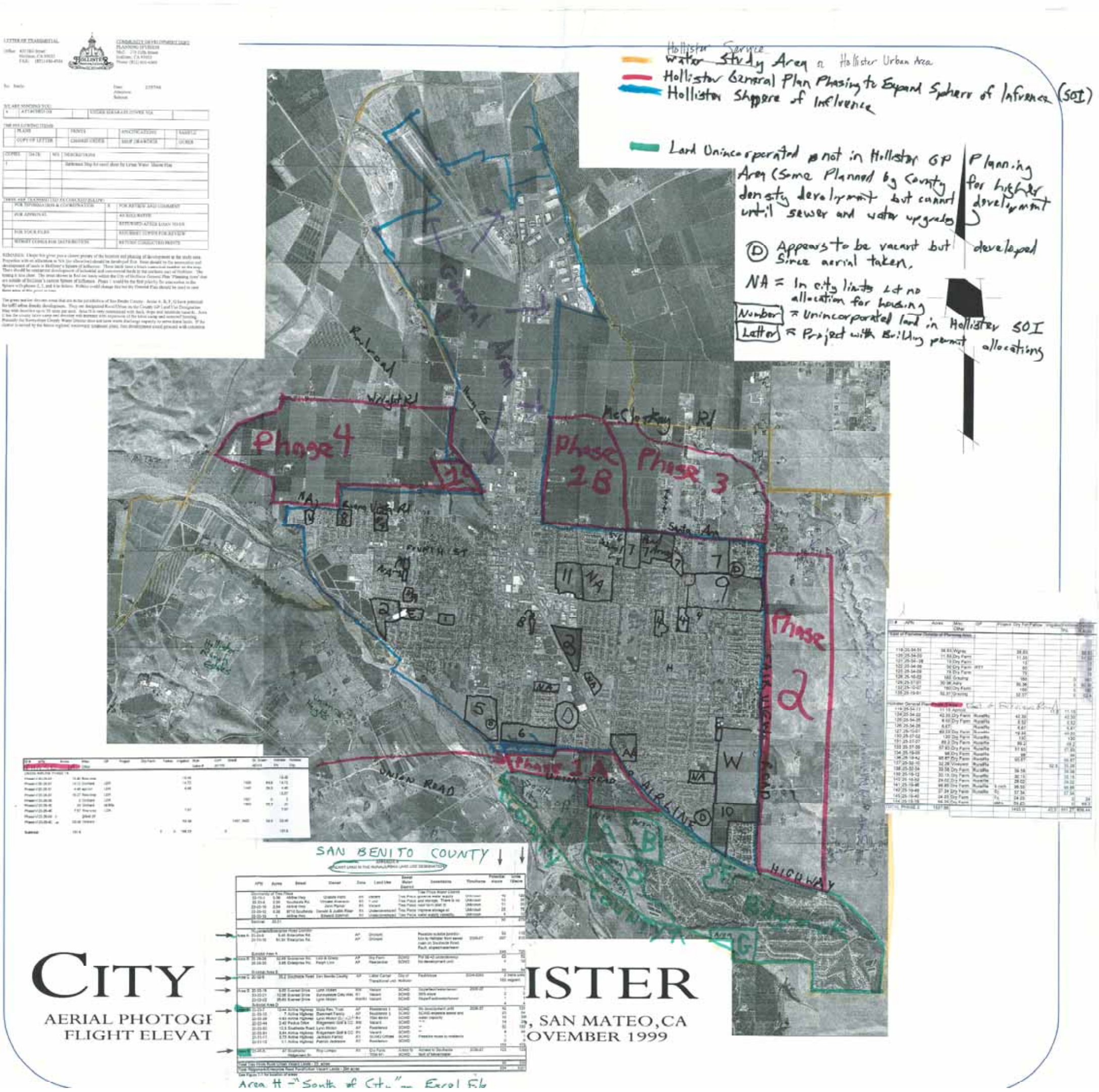
4. Current agricultural land water deliveries are based on the 2004 Annual Groundwater Reports and were assumed to decrease over the planning period in a proportion commensurate to the conversion of agricultural to urban lands. The total acreage for converted irrigated agricultural lands in each five year period was determined. According to data provided by the City, irrigated agricultural lands on average utilize approximately two acre feet per year of water per acre of irrigated land (confirmed by irrigation data provided by City). Therefore, this approximation was used to estimate reductions in agricultural water demands proportional to the converted irrigated acreage in each five year period. This demand reduction is subtracted from overall agricultural demand, thereby reducing agricultural demand from its current value of 12,761 AFY to slightly less than half this value in 2030. This is detailed in the table below and is summarized in Table 4-9 of the 2005 UWMP Update

Water Demands	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**
M&I for City[3] from service connection approach	6,174	6,880	7,752	8,624	9,445	10,265
M&I for Sunnyslope's unincorporated areas from service connection approach	1,261	1,330	1,399	1,472	1,544	1,621
M&I for County's unincorporated areas from service connection approach	1,632	1,715	1,803	1,895	1,991	2,093
Subtotal M&I only (AFY)	9,067	9,925	10,954	11,991	12,980	13,979
Converted irrigated ag lands (acres)		475	900	1457	269	488
AF saved from irrigated ag conversion (2AFY/acre)		949	1,801	2,915	537	975
Subtotal Ag demand (AFY)	12,761*	11,812	10,011	7,096	6,559	5,583
Total M&I and Ag Demand (AFY)	**21,828**	**21,737**	**20,961**	**19,078**	**19,521**	**19,534**

* From 2004 Annual Groundwater Report

[3] City of Hollister Water Service Area - From Hollister Service Area map, City of Hollister Water Service Area is same as Hollister City Limits to the north, west,, and south and abuts the Sunnyslope County Water District boundary to the east.

Attachment F-1 - November 1999 Aerial Photo



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Orig #	Category	Est timing	ID #	APN	Acres	Misc.	GP	Project	Dry Farm	Fallow	Irrigated	Blue	CVP	Well#	Gr. Water	Hollister	Hollister	Hollister	**Outside**			**Acreage in 5 year horizon**	**Acreage in 10 year horizon**	**Acreage in 15 year horizon**	**Acreage in 20 year horizon**	**Acreage in 25 year horizon**	Subtotal		
1						Other						Valve #	AF/YR		AF/YR	PA	City	SOI	**Hollister PA**	TOTAL	% Irrigated						by Phase		
2			General as revised		2305.356				227.776	374.21	1495.82		870.6		666.3	278.03	372.99	1272.866	229.59	2153.48	0.71304	787.07	151.52	1366.766	0	0	2305.356		
3			Phase 1		550.368				0	21.5	633.23		458		89.8	488.43	0	62	0	550.43	0.96716	0	550.368	0	0	0	550.368		
4			Phase 2		1537.66				1200.48	0	226.19		77.2		0	851.27	0	0	686.44	1537.71	0.15854	0	1537.66	0	0	0	1537.66	1537=851+686	
5			Phase 3		330.987				58.9	17.23	322.827		256.7		113.9	330.987	0	0	0	330.987	0.80918	0	0	0	330.987	0	330.987		
6			Phase 4 (all)		833.34				10	0	796		0		488	744.32	0	89	0	833.32	0.98759	0	0	0	0	485.37	485.37	486=833-347.95	
			Other PA Lands w/o Phases		618.42				0	120.44	462.76		562.5		0	618.42	0	0	0	618.42	0.79348	28.1	0	590.32	0	0	618.42		
7			TOTAL		6176.131				1497.156	533.38	3936.827		2225		1358	3311.457	372.99	1423.866	916.03	6024.34	0.65973	815.17	2239.548	1957.086	330.987	485.37	5828.161		
8			Minus Ph 4 NOT in Holl. Service Area		-347.97				0	0	-347.97		0		-267	-347.95	0	0	0	-347.95							347.97	Total=5828+348=	6176.131
8a			Plus General - Areas A-G South of City fr Attach F-1		294.18								**moved whole row**														294.18		
8b			Total Lands available for Development within Hollister Service Area=		6122.341	acres					5967.363		**moved numbers to different column**														6122.341	=294+4828	
9			**City of Hollister LAFCO Sphere of Influence**																										
10																	5												
11	G	15	1	14-08-08	**48**	Row	Agriculture	NeedAnnex			48			1184	76.9							0	0	48	0	0			
12	G	15	3	14-09-24	42.46	quarry	Industrial	NeedAnnex										42.46				0	0	42.46	0	0			
13	G	15	8	14-09-27	68.04	Rowcrop		NeedAnnex			68.04			1200	108.2			68.04				0	0	68.04	0	0			
14	G	15	4	14-09-39	78.56	Rowcrop	Ind/Air	NeedAnnex			78.56			1201	3.5			78.56				0	0	78.56	0	0			
15	G	15	7	14-09-42	99.45	Rowcrop		NeedAnnex			99.45							99.45				0	0	99.45	0	0			
18	G	15	5	14-09-51	**127.33**	Rowcrop	Ind/Air	NeedAnnex								**107.33**		20				0	0	127.33	0	0			
19	G	15	10	14-09-53	37.93	Rowcrop		NeedAnnex			37.93							37.93				0	0	37.93	0	0			
20	G	15	9	14-09-54	40	Rowcrop		NeedAnnex			40							40				0	0	40	0	0			
23	G	15	14	14-12-15	98.32	Rowcrop	Industrial	NeedAnnex			98.32	9998	236.2	1215	2.7	78.32		20				0	0	98.32	0	0			
24	G	15	26	14-12-18	6.5		None	NeedAnnex				1658	4.6			6.5						0	0	6.5	0	0			
25	G	15	12	14-12-57	33	Field	Industrial	NeedAnnex	33							33						0	0	33	0	0			
27	G	15	82	18-11-31	38.51	Row crop	AP	NeedAnnex			38.51											0	0	38.51	0	0			
28	G	15	83	18-11-32	18.6	Row crop	AP	NeedAnnex			18.6											0	0	18.6	0	0			
29	G	15	34	19-01-05	25.856	Dry Farm	Industrial	NeedAnnex	25.856									25.856				0	0	25.856	0	0			
30	G	15	35	19-01-10	13.73	Row crop	Industrial	NeedAnnex			13.73							13.73				0	0	13.73	0	0			
31	G	15	32	19-02-08	20	Ag row	Industrial	NeedAnnex			20							20				0	0	20	0	0			
32	G	15	31	19-02-15	24	Orchard	Industrial	NeedAnnex			24			1346	23.5			24				0	0	24	0	0			
33	G	15	21	19-03-03	25.88	LCA row	Industrial	NeedAnnex			25.88	1356	44.5	1725	25.7			25.88				0	0	25.88	0	0			
34	G	15	22	19-03-04	22.91	Ag row	Industrial	NeedAnnex			22.91	1330	1.1					22.91				0	0	22.91	0	0			
36	G	15	24	19-05-05	86.48	Ag row	Industrial	NeedAnnex			86.48	1027	204.9	1357	42.1	24.48	24.48	52				0	0	86.48	0	0			
37	G	15	27	19-05-07	10	Ag row	Indus/Pub	NeedAnnex			10	1342	3.8			10						0	0	10	0	0			
38	G	15	28	19-05-08	10	Ag row	Industrial	NeedAnnex			10					10						0	0	10	0	0			
41	G	15	37	19-09-03	5	Apricot	Industrial	NeedAnnex			5	1482	34.8					5				0	0	5	0	0			
42	G	15	42	19-09-10	19.06	Ag row	North Gate	NeedAnnex			19.06	1670	66.9	13,501,351	0			19.06				0	0	19.06	0	0			
43	G	15	43	19-09-15	17.9	WAG row	North Gate	NeedAnnex			17.9	1636, 1262	41.8					17				0	0	17.9	0	0			
44	G	15	38	19-09-24	16.74	Ag row	Industrial	NeedAnnex			16.74			1355	325.2			16.74				0	0	16.74	0	0			
45	G	15	39	19-09-25	13.01	Ag row	North Gate	NeedAnnex			13.01							13.01				0	0	13.01	0	0			
46	G	15	40	19-09-26	14.41	Ag row	North Gate	NeedAnnex			14.41							14.41				0	0	14.41	0	0			
47	G	15	41	19-09-38	20.5	Ag row	North Gate	NeedAnnex			20.5	1396	48.9					20.5				0	0	20.5	0	0			
48	G	15	58( )	19-12-13	15	Ag row	LDR HDRin	NeedAnnex			15							15				0	0	15	0	0			
49	G	15	45	19-13-02	15.24	W row	North Gate	NeedAnnex			15.24	1984	35.2					15.24				0	0	15.24	0	0			
52	G	15	49	19-13-21	38.38		Ngate/HD	NeedAnnex			38.38	1130	91.6			8.4		30				0	0	38.38	0	0			
53	G	15	90	19-13-24	26.92	Open	HDRes	NeedAnnex		26.92								26.92				0	0	26.92	0	0			
56	G	5	23	51-11-11	10.9	Ag row	N Gatewy	In city			10.9						10.9					10.9	0	0	0	0			
57	G	5	15	51-12-44	5	vacant	Industrial	In city		5							5					5	0	0	0	0			
58	G	5	16	51-12-45	4.99	vacant	Industrial	In city		4.99							4.99					4.99	0	0	0	0			
59	G	5	18	51-13-01	13.36	As - row	Industrial	In city			13.36						13.36					13.36	0	0	0	0			
60	G	5	19	51-13-02	10.37	As - trex	Industrial	In city			10.37						10.37					10.37	0	0	0	0			
61	G	5	20	51-13-03	10.37	???Ag??	Industrial	In city			10.37						10.37					10.37	0	0	0	0			
62	G	5	44	53-35-05	12.92	Ag row	North Gate	In city			12.92							12.92				12.92	0	0	0	0			
63	G	5	33	53-36-11	32.31	Cherry Or	Industrial	In city			32.31			1348	58.5			32.31				32.31	0	0	0	0			
64	G	5	36	53-36-29	5.5	SV trail	Industrial	In city		5.55							5.55					5.5	0	0	0	0			
65	G	5	89	53-37-02	22.47	A000	HDRes	No Alloca		22.47								22.47				22.47	0	0	0	0			
66	G	5	46	53-38-04	17.22	Ag row	North Gate	In city			17.22							17.22				17.22	0	0	0	0			
90	GL	10	Study SOI	52-23-2	9	Orchard					9						9					0	9	0	0	0			
91	GL	10		52-32-1	5	Orchard					5						5					0	5	0	0	0			
92	GL	10		52-32-7	4.27	Orchard					4.27						4.27					0	4.27	0	0	0			
93	GL	5		52-30--01	4.82	Fallow	MixedUse	No. alloc		4.82							4.82					4.82	0	0	0	0			
94	GL	10		52-28-1	4.12	Fallow	LDR			4.12							4.12					0	4.12	0	0	0			
95	GL	5		54-35-31	45.5	Fallow	MDR	No alloc.		45.5							45.5					45.5	0	0	0	0			
96	GL	5	B	56-29-1	3.1	Fallow	HDR	Allocated		3.1							3.1					3.1	0	0	0	0			
97	GL	5		57--7-55	7.34			No alloc.		7.3							7.3					7.34	0	0	0	0			
98	GL	5		57-15-15	3.67			Allocated		3.67							3.67					3.67	0	0	0	0			
99	GL	5		57-15-16	0.22			Allocated		0.22							0.22					0.22	0	0	0	0			
100	GL	5		57-15-18	2.8			Allocated		2.8							2.8					2.8	0	0	0	0			
101	GL	5		57-15-19	0.8			Allocated		0.8							0.8					0.8	0	0	0	0			
102	GL	5		57-15-20	0.4			Allocated		0.4							0.4					0.4	0	0	0	0			
103	GL	5		57-23-13	8.5			No alloc.		8.5							8.5					8.5	0	0	0	0			
104	GL	5		57-37-16	12.95			No alloc.		12.95							12.95					12.95	0	0	0	0			
105	GL	5	I	57-38-2	3			Allocated		3							3					3	0	0	0	0			
106	GL	5		57-38-4	0.54			Allocated		0.54							0.54					0.54	0	0	0	0			
107	GL	5		57-38-6	0.27			Allocated		0.27							0.27					0.27	0	0	0	0			
108	GL	5		57-38-8	1.86			Allocated		1.86							1.86					1.86	0	0	0	0			
109	GL	5		58-06-01	5			Allocated		5							5					5	0	0	0	0			
110	GL	5		58-06-10	1.95			Allocated		1.95							1.95					1.95	0	0	0	0			

Orig #	Category	Est timing	ID #	APN	Acres	Misc.	GP	Project	Dry Farm	Fallow	Irrigated	Blue	CVP	Well#	Gr. Water	Hollister	Hollister	Hollister	**Outside**										
1						Other						Valve #	AF/YR		AF/YR	PA	City	SOI	**Hollister PA**	TOTAL	% Irrigated	**Acreage in 5 year horizon**	**Acreage in 10 year horizon**	**Acreage in 15 year horizon**	**Acreage in 20 year horizon**	**Acreage in 25 year horizon**	Subtotal by Phase		
111	GL	5	E	58-05-42	7	Field		Allocated		7							7					7	0	0	0	0			
112	GL	5	E	58-05-43	3.45	Field		Allocated		3.45							3.45					3.45	0	0	0	0			
113	GL	5	E	58-05-44	0.44	Field		Allocated		0.44							0.44					0.44	0	0	0	0			
114	GL	5	H	Las Brisas	3	Vacant lots		Allocated		3												3	0	0	0	0			
115	GL	10		19-12-34	4.84	house			4.84									4.84				0	4.84	0	0	0			
116	GL	5		19-13-15	11.33	cemetary		N/A										11.33				11.33	0	0	0	0			
117	GL	10		19-13-20	5	Apricot					5							5				0	5	0	0	0			
118	GL	5		19-16-8	1.3	SalvatnArm		N/A										1.3				1.3	0	0	0	0			
119	GL	5		19-17-22	11	Church		N/A										11				11	0	0	0	0			
120	GL	5	8	19-25-1	11.5	Apricot		Infill Annex			11.5							11.5				11.5	0	0	0	0			
121	GL	15	7	19-31-9	20	walnut		Need Annex			20											0	0	20	0	0			
122	GL	5	7	19-31-02	23.51			Infill Annex			**23.51**							23.51				23.51	0	0	0	0			
123	GL	10	7	19-31-36	5	house		H/Annex		5								5				0	5	0	0	0			
124	GL	10	7	19-31-37	3.85	house		H/Annex		3.85								3.85				0	3.85	0	0	0			
125	GL	15	7	19-31-52	11.82	trees		Need Annex			11.82							11.8				0	0	11.82	0	0			
126	GL	5	7	19-31-59	22			Pend Anx			22							22				22	0	0	0	0			
127	GL	5	7	19-31-60	14.36			Pend Anx			14.36							14.36				14.36	0	0	0	0			
128	GL	15	7	19-37-8	4.9	vacant		Need Annex		4.9								14.36				0	0	4.9	0	0			
129	GL	5	11	20-2--2	22	Fallow	Commerc.	Pend Anx		22												22	0	0	0	0			
130	GL	5	11	20-3-1	9	Fallow	Commerc.	Pend Anx		9												9	0	0	0	0			
131	GL	5	11	20-3-2	5	walnut	HDR	Pend Anx			5											5	0	0	0	0			
132	GL	15	9	20-04-14	2	house		Need Annex		2								4.9				0	0	2	0	0			
133	GL	15	9	20-04-28	13	dry		Need Annex	13									2				0	0	13	0	0			
134	GL	15	9	20-04-30	5	houses		Need Annex		5								13				0	0	5	0	0			
135	GL	15	9	20-04-56	19	dry		Need Annex	19									5				0	0	19	0	0			
136	GL	15	9	20-04-57	11.8	dry		Need Annex	12									19				0	0	11.8	0	0			
137	GL	15	9	25-35-10	14	trees		Need Annex			14							12				0	0	14	0	0			
138	GL	15	9	25-35-33	8	trees		Need Annex			8							14				0	0	8	0	0			
139	GL	15	9	25-35-53	3.5	house		Need Annex	3.5									8				0	0	3.5	0	0			
140	GL	10	2	20-6-11	22.38			Island Ann			22.38											0	22.38	0	0	0			
141	GL	10	1	20-08-5	0.25		LDR	Island Ann		0.25								0.25				0	0.25	0	0	0			
142	GL	10	1	20-08-7	0.33		LDR	Island Ann		0.33								0.33				0	0.33	0	0	0			
143	GL	10	1	20-08-13	0.14		LDR	Island Ann		0.14								0.14				0	0.14	0	0	0			
144	GL	10	1	20-08-21	0.24		LDR	Island Ann		0.24								0.24				0	0.24	0	0	0			
145	GL	10	1	20-08-22	7.25		LDR	Island Ann		7.25								7.25				0	7.25	0	0	0			
146	GL	10	3	20-10-8	30.44	Orchard	Commerc.	Island Ann			30.44							30.44				0	30.44	0	0	0			
147	GL	10	4	20-12-7	10	field vac.		Island Ann		10								10				0	10	0	0	0			
148	GL	15	4	20-12-114	4.8	field vac.		Need Annex		4.8								4.8				0	0	4.8	0	0			
149	GL	15	4	20-12-127	3.65	field vac.		Need Annex		3.65								3.65				0	0	3.65	0	0			
150	GL	15	4	20-12-142	1	field vac.		Need Annex		1								1				0	0	1	0	0			
151	GL	10	4	20-12-143	3.8	field vac.		99-1		3.8								3.8				0	3.8	0	0	0			
152	GL	10		20-16-14		river		Granite										27.88				0	0	0	0	0			
153	GL	10		20-16-15		river		Granite										24.46				0	0	0	0	0			
154	GL	15	5	20-17-14	13.3	rowcrop		Need Annex			13.3											0	0	13.3	0	0			
155	GL	10	5	20-17-17	22.95	Orchard		Island Ann			22.95											0	22.95	0	0	0			
156	GL	10	5	20-17-37	**4.22**	trees		Island Ann		4.22								4.22				0	4.22	0	0	0			
157	GL	10	5	20-17-38	**4.22**	trees		Island Ann		4.76								4.76				0	4.22	0	0	0			
158	GL	10	5	20-17-39	**4.22**	trees		Island Ann		4.22								10				0	4.22	0	0	0			
159	GL	5	6	20-19-8	11	dry		No alloc.	11								11					11	0	0	0	0			
160	GL	5	6	20-19-9	11.25	dry		No alloc.	11.22								11.22					11.25	0	0	0	0			
161	GL	5	AA	20-22-18	1.7	house		H/infill		1.7												1.7	0	0	0	0			
162	GL	5	AA	20-22-19	0.47	vacant		Allocated		0.47												0.47	0	0	0	0			
163	GL	5	AA	20-22-21	1.21	vacant		Allocated		1.21												1.21	0	0	0	0			
164	GL	5	AA	20-22-23	2.09	vacant		Allocated		2.09												2.09	0	0	0	0			
165	GL	5	AA	20-22-25	3.62	vacant		Allocated		3.62												3.62	0	0	0	0			
166	GL	5	AA	20-29-34	4.97	vacant		Allocated														4.97	0	0	0	0			
167	GL	5	AA	20-29-36	1.01	vacant		Allocated														1.01	0	0	0	0			
168	GL	5	AA	20-29-37	2.38	vacant		Allocated														2.38	0	0	0	0			
169	GL	5	W	20-27-41	15.7			Allocated	15.7								15.7					15.7	0	0	0	0			
170	GL	5	W	20-31-6	27.66			Allocated		27.66							27.66					27.66	0	0	0	0			
171	GL	5	W	20-31-7	27.07			Allocated		27.07							27.07					27.07	0	0	0	0			
172	GL	5	W	20-31-8	28.36			Allocated		28.36							28.36					28.36	0	0	0	0			
173	GL	15	10	20-31-9	53.28	rowcrop		Need Annex			53.28							53.28				0	0	53.28	0	0			
174	GL	5	W	20-31-13	6			Allocated	6								6					6	0	0	0	0			
175	GL	5	W	20-31-15	20			Allocated	20								20					20	0	0	0	0			
69			Subtotal		2075.796				175.116	374.21	1318.91		814.3		666.3	278.03	372.99	1272.866				0	0	0	0	0			
70			Subtotal as provided by City		1774.726																	0	0	0	0	0			
71																						0	0	0	0	0			
72																						0	0	0	0	0			
73																						0	0	0	0	0			
74			ID #	APN	Acres	Misc.	GP	Project	Dry Farm	Fallow	Irrigated	Blue	CVP	Well#	Gr. Water	Hollister	Hollister	Hollister	**Outside**			0	0	0	0	0			
75						Other						Valve #	AF/YR		AF/YR	PA	City	SOI	**Hollister PA**			0	0	0	0	0			
76			**Outside Hollister Planning Area**																			0	0	0	0	0			
77	GS	5		20-28-22	12.58	Orchard					12.58								12.6			12.58	0	0	0	0			
78	GS	5	spilt	20-28-38	15.34	Orchard					15.34	1621	0						15.34			15.34	0	0	0	0			
79	GS	5	split	20-28-40	15	Orchard					15	1439	56.3						15			15	0	0	0	0			
80	GS	5		20-28-41	28.69	Or/Field					28.7								28.7			28.69	0	0	0	0			
83	GS	5		20-28-49	19.64	Row crop					19.64								19.64			19.64	0	0	0	0			
84	GS	5		20-29-29	52.66	Dry Farm			52.66										52.66			52.66	0	0	0	0			

Orig #	Category	Est timing	ID #	APN	Acres	Misc.	GP	Project	Dry Farm	Fallow	Irrigated	Blue	CVP	Well#	Gr. Water	Hollister	Hollister	Hollister	**Outside**			Acreage in 5	Acreage in 10	Acreage in 15	Acreage in 20	Acreage in 25	Subtotal		
1						Other						Valve #	AF/YR		AF/YR	PA	City	SOI	**Hollister PA**	TOTAL	% Irrigated	year horizon	year horizon	year horizon	year horizon	year horizon	by Phase		
85	GS	5		20-29-31	27.41	Apricot					27.41								27.41			27.41	0	0	0	0			
86	GS	5		20-29-44	58.24	Orchard					58.24								58.24			58.24	0	0	0	0			
87			Subtotal South		229.56				52.66	0	176.91	3060	56.3	0	0	0	0	0	229.59			0	0	0	0	0			
178																						0	0	0	0	0			
179			**City of Hollister LAFCO Sphere of Influence**		2075.796				175.116	374.21	1318.91		814.3		666.3	278.03	372.99	1272.866	0			0	0	0	0	0			
180			**Outside Hollister Planning Area**		229.56				52.66	0	176.91		56.3	0	0	0	0	0	229.59			0	0	0	0	0	TOTAL		
182			**TOTAL GENERAL**		2305.356				227.776	374.21	1495.82		870.6	0	666.3	278.03	372.99	1272.866	229.59			787.07	151.52	1366.766	0	0	2305.356		
																			2153.476										
197			ID #	APN	Acres	Misc.	GP	Project	Dry Farm	Fallow	Irrigated	Blue	CVP	Well#	Gr. Water	Hollister	Hollister	Hollister	**Outside**			0	0	0	0	0			
198						Other						Valve #	AF/YR		AF/YR	PA	City	SOI	**Hollister PA**			0	0	0	0	0			
199			**PHASE 1**																			0	0	0	0	0			
200	1b		Phase 1B	Santa Ana Area																		0	0	0	0	0			
201	1b	10	Phase 1B	19-17-02	19.77	Row crop	North Gate				19.77	1281	2			19.77						0	19.77	0	0	0			
202	1b	10	98	19-17-03	19.77	Row crop	LDR				19.77	1779	10.8			19.77						0	19.77	0	0	0			
203	1b	10	100	19-17-78	19.28	Row crop	North Gate				19.28	1978	1.6			19.28						0	19.28	0	0	0			
204	1b	10	100a	19-17-79	9.66	Row crop	North Gate				9.66	3287	2.9			9.66						0	9.66	0	0	0			
205	1b	10	101	19-17-82	21.76	Row crop	North Gate				21.76	1808	50.8	1377	0			21.8				0	21.76	0	0	0			
206	1b	10	113	19-21-04	25	Ag row	LDR				25					25						0	25	0	0	0			
207	1b	10	114	19-21-06	32.091	Wrowcrop	LDR				32.01	1242	49.8			32.01						0	32.091	0	0	0			
208	1b	10	115a	19-21-07	40	Ag row	Rrres				40	1158	122.9			40						0	40	0	0	0			
209	1b	10	115	19-21-08	27.227	Ag row	LDR				27.27	1784	14.9	1373	36.6	27.27						0	27.227	0	0	0			
210	1b	10	105B	19-21-14	55.4	Ag row	Rrres				**129.79**	1096, 1226	170.2	93-235	1374, 1627	55.4						0	55.4	0	0	0			
211	1b	10		19-33-03	14.11	Orchard	LDR				14.11			1375	0			14.11				0	14.11	0	0	0			
212	1b	10	103	19-33-05	14.06	WnRow	North Gate				14.06			1376	96.2			14.06				0	14.06	0	0	0			
213	1b	10		19-33-09		trucking																0	0	0	0	0			
214	1b	10	102	19-33-10	5.39	Row crop	North Gate				5.39							5.39				0	5.39	0	0	0			
215	1b	10		19-34-02	5	vacant	LRR			5				1382	0			5				0	5	0	0	0			
216	1b	10		19-34-05	1.49	vacant	HDR	Infill Annex		1.49								1.49				0	1.49	0	0	0			
217	1b	10	97	19-35-01	10.31	Row crop	LDR				10.31	1378	16.4			10.31						0	10.31	0	0	0			
218	1b	10	96	19-35-02	15	Row crop	LDR				15	1630	11.9			15						0	15	0	0	0			
219	1b	10	95	19-35-03	23.91	Row crop	LDR				23.91	1,557	4	1379	25.4	23.91						0	23.91	0	0	0			
220	1b	10	94	19-35-04	7.43	walnuts	LDR				7.43	1585	0	1381	0	7.43						0	7.43	0	0	0			
221	1b	10	91	19-35-06	5	Row crop	LDR				5			1380	31.1	5						0	5	0	0	0			
222	1b	10	93	19-35-09	4.91	Row crop	LDR				4.91					4.91						0	4.91	0	0	0			
223	1b	10	92	19-35-10	4.91	Row crop	LDR				4.91					4.91						0	4.91	0	0	0			
224																						0	0	0	0	0			
225			**Subtotal**		381.478					6.49	449.34		458.2		189.3	319.63		61.85				0	0	0	0	0			
226			Santa Ana Phase 1B																			0	0	0	0	0			
227																						0	0	0	0	0			
228			ID #	APN	Acres	Misc.	GP	Project	Dry Farm	Fallow	Irrigated	Blue	CVP	Well#	Gr. Water	Hollister	Hollister	Hollister	**Outside**			0	0	0	0	0			
229						Other						Valve #	AF/YR		AF/YR	PA	City	SOI	**Hollister PA**			0	0	0	0	0			
230			**PHASE 1C - Park Hill**																			0	0	0	0	0			
231	1c	10	51	19-13-12	31.09	Agtregrz	HDR			15	15					31	0	0				0	31.09	0	0	0			
232																						0	0	0	0	0			
233																						0	0	0	0	0			
234			ID #	APN	Acres	Misc.	GP	Project	Dry Farm	Fallow	Irrigated	Blue	CVP	Well#	Gr. Water	Hollister	Hollister	Hollister	**Outside**			0	0	0	0	0			
235						Other						Valve #	AF/YR		AF/YR	PA	City	SOI	**Hollister PA**			0	0	0	0	0			
236			UNION /AIRLINE PHASE 1A																			0	0	0	0	0			
237	1a	10	Phase1A	20-28-02	19.49	Row crop					19.49					19.49						0	19.49	0	0	0			
238	1a	10	Phase1A	20-28-07	14.72	Orchard	LDR				14.72			1435	64.9	14.72						0	14.72	0	0	0			
239	1a	10	Phase1A	20-28-31	4.46	apricot	LDR				4.46			1440	39.3	4.46						0	4.46	0	0	0			
240	1a	10	Phase1A	20-28-37	16.07	Row crop	LDR				16.12					16.07						0	16.07	0	0	0			
241	1a	10	Phase1A	20-28-38	2	Orchard	LDR				17.34			1621	0	2						0	2	0	0	0			
242	1a	10	Phase1A	20-28-40	20	Orchard	ldr/Mis				35.04			1439	56.3	20						0	20	0	0	0			
243	1a	10	Phase1A	20-28-48	7.57	Row crop	LDR				7.57					7.57						0	7.57	0	0	0			
244	1a	10	Phase1A	20-29-04		gravel pit																0	0	0	0	0			
245	1a	10	Phase1A	20-29-42	53.49	Orchard					53.49			1437, 3423	89.8	53.49						0	53.49	0	0	0			
246																						0	0	0	0	0			
247			**Subtotal**		137.8				0	0	168.23		0			137.8						0	0	0	0	0			
248			Union/Airline Phase 1A+A235																			0	0	0	0	0			
249																						0	0	0	0	0			
250			ID #	APN	Acres	Misc.	GP	Project	Dry Farm	Fallow	Irrigated	Blue	CVP	Well#	Gr. Water	Hollister	Hollister	Hollister	**Outside**			0	0	0	0	0			
251						Other						Valve #	AF/YR		AF/YR	PA	City	SOI	**Hollister PA**			0	0	0	0	0			
252			**PHASE 1**																			0	0	0	0	0			
253			Santa Ana		381.478					6.5	450		458			319.63	0	62				0	0	0	0	0			
254			Park Hill		31.09		HDR		0	15	15		0		0	31						0	0	0	0	0			
255			Union/Airline		137.8				0	0	168.23		0		89.8	137.8						0	0	0	0	0	TOTAL		
256			**TOTAL**		550.368				0	21.5	633.23	0	458	0	89.8	488.43	0	62		550.43		0	550.368	0	0	0	550.368		
257																													
269																													
270																													
271			ID #	APN	Acres	Misc.	GP	Project	Dry Farm	Fallow	Irrigated	Blue	CVP	Well#	Gr. Water	Hollister	Hollister	Hollister	**Outside**			0	0	0	0	0			

Orig #	Category	Est timing	ID #	APN	Acres	Misc.	GP	Project	Dry Farm	Fallow	Irrigated	Blue	CVP	Well#	Gr. Water	Hollister	Hollister	Hollister	**Outside**			**Acreage in 5 year horizon**	**Acreage in 10 year horizon**	**Acreage in 15 year horizon**	**Acreage in 20 year horizon**	**Acreage in 25 year horizon**	Subtotal by Phase		
1						Other						Valve #	AF/YR		AF/YR	PA	City	SOI	**Hollister PA**	TOTAL	% Irrigated								
272						Other						Valve #	AF/YR		AF/YR	PA	City	SOI	**Hollister PA**			0	0	0	0	0			
273			**PHASE 2 East of Fairview**																			0	0	0	0	0			
274	2EF	10	127	25-10-01	49.33	Dry Farm	RuralRe		49.33							49.33						0	49.33	0	0	0			
275	2EF	10	128	25-10-02	160	Grazing			160							0			160			0	160	0	0	0			
276	2EF	10	132	25-10-07	160	Dry Farm			160							0			160			0	160	0	0	0			
277	2EF	10	134	25-19-05	98	Dry Farm	RuralRe				98	980719	26.9			98						0	98	0	0	0			
278	2EF	10	139	25-19-12	30.15	Dry Farm	RuralRe		30.15							30.15						0	30.15	0	0	0			
279	2EF	10	144	25-19-19	69.25	Dry Farm		sbhs	69.25					1553	0	0			69.3			0	69.25	0	0	0			
280	2EF	10	143	25-19-40	24.03	Dry Farm		Fc	24.03			1159	0			0			24			0	24.03	0	0	0			
281	2EF	10	136	25-19-42	90.87	Dry Farm	RuralRe		90.87			1064	0			90.87						0	90.87	0	0	0			
282	2EF	10	141	25-19-46	98.88	Dry Farm	RuralRe	5 crch	98.55							98.88						0	98.88	0	0	0			
283	2EF	10	142	25-19-49	37.34	Dry Farm	RuralRe	Fc	37.34							37.34						0	37.34	0	0	0			
284	2EF	10	135	25-19-61	52.37	Grazing			52.37							0			52.4			0	52.37	0	0	0			
285	2EF	10	140	25-19-62	29.02	Dry Farm	RuralRe		29.02							29.02						0	29.02	0	0	0			
286	2EF	10	138	25-32-04	39.58	Dry Farm	RuralRe		39.58			1207	0			39.58						0	39.58	0	0	0			
287	2EF	10	137	25-32-10	32.28	Vineyard	RuralRe				36.28	2181	3.4			32.28						0	32.28	0	0	0			
288	2EF	10	118	25-34-01	38.83	Wgraz			38.83			1198	0						38.83			0	38.83	0	0	0			
289	2EF	10	120	25-34-03	11.55	Dry Farm					11.55	1570	5.1						11.55			0	11.55	0	0	0			
290	2EF	10	123	25-34-09	75	Dry Farm			75										75			0	75	0	0	0			
291	2EF	10	119	25-34-11	11.15	Apricot			11.2			1627	0			11.15						0	11.15	0	0	0			
292	2EF	10	124	25-34-22	42.35	Dry Farm	RuralRe		42.35							42.35						0	42.35	0	0	0			
293	2EF	10	125	25-34-26	8.52	Dry Farm	RuralRe		8.52							8.52						0	8.52	0	0	0			
294	2EF	10	126	25-34-28	6.67		RuralRe		6.67							6.67						0	6.67	0	0	0			
295	2EF	10	121	25-34-38	15	Dry Farm			15			1013	0						15			0	15	0	0	0			
296	2EF	10	122	25-34-39	50	Dry Farm	RT?				50	1893	21.5						50			0	50	0	0	0			
297	2EF	10	129	25-37-01	30.36	Adry					30.36	1233	20.3	91-121		0			30.36			0	30.36	0	0	0			
298	2EF	10	130	25-37-02	130	Dry Farm	RuralRe		64.62			1039	0			130						0	130	0	0	0			
299	2EF	10	131	25-37-07	89.2	Dry Farm	RuralRe		89.2			1071	0			89.2						0	89.2	0	0	0			
300	2EF	10	133	25-37-09	57.93	Dry Farm	RuralRe		57.93							57.93						0	57.93	0	0	0			
301	2EF		117																			0	0	0	0	0			
302																						0	0	0	0	0	TOTAL		
303			**TOTAL PHASE 2**		1537.66				1200.48		226.19		77.2			851.27			686.44	1537.71		0	1537.66	0	0	0	1537.66		
304																													
305																													
306																													
307																													
308			ID #	APN	Acres	Misc.	GP	Project	Dry Farm	Fallow	Irrigated	Blue	CVP	Well#	Gr. Water	Hollister	Hollister	Hollister	**Outside**			0	0	0	0	0			
309						Other						Valve #	AF/YR		AF/YR	PA	City	SOI	**Hollister PA**			0	0	0	0	0			
310			**PHASE 3 N. Santa Ana Rural residential mostly**																			0	0	0	0	0			
311	3	20	111	19-21-02	40.69	Ag row	LDR				40.69	1208	41	**98-004**		40.69						0	0	0	40.69	0			
312	3	20	112	19-21-10	41.077	Ag row	LDR				41.077			1372	113.9	41.077						0	0	0	41.077	0			
313	3	20	105(A)	19-21-14	89	Row crop	RuralRe				129.79	1096, 1226	170.2	93-235		89						0	0	0	89	0			
314	3	20	109	19-22-01	45	Ag Dry	RuralRe				72.18	1001	0	1,378	0	45						0	0	0	45	0			
315	3	20	27 out	split 72.18																		0	0	0	0	0			
316	3	20	108	19-22-05	10.58	Walnuts	RuralRe				10.58					10.58						0	0	0	10.58	0			
317	3	20	110b	19-22-11	8.6	RS02	RuralRe			8.6				1558	0	8.6						0	0	0	8.6	0			
318	3	20	106	19-22-14	28.51	Atrees	RuralRe				28.51	964137	34.6	3578	0	28.51						0	0	0	28.51	0			
319	3	20		split 130																		0	0	0	0	0			
320	3	20	110	19-22-16	16.68	Ag dr/grz		TSM14 1ac	16.68							16.68						0	0	0	16.68	0			
321	3	20	107	19-22-28	11.6	Ag Dry	RuralRe		11.6			1656	10.9			11.6						0	0	0	11.6	0			
322	3	20	1110a	19-22-74	8.63	mobilhome	RuralRe			8.63						8.63						0	0	0	8.63	0			
323	3	20	116	25-09-31	30.62	Dry Farm	AP		30.62			1298	0			30.62						0	0	0	30.62	0			
324																						0	0	0	0	0			
325																						0	0	0	0	0			
326																						0	0	0	0	0			
327																											TOTAL		
328			**TOTAL PHASE 3**		330.987				58.9	17.23	322.827		256.7		113.9	330.987	0	0				0	0	0	330.987	0	330.987		
329																													
344																													
345			ID #	APN	Acres	Misc.	GP	Project	Dry Farm	Fallow	Irrigated	Blue	CVP	Well#	Gr. Water	Hollister	Hollister	Hollister	**Outside**			0	0	0	0	0			
346						Other						Valve #	AF/YR		AF/YR	PA	City	SOI	**Hollister PA**			0	0	0	0	0			
347			**PHASE 4 Buena Vista/west of Park Hill**																			0	0	0	0	0			
348	4	25	77	18-04-02	**10**	Grazing	AP		**10**									10				0	0	0	0	10			
349	4	25	79	18-06-17	5.36	Apricot					5.36							5.36				0	0	0	0	5.36			
350	4	25	76	18-22-09	12.87											12.87						0	0	0	0	12.87			
351	4	25	74	18-22-10	5.17	Row crop	LDR				5.17					5.17						0	0	0	0	5.17			
352	4	25		18-22-11		Traveras																0	0	0	0	0			
353	4	25	75	18-22-12	5		LDR				5					5						0	0	0	0	5			
354	4	25	78	18-22-14	11.5	Orchard?	MixedUse				11.5					11.5						0	0	0	0	11.5			
355	4	25	68	19-10-05	27.18	Ag row	LDR				27.18					27.18						0	0	0	0	27.18			
356	4	25	73	19-10-14	4.83	Apricot	LDR				4.83					4.83						0	0	0	0	4.83			
357	4	25	67	19-10-15	9.6	Ag row	LDR				9.6					9.6						0	0	0	0	9.6			
358	4	25	66	19-10-17	11.69	Ag row	LDR				11.69					11.69						0	0	0	0	11.69			
359	4	25	69	19-10-18	5	Ag row	LDR				5					5						0	0	0	0	5			
360	4	25	70	19-10-19	24.51	Cherries	LDR				24.51			1412	42.8	24.51						0	0	0	0	24.51			
361	4	25	71	19-10-20	5.31	Cherries	LDR				5.31					5.31						0	0	0	0	5.31			
362	4	25	72	19-10-21	5.01	Cherries	LDR				5.01					5.01						0	0	0	0	5.01			
363	4	25	59	19-11-19	33.58	W Trees	LDR				33.58					33.58						0	0	0	0	33.58			

Orig #	Category	Est timing	ID #	APN	Acres	Misc.	GP	Project	Dry Farm	Fallow	Irrigated	Blue	CVP	Well#	Gr. Water	Hollister	Hollister	Hollister	**Outside**			Acreage in 5 year horizon	Acreage in 10 year horizon	Acreage in 15 year horizon	Acreage in 20 year horizon	Acreage in 25 year horizon	Subtotal by Phase		
1						Other						Valve #	AF/YR		AF/YR	PA	City	SOI	**Hollister PA**	TOTAL	% Irrigated								
364	4	25	62	19-11-22	39.23	Ag row	LDR				39.23			1414	0	39.23						0	0	0	0	39.23			
365	4	25	64	19-11-26	12.92	Ag row	LDR				12.92					12.92						0	0	0	0	12.92			
366	4	25	63	19-11-28	41.88	Walnuts	LDR				41.88			1570	29.8	41.88						0	0	0	0	41.88			
367	4	25	65	19-11-30	8.38	Ag row	LDR				8.38					8.38						0	0	0	0	8.38			
368	4	25	60	19-11-31	11.11	W Apricot	MDR				11.11			1415	56.7	5		6.11				0	0	0	0	11.11			
369	4	25	61	19-11-32	13.91	Wnapricot	LDR				13.91					13.91						0	0	0	0	13.91			
370	4	25	86	19-12-05	9.09	Apricot	MDR				9.09							9.09				0	0	0	0	9.09			
371	4	25	56	19-12-07	9.68	Apricot	LDR				9.68			1118	0	9.68						0	0	0	0	9.68			
372	4	25	85	19-12-08	29.25	Walnuts	MDR				29.25			1396	24			29.25				0	0	0	0	29.25			
373	4	25	57	19-12-10	19.52	W Ag row	LDR				19.52			1404	0	19.52						0	0	0	0	19.52			
374	4	25	84	19-12-11	10	Row crop	MDR				10							10				0	0	0	0	10			
375	4	25	58(4)	19-12-13	30	Ag row	LDR HDRin				15					30						0	0	0	0	30			
376	4	25	54	19-12-32	18.65	Apricot	LDR				18.65			1403	54.7	18.65						0	0	0	0	18.65			
377	4	25	55	19-12-33	16.35	Apricot	LDR				16.35					16.35						0	0	0	0	16.35			
378	4	25	53	19-13-16	9.6	Apricot	LDR				9.6					9.6						0	0	0	0	9.6			
379	4	25	52	19-13-17	10	Apricot	LDR				10			1392	12.9	10						0	0	0	0	10			
380	4	25	87	19-13-18	9.37	Walnuts	MDR				9.37							9.37				0	0	0	0	9.37			
381	4	25	88	19-13-19	9.82	Row crop	MDR				9.82			1394	0			9.82				0	0	0	0	9.82			
																						0	0	0	0	0			
384			Subtotal																			0	0	0	0	0			
385			Phase 4																			0	0	0	0	0			
386			in study area		485.37				10	0	447.5		0	13918	220.9	396.37	0	89	0	485.37		0	0	0	0	0			
387																						0	0	0	0	0			
																						0	0	0	0	0			
																						0	0	0	0	0			
388																						0	0	0	0	0			
389			**Out of water study but in GP Phase 4**																			0	0	0	0	0			
390				19-10-12	6.33		Agricultu				6.33					6.33						0	0	0	0	0			
391				19-10-13	6.62		Agricultu				6.62			1411	0	6.6						0	0	0	0	0			
392			57i	19-11-01	36.68		Agricultu				36.68			1408	166	36.68						0	0	0	0	0			
393			57j	19-11-03	31.68		Agricultu				31.68					31.68						0	0	0	0	0			
394				19-11-06	31.27		Agricultu				31.27					31.27						0	0	0	0	0			
395				19-11-08	9.18		Agricultu				9.18					9.18						0	0	0	0	0			
396				19-11-09	19.81		Agricultu				19.81			1409	0	19.81						0	0	0	0	0			
397				19-11-11	27.66		Agricultu				27.66					27.66						0	0	0	0	0			
398				19-11-15	29.18		Agricultu				29.18			1410	0	29.18						0	0	0	0	0			
399			57h	19-12-09	49.68		Agricultu				49.68			1407	101	49.68						0	0	0	0	0			
400			57c	19-12-14	2.85		Agricultu				2.85					2.85						0	0	0	0	0			
401			57b	19-12-16	17.26		Agricultu				17.26					17.26						0	0	0	0	0			
402			57a	19-12-19	44		Agricultu				44					44						0	0	0	0	0			
403			57g	19-12-28	20.77		Agricultu				20.77					20.77						0	0	0	0	0			
404			57d	19-12-29	5		Agricultu				5			91-075		5						0	0	0	0	0			
405			57e	19-12-30	5		Agricultu				5					5						0	0	0	0	0			
406			57f	19-12-31	5		Agricultu				5					5						0	0	0	0	0			
407																						0	0	0	0	0			
408			**Subtotals**		347.97				0	0	347.97		0		267	347.95		0				0	0	0	0	0			
409																						0	0	0	0	0	TOTAL		
410			TOTAL		833.34				10	0	796		0		488	744.32		89		833.32		0	0	0	0	485.37	485.37		
411			PHASE 4																										
			Other Lands in PA Without Phases																										
197			ID #	APN	Acres	Misc.	GP	Project	Dry Farm	Fallow	Irrigated	Blue	CVP	Well#	Gr. Water	Hollister	Hollister	Hollister	**Outside**			0	0	0	0	0			
198						Other						Valve #	AF/YR		AF/YR	PA	City	SOI	**Hollister PA**			0	0	0	0	0			
199			**EXTRA MOVED FROM GENERAL SECTION**																			0	0	0	0	0			
16	G	15	11	14-09-49	43.28	Field		NeedAnnex	43.28							43.28						0	0	43.28	0	0			
17	G	15	6	14-09-50	**77.33**	Rowcrop		NeedAnnex			77.33			1198	0	**77.33**						0	0	77.33	0	0			
21	G	15	2	14-09-56	96.26	quarry	Industrial	NeedAnnex								96.26						0	0	96.26	0	0			
22	G	15	13	14-12-14	6.28	Rowcrop	Industrial	NeedAnnex			6.28	2183	0			6.28						0	0	6.28	0	0			
26	G	15	80	18-06-08	13.8	Apricot		NeedAnnex			13.8					13.8						0	0	13.8	0	0			
35	G	15	25	19-05-03	87.01	Ag row	Indu/Opsm	NeedAnnex			87.01			1358	15.4	87.01						0	0	87.01	0	0			
39	G	15	29	19-05-09	61.92	Ag row	Indus/OS	NeedAnnex			61.92	1111	307.7	1363	0	61.92						0	0	61.92	0	0			
40	G	15	30	19-05-10	92.5	Ag row	Indus/OS	NeedAnnex			92.5	1020	57.4	1359	155.4	92.5						0	0	92.5	0	0			
50	G	15	48	19-13-10	20.46	Ag row	HDRes	NeedAnnex			20.46	1495	22.1			20.46						0	0	20.46	0	0			
51	G	15	50	19-13-11	31.12	Wrowgrz	HDR	NeedAnnex		15	15					31.12						0	0	31.12	0	0			
54	G	15	47	19-13-25	20.36	Ag row	HDRes	NeedAnnex			20.36	1563	52.4			20.36						0	0	20.36	0	0			
55	G	15	104	19-21-07	40	Row crop	RuralRe	NeedAnnex			40	1158	122.9			40						0	0	40	0	0			
81	GS	5		20-28-46	10.2	Row crop					10.2					10.2						10.2	0	0	0	0			
82	GS	5		20-28-47	17.9	Row crop					17.9					17.9						17.9	0	0	0	0	TOTAL		
																						28.1	0	590.32	0	0	618.42		
225			**Subtotal**		618.42					120.44	462.76		562.5			618.42		0											
																											GRAND TOTAL		
					5828.161														4444.716		**TOTALS**	815.17	2239.548	1957.086	330.987	485.37	5828.161		
Additional Lands from Attach F-1																													
	F-1 Desig	Yrs to Dev	APN	Acres	Land Use	AG/Non-Ag	Irr/Non-Irr	Proj. Dev Type																					
SBC South	Area A	5	20-29-9	9.45	Orchard	Ag	Irr	LDR/MDR																					
SBC South	Area A	5	20-29-10	51.84	Orchard	Ag	Irr	LDR/MDR																					

Orig #	Category	Est timing	ID #	APN	Acres	Misc.	GP	Project	Dry Farm	Fallow	Irrigated	Blue	CVP	Well#	Gr. Water	Hollister	Hollister	Hollister	**Outside**			**Acreage in 5 year horizon**	**Acreage in 10 year horizon**	**Acreage in 15 year horizon**	**Acreage in 20 year horizon**	**Acreage in 25 year horizon**	Subtotal by Phase		
1						Other						Valve #	AF/YR		AF/YR	PA	City	SOI	**Hollister PA**	TOTAL	% Irrigated								
SBC South	Area B	5	20-29-29	52.66	Dry Farm	Ag	Non-Irr	LDR/MDR																					
SBC South	Area B	5	20-29-30	0.95	Residential	Non-Ag	N/A	LDR/MDR																					
SBC South	Area C	5	20-32-8	36.2	Labor Camp/ Trans Unit	Non-Ag	N/A	LDR/MDR																					
SBC South	Area D	5	20-32-18	9.62	vacant	Ag	Non-Irr	LDR/MDR																					
SBC South	Area D	5	20-32-21	12.06	vacant	Ag	Non-Irr	LDR/MDR																					
SBC South	Area D	5	20-32-22	28.65	vacant	Ag	Non-Irr	LDR/MDR																					
SBC South	Area F	5	20-33-7	10.44	residence	Non-Ag	N/A	LDR/MDR																					
SBC South	Area F	5	20-33-10	7	residence	Non-Ag	N/A	LDR/MDR																					
SBC South	Area F	5	20-33-29	4.93	TSM 99-64	Ag	Non-Irr	LDR/MDR																					
SBC South	Area F	5	20-33-44	2.42	vacant	Ag	Non-Irr	LDR/MDR																					
SBC South	Area F	5	20-33-50	12.5	Residence	Non-Ag	N/A	LDR/MDR																					
SBC South	Area F	5	20-33-51	3.64	vacant	Ag	Non-Irr	LDR/MDR																					
SBC South	Area F	5	20-31-11	3.72	SCWD Offices	Non-Ag	N/A	LDR/MDR																					
SBC South	Area F	5	20-31-12	1.1	Residence	Non-Ag	N/A	LDR/MDR																					
SBC South	Area G	5	25-45-5	47	ry Farm/TSE 9	Ag	Non-Irr	LDR/MDR																					
			total	294.18																									
											Agricultural - irrigated	3588.327																	
											Agricultural - non-irrigated	2030.536																	
											Non-agricultural																		

Appendix G

Contract Documents and Agency Agreements

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Amendatory Contract
No. 8-07-20-W0130A

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
Central Valley Project, California

SECOND AMENDMENT TO CONTRACT BETWEEN THE UNITED STATES AND SAN BENITO COUNTY WATER DISTRICT FOR WATER SERVICE AND FOR OPERATION AND MAINTENANCE OF CERTAIN WORKS OF THE SAN FELIPE DIVISION

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Exhibit A – Contractors Water Service Area

Exhibit B – Rates and Charges

Exhibit C – San Felipe Division Reimbursable Capital Costs

Exhibit D – Santa Clara Valley Water District Repayment Schedule

Amendatory Contract
No. 8-07-20-W0130A

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
Central Valley Project, California

SECOND AMENDMENT TO
CONTRACT BETWEEN
THE UNITED STATES AND SAN BENITO COUNTY WATER DISTRICT
FOR WATER SERVICE
AND FOR OPERATION AND MAINTENANCE
OF CERTAIN WORKS OF THE SAN FELIPE DIVISION

THIS SECOND AMENDMENT CONTRACT No. 8-07-20-W0130A, is made this 28th day of March, 2007 in pursuance generally of the Act of June 17, 1902 (32 Stat. 388), and acts amendatory and supplementary thereto, including but not limited to, the Acts of August 26, 1937 (50 Stat. 844), as amended and supplemented; August 4, 1939 (53 Stat. 1187), as amended and supplemented; July 2, 1956 (70 Stat. 483), June 21, 1963 (77 Stat. 68), August 27, 1967 (81 Stat. 173), October 12, 1982 (96 Stat. 1263), October 27, 1986 (100 Stat. 3050), as amended, and Title XXXIV of the Act of October 30, 1992, (106 Stat 4706), all collectively hereinafter referred to as Federal Reclamation law, between THE UNITED STATES OF AMERICA, hereinafter referred to as the United States, and THE SAN BENITO COUNTY WATER DISTRICT, hereinafter referred to as the Contractor, a public agency of the State of California, duly organized, existing, and acting pursuant to the laws thereof;

23 WITNESSETH, That:

24 EXPLANATORY RECITALS

25 [1st] WHEREAS, the United States has constructed and is operating the Central Valley
26 Project (Project), California, for diversion, storage, carriage, distribution and beneficial use, for
27 flood control, irrigation, municipal, domestic, industrial, fish and wildlife mitigation, protection
28 and restoration, generation and distribution of electric energy, salinity control, navigation and
29 other beneficial uses, of waters of the Sacramento River, the American River, the Trinity River,
30 and the San Joaquin River and their tributaries; and

31 [2nd] WHEREAS, the Contractor and the United States entered into a contract for
32 delivery of Central Valley Project water to the Contractor, Contract No. 8-07-20-W0130, dated
33 April 15, 1978, which established terms for the delivery to the Contractor of Central Valley
34 Project Water from June 1, 1987 through February 29, 2028 and was subsequently amended on
35 February 28, 1992, (hereinafter referred to as the "Existing Contract"); and

36 [3rd] WHEREAS, in 1992, Congress enacted the Central Valley Project Improvement
37 Act (CVPIA) (106 Stat. 4706), which addressed the renewal of existing long-term water service
38 contracts and established that certain terms should be included in contracts renewed or amended
39 after January 1, 1988; and

40 [4th] WHEREAS, to promote compliance with the CVPIA, consistent with the goal of
41 ensuring a reliable long-term water supply for the Contractor, the parties desire to amend the
42 Existing Contract pursuant to Federal Reclamation law on the terms and conditions set forth
43 below;

NOW, THEREFORE, in consideration of the mutual and dependent covenants herein contained, it is hereby mutually agreed by the parties hereto as follows:

MODIFICATION TO EXISTING CONTRACT

1. **Article 1 of the Existing Contract entitled DEFINITIONS is amended as follows:**

a) **Subdivisions (d) and (e) are hereby deleted in their entirety and replaced with the following definitions, and the remaining definitions are redesignated (e) – (k) accordingly:**

(d) "San Felipe Division Facilities" shall mean those existing and future Project facilities generally west of San Luis Reservoir used to divert, store and convey water to the Contractor(s). San Felipe Facilities are divided into reaches, as defined as follows:

i) "Reach 1" shall mean the facilities from the Pacheco Tunnel to and including the Pacheco Bifurcation Structure, including but not limited to, the Pacheco Pumping Plant Substation, Pacheco Pumping Plant Substation-70kvLine, Pacheco Tunnel (including the inlet works in and under San Luis Reservoir), Pacheco Conduit and Pacheco Bifurcation Structure;

ii) "Reach 2" shall mean the facilities from, but not including, the Pacheco Bifurcation Structure to and including the Watsonville Turnout facility, and Santa Clara Tunnel and Conduit;

iii) "Reach 3" shall mean the facilities from, but not including, the Watsonville Turnout facility to and including the Coyote Pumping Plant, including but not

65 limited to, the Santa Clara Tunnel and Conduit, Coyote Pumping Plant, Coyote Pumping Plant
66 Substation and Coyote Pumping Plant 115 kv Line;
67 iv) "San Benito Facilities" shall mean San Felipe Division Facilities
68 used to deliver water to the San Benito Water District exclusively, including the Hollister
69 Conduit and the San Justo Dam and Reservoir.
70 **b) The following definitions are hereby added to Article 1 as follows:**
71 (l) "Charges" shall mean the payments required by Federal Reclamation law
72 in addition to the Rates and Tiered Pricing Component specified in this Contract as determined
73 annually by the Contracting Officer pursuant to this Contract;
74 (m) "Contract" shall mean the Existing Contract as amended hereby;
75 (n) "Contractor's Service Area" shall mean the area to which the Contractor is
76 permitted to provide Project Water under this Contract as set forth on Exhibit "A" attached
77 hereto, which may be modified from time to time without amendment to this Contract;
78 (o) "Delivered Water" or "Water Delivered" shall mean Project water
79 diverted for use by the Contractor at the point(s) of delivery approved by the Contracting
80 Officer;
81 (p) "Full Cost Rate" shall mean an annual rate, as determined by the
82 Contracting Officer, that shall amortize the expenditures for construction properly allocable to
83 the Project irrigation or M&I functions, as appropriate, or facilities in service including all O&M
84 deficits funded, less payments, over such periods as may be required under Federal Reclamation
85 law or applicable contract provisions. Interest will accrue on both the construction expenditures

86 and funded O&M deficits from October 12, 1982, on costs outstanding at that date, or from the
87 date incurred in the case of costs arising subsequent to October 12, 1982, and shall be calculated
88 in accordance with subsections 202(3)(b) and (3)(C) of the RRA. The Full Cost Rate includes
89 actual operation, maintenance, and replacement costs consistent with Section 426.2 of the Rules
90 and Regulations of the RRA;

91 (q) "Operating Non-Federal Entity" shall mean the Operating Non-Federal
92 Entity(ies) and their successors or assigns, which have the obligation to operate and maintain all
93 or a portion of the Project facilities including the Division Facilities pursuant to written
94 agreements with the United States. As of the effective date of this Contract, the Operating Non-
95 Federal Entity(ies) were the San Luis & Delta-Mendota Water Authority with respect to certain
96 Delta Division Facilities, Santa Clara Valley Water District with respect to certain Division
97 Facilities, and the San Benito County Water District with respect to certain Division Facilities;

98 (r) "Rates" shall mean the payments determined annually by the Contracting
99 Officer in accordance with the then current applicable ratesetting policies for the Project, as
100 described in Article 11 of this Contract;

101 (s) "M&I Full Cost Water Rate" shall mean the Full Cost Rate applicable to
102 the delivery of M&I Water;

103 (t) "Tiered Pricing Component" shall be the incremental amount to be paid
104 for each acre-foot of Water Delivered as described in subdivision (j) of Article 11 of this
105 Contract.

106 2. **The last sentence of subdivision (b) of Article 7 of the Existing Contract**
107 **entitled <u>WATER SHORTAGE AND APPORTIONMENT</u> is hereby deleted and replaced**
108 **with the following:**
109 "In the event that reduced deliveries within the Division are necessary, Project water furnished
110 under this Contract will be allocated in accordance with the Central Valley Project M&I Water
111 Shortage Policy. Such policy shall be amended, modified, or superseded only through a public
112 notice and comment procedure."
113 3. **Article 8 of the Existing Contract entitled <u>QUALITY OF WATER</u> is**
114 **amended to add the following subdivision:**
115 (b) The Contractor shall be responsible for compliance with all State and
116 Federal water quality standards applicable to the Contractor for surface and subsurface
117 agricultural drainage discharges generated through the use of Federal facilities for Water
118 Delivered to the Contractor.
119 4. **Article 9(d)(1) of the Existing Contract entitled <u>POINT OF DELIVERY –</u>**
120 **<u>MEASUREMENT – RESPONSIBILITY FOR DISTRIBUTION</u> is deleted in its entirety**
121 **and replaced with the following:**
122 (d)(1)(i) The Contractor has established a measuring program satisfactory to the
123 Contracting Officer. The Contractor shall ensure that all surface water delivered for irrigation
124 purposes to the Contractor's customers within the Contractor's Service Area is measured at each
125 agricultural turnout and such water delivered for M&I purposes to the Contractor's customers is
126 measured at each M&I service connection. The water measuring devices or water measuring

127 methods of comparable effectiveness must be acceptable to the Contracting Officer. The
128 Contractor shall be responsible for ensuring that its retail customers are installing, operating, and
129 maintaining and repairing all measuring devices and implementing all water measuring methods
130 at no cost to the United States. The Contractor shall use the information obtained from such
131 water measuring devices or water measuring methods to ensure its proper management of the
132 water, to bill water users for water delivered by the Contractor; and, if applicable, to record water
133 delivered for M&I purposes by customer class as defined in the Contractor's water conservation
134 plan provided for in Article 43 of this Contract. Nothing herein contained, however, shall
135 preclude the Contractor from establishing and collecting any charges, assessments, or other
136 revenues authorized by California law. The Contractor shall include a summary of all its annual
137 surface water deliveries in the annual report described in subdivision (c) of Article 43.

138 (d)(1)(ii) To the extent the information has not otherwise been provided,
139 upon execution of this Contract, the Contractor shall provide to the Contracting Officer a written
140 report describing the measurement devices or water measuring methods being used or to be used
141 to implement subdivision (d)(1)(i) of this Article and identifying the agricultural turnouts and the
142 M&I service connections or alternative measurement programs approved by the Contracting
143 Officer, at which such measurement devices or water measuring methods are being used, and, if
144 applicable, identifying the locations at which such devices and/or methods are not yet being used
145 including a time schedule for implementation at such locations. The Contracting Officer shall
146 advise the Contractor in writing within 60 days as to the adequacy, and necessary modifications,
147 if any, of the measuring devices or water measuring methods identified in the Contractor's report

148 and if the Contracting Officer does not respond in such time, they shall be deemed adequate. If
149 the Contracting Officer notifies the Contractor that the measuring devices or methods are
150 inadequate, the parties shall within 60 days following the Contracting Officer's response,
151 negotiate in good faith the earliest practicable date by which the Contractor shall modify said
152 measuring devices and/or measuring methods as required by the Contracting Officer to ensure
153 compliance with subdivision (d)(1)(i) of this Article.

154 (d)(1)(iii) All new surface water delivery systems installed within the
155 Contractor's Service Area after the effective date of this contract shall also comply with the
156 measurement provisions described in subdivision (d)(1)(i) of this Article.

157 (d)(1)(iv) The Contractor shall inform the Contracting Officer and the State
158 of California in writing by April 30 of each Year of the monthly volume of surface water
159 delivered within the Contractor's Service Area during the previous Year.

160 (d)(1)(v) The Contractor shall inform the Contracting Officer and the
161 Operating Non-Federal Entity on or before the 20th calendar day of each month of the quantity
162 of Agricultural Water and M&I Water taken during the preceding month.

163 5. **Article 11 of the Existing Contract entitled <u>RATES OF PAYMENT FOR</u>**
164 **<u>WATER</u> and Article 12 of the Existing Contract entitled <u>METHOD OF PAYMENT FOR</u>**
165 **<u>WATER</u> are hereby deleted in their entirety and replaced with the following:**

166 RATES AND METHOD OF PAYMENT FOR WATER

167 11. (a) The Contractor shall pay the United States as provided in this Article for
168 all Delivered Water at Rates, Charges, and the Tiered Pricing Component established in
169 accordance with: (i) the Secretary of the Interior's Irrigation Ratesetting Policy and the
170 Secretary's then-existing ratesetting policy for M&I water. Such ratesetting policies shall be
171 amended, modified, or superseded only through a public notice and comment procedure; (ii)
172 applicable Federal Reclamation law and associated rules and regulations, or policies; and (iii)
173 other applicable provisions of this Contract. Payments shall be made by cash transaction,
174 electronic funds transfer, or any other mechanism as may be agreed to in writing by the
175 Contractor and the Contracting Officer. The Rates, Charges, and Tiered Pricing Component
176 applicable to the Contractor upon execution of this Contract are set forth in Exhibit "B," which
177 shall be attached hereto, as may be revised annually.

178 (b) The Contracting Officer shall notify the Contractor of the Rates, Charges,
179 and Tiered Pricing Component as follows:

180 (1) Prior to July 1 of each calendar year, the Contracting Officer shall
181 provide the Contractor an estimate of the Charges for Project water that will be applied to the
182 period October 1, of the current calendar year, through September 30, of the following calendar
183 year, and the basis for such estimate. The Contractor shall be allowed not less than two months
184 to review and comment on such estimates. On or before September 15 of each calendar year, the
185 Contracting Officer shall notify the Contractor in writing of the Charges to be in effect during the

186 period October 1 of the current calendar year, through September 30, of the following calendar
187 year, and such notification shall revise Exhibit "B."

188 (2) Prior to October 1 of each calendar year, the Contracting Officer
189 shall make available to the Contractor an estimate of the Rates and Tiered Pricing Component
190 for Project water for the following year and the computations and cost allocations upon which
191 those Rates are based. The Contractor shall be allowed not less than two months to review and
192 comment on such computations and cost allocations. By December 31 of each calendar year, the
193 Contracting Officer shall provide the Contractor with the final Rates and Tiered Pricing
194 Component to be in effect for the upcoming year, and such notification shall revise Exhibit "B."

195 (c) At the time the Contractor submits the initial schedule for the delivery of
196 Project water for each year pursuant to Article 4 of this Contract, the Contractor shall make an
197 advance payment to the United States equal to the total amount payable pursuant to the
198 applicable Rate(s) set under subdivision (a) of this Article, for the Project water scheduled to be
199 delivered pursuant to this Contract during the first two calendar months of the year. Before the
200 end of the first month and before the end of each calendar month thereafter, the Contractor shall
201 make an advance payment to the United States, at the Rate(s) set under subdivision (a) of this
202 Article, for the water scheduled to be delivered pursuant to this Contract during the second
203 month immediately following. Adjustments between advance payments for water scheduled and
204 payments at Rates due for Water Delivered shall be made before the end of the following month;
205 Provided, That any revised schedule submitted by the Contractor pursuant to Article 4 of this

206 Contract which increases the amount of Water Delivered pursuant to this contract during any
207 month shall be accompanied with appropriate advance payment, at the Rates then in effect, to
208 assure that Project water is not delivered to the Contractor in advance of such payment. In any
209 month in which the quantity of Water Delivered to the Contractor pursuant to this Contract
210 equals the quantity of water scheduled and paid for by the Contractor, no additional Project water
211 shall be delivered to the Contractor unless and until an advance payment at the Rates then in
212 effect for such additional Project water is made. Final adjustment between the advance
213 payments for the water scheduled and payments for the quantities of Water Delivered during
214 each year pursuant to this Contract shall be made as soon as practicable but no later than April
215 30th of the following year.

216 (d) The Contractor shall also make a payment in addition to the Rate(s) in
217 subdivision (c) of this Article to the United States for Water Delivered, at the Charges and the
218 appropriate Tiered Pricing Component then in effect, before the end of the month following the
219 month of delivery; Provided, That the Contractor may be granted an exception from the Tiered
220 Pricing Component pursuant to subdivision (j)(2) of this Article. The payments shall be
221 consistent with the quantities of agricultural water and M&I water delivered as shown in the
222 water delivery report for the subject month prepared by the Operating Non-Federal Entity(ies) or,
223 if there is no Operating Non-Federal Entity, by the Contracting Officer. The water delivery
224 report shall be deemed a bill for the payment of Charges and the applicable Tiered Pricing
225 Component for Water Delivered. Adjustment for overpayment or underpayment of Charges
226 shall be made through the adjustment of payments due to the United States for Charges for the

227 next month. Any amount to be paid for past due payment of Charges and the Tiered Pricing
228 Component shall be computed pursuant to Article 14 of this Contract.

229 (e) The Contractor shall pay for any Water Delivered under subdivision (h) or
230 (i) of Article 3 of this Contract as determined by the Contracting Officer pursuant to applicable
231 statutes, associated regulations, any applicable provisions or guidelines or ratesetting policies;
232 Provided, That the Rate for Water Delivered under subdivision (h) or (i) of Article 3 of this
233 Contract shall be no more than the otherwise applicable Rate for agricultural water or M&I water
234 under subdivision (a) of this Article;

235 (f) Payments to be made by the Contractor to the United States under this
236 Contract may be paid from any revenues available to the Contractor.

237 (g) All revenues received by the United States from the Contractor relating to
238 the delivery of Project water or the delivery of non-Project water through Project facilities shall
239 be allocated and applied in accordance with Federal Reclamation law and the associated rules or
240 regulations, and the then current Project ratesetting policies for M&I water or agricultural water.

241 (h) The Contracting Officer shall keep its accounts pertaining to the
242 administration of the financial terms and conditions of its long-term contracts, in accordance
243 with applicable Federal standards, so as to reflect the application of Project costs and revenues.
244 The Contracting Officer shall, each year upon request of the Contractor, provide to the
245 Contractor a detailed accounting of all Project and Contractor expense allocations, the

246 disposition of all Project and Contractor revenues, and a summary of all water delivery
247 information. The Contracting Officer and the Contractor shall enter into good faith negotiations
248 to resolve any discrepancies or disputes relating to accountings, reports, or information.

249 (i) The parties acknowledge and agree that the efficient administration of this
250 Contract is their mutual goal. Recognizing that experience has demonstrated that mechanisms,
251 policies, and procedures used for establishing Rates, Charges, and Tiered Pricing Component,
252 and/or for making and allocating payments, other than those set forth in this Article may be in
253 the mutual best interest of the parties, it is expressly agreed that the parties may enter into
254 agreements to modify the mechanisms, policies, and procedures for any of those purposes while
255 this Contract is in effect without amending this Contract.

256 (j) (1) Beginning at such time as deliveries of Project water in a year
257 exceed 80 percent of the total available pursuant to this Contract, then before the end of the
258 month following the month of delivery the Contractor shall make an additional payment to the
259 United States equal to the applicable Tiered Pricing Component. The Tiered Pricing Component
260 for the amount of Water Delivered in excess of 80 percent of the total available pursuant to this
261 Contract, but less than or equal to 90 percent of that total, shall equal one-half of the difference
262 between the Rate established under subdivision (a) of this Article and the Full Cost Rate for
263 agricultural water or Full Cost Rate for M&I water, whichever is applicable. The Tiered Pricing
264 Component for the amount of Water Delivered which exceeds 90 percent of the total available
265 pursuant to the Contract shall equal the difference between (i) the Rate established under

266 subdivision (a) of this Article and (ii) the Full Cost Rate for agricultural water or Full Cost Rate
267 for M&I water, whichever is applicable.

268 (2) Subject to the Contracting Officer's written approval, the
269 Contractor may request and receive an exemption from such Tiered Pricing Component for
270 Project water delivered to produce a crop which the Contracting Officer determines will provide
271 significant and quantifiable habitat values for waterfowl in fields where the water is used and the
272 crops are produced; Provided, That the exemption from the Tiered Pricing Component for
273 agricultural water shall apply only if such habitat values can be assured consistent with the
274 purposes of the CVPIA through binding agreements executed with or approved by the
275 Contracting Officer prior to use of such water.

276 (3) For purposes of determining the applicability of the Tiered Pricing
277 Component pursuant to this Article, Water Delivered shall include Project water that the
278 Contractor transfers to others and Project water provided to the Contractor pursuant to
279 subdivision (h) of Article 3 of this Contract, but shall not include Project water transferred to the
280 Contractor.

281 (k) For the term of this Contract, Rates applied under the respective
282 ratesetting policies will be established to recover only reimbursable O&M (including any
283 deficits) and capital costs of the Project, as those terms are used in the then-current Project
284 ratesetting policies, and interest, where appropriate, except in instances where a minimum Rate is
285 applicable in accordance with the relevant Project ratesetting policy. Changes of significance in

286 practices which implement the Contracting Officer's ratesetting policies will not be implemented
287 until the Contracting Officer has provided the Contractor an opportunity to discuss the nature,
288 need, and impact of the proposed change.

289 (l) Except as provided in subsections 3405(a)(1)(B) and 3405(f) of the
290 CVPIA, the Rates for Project water transferred by the Contractor shall be the Contractor's Rates
291 adjusted upward or downward to reflect the changed costs, if any, incurred by the Contracting
292 Officer in the delivery of the transferred Project water to the transferee's point of delivery in
293 accordance with the then applicable Project ratesetting policy. If the Contractor is receiving
294 lower Rates and Charges because of inability to pay and is transferring Project water to another
295 entity whose Rates and Charges are not adjusted due to inability to pay, the Rates and Charges
296 for transferred Project water shall not be adjusted to reflect the Contractor's inability to pay.

297 (m) Pursuant to the Act of October 27, 1986 (100 Stat. 3050), the Contracting
298 Officer is authorized to adjust determinations of ability to pay every five years.

299 REPAYMENT OBLIGATION

300 The Contractor's repayment obligation is described below:

301 12. (a) Repayment of San Felipe Division Facilities. The Contractor and Santa
302 Clara Valley Water District are each entering into contracts with the United States committing to
303 repay their separate, individual share of the total reimbursable capital costs for the San Felipe
304 Division Facilities. These contracts collectively will provide for repayment of the unpaid
305 reimbursable capital costs as of September 30, 2006. Until the final accounting of such costs is

306 available, the Contractor's and Santa Clara Valley Water District's interim repayment terms will
307 be based on the September 30, 2004, reimbursable capital costs for San Felipe Division
308 Facilities, which totaled $319,417,648, as shown on Exhibit C, which exhibit may be revised by
309 mutual agreement of the parties and Santa Clara Valley Water District without amending this
310 Contract. These reimbursable capital costs for the San Felipe Division are summarized below:
311 (1) Reach 1 Facilities. The total reimbursable capital cost of Reach 1
312 Facilities including allocated interest during construction as of September 30, 2004, is
313 $154,767,574.
314 (2) Reach 2 Facilities and Reach 3 Facilities. The total reimbursable
315 capital cost of Reach 2 Facilities and Reach 3 Facilities including allocated interest during
316 construction as of September 30, 2004, is $102,546,257.
317 (3) San Benito Facilities. The total reimbursable capital costs of the
318 San Benito Facilities including allocated interest during construction as of September 30, 2004,
319 is $62,103,817.
320 (4) Interest During Construction. The reimbursable San Felipe
321 Division interest during construction, as of September 30, 2004, is $32,227,149.
322 (b) Final Accounting for San Felipe Division Facilities. In the event that the
323 September 30, 2006, final accounting of the unpaid reimbursable capital costs for the San Felipe
324 Division Facilities is not available by December 31, 2007, the Contractor's and Santa Clara
325 Valley Water District's repayment obligations will be based on the most recent total
326 reimbursable capital costs available, and include all payments through December 31, 2007.

327 (c) San Felipe Division Facilities Interest Rates. The interest rate for the
328 Pacheco Tunnel Inlet used for M&I purposes is 3.137 percent per annum. The interest rate for
329 the San Felipe Division Facilities, not including the Pacheco Tunnel Inlet, used for M&I
330 purposes is 3.50 percent per annum. Any calculation or recalculation of the semi-annual
331 payment schedule shown in Exhibit D in this Contract, or in any subsequent renewed or amended
332 contract during the remainder of the 50-year repayment period, shall be based on these interest
333 rates.

334 (d) Repayment of Unpaid Capital Interest. The Contractor shall pay for
335 unpaid capital interest, consistent with the "Agreement Among the United States, City of Fresno,
336 City of Coalinga, Contra Costa Water District, Keswick County Service Area #25, Mountain
337 Gate Community Services District, Sacramento Municipal Utility District, San Juan Water
338 District, Santa Clara Valley Water District, Shasta County Water Agency, and City of Tracy for
339 Settlement of the CVP M&I Ratesetting Lawsuit" entered into in 2005 to resolve City of Fresno
340 v. United States, Civ. No. F-03-5350 (E.D.Cal). As specified in the settlement agreement, the
341 interest rate for the unpaid balance shall be 3.50 percent per annum.

342 (e) Repayment Obligation and Annual Payment Schedule.

343 (1) Interim Repayment Obligation. The Contractor's interim
344 repayment obligation will be computed by totaling its separate, individual share of reimbursable
345 capital costs for Reach 1 Facilities and San Benito Facilities, as of September 30, 2004, shown
346 on Exhibit C, plus its unpaid capital interest, minus its accumulated repayment as of

347 September 30, 2004. The Contractor's semiannual payment schedule shown on Exhibit D
348 reflects a stepped repayment structure. Reach 1 Facilities costs are allocated 18.98% to the
349 Contractor, and Reach 1 interest during construction (IDC) costs are allocated 5.184% to the
350 Contractor.

351 (2) Final Repayment Obligation. Using the same allocation of Reach
352 1 Facilities cost to the Contractor and the same stepped repayment structure as in subparagraph
353 (e)(1), the Contractor's final repayment obligation for San Felipe Division Facilities will be
354 computed by totaling its separate, individual share of reimbursable capital costs for Reach 1
355 Facilities, and San Benito Facilities, as of September 30, 2006, plus its final balance of unpaid
356 capital interest, minus its final accumulated repayment. The reimbursable San Felipe Division
357 capital costs shown on Exhibit C, and the Contractor's semi-annual payment schedule on Exhibit
358 D will be revised in a manner consistent with the above, without amending this Contract.

359 (f) Supplemental Payments and Relief from Payment Schedule.

360 (1) The Contractor may, at any time prior to the expiration of this
361 Contract, make supplemental payment(s) of all or part of the unpaid balance for any or part of
362 the Contractor's share of Reach 1 Facilities, and San Benito Facilities, or its unpaid capital
363 interest, in which case the repayment schedule in Exhibit D will be shortened and will maintain
364 the same stepped repayment structure over the remaining repayment period. Exhibit D may be
365 revised by mutual agreement of the Parties without amending this Contract.

366 (2) If circumstances arise that compromise the Contractor's ability to
367 make payments according to Exhibit D, the Contractor may request a deferment of said
368 payments consistent with Reclamation law, and if approved, Exhibit D shall be revised
369 accordingly by mutual agreement without amending this Contract.

370 (g) Upon repayment of the amounts required under this Article, the Contractor
371 shall have no further repayment obligations associated with the capital costs of San Felipe
372 Division Facilities or unpaid capital interest.

373 6. **Article 14 of the Existing Contract entitled <u>PENALTY FOR DELINQUENT</u>**
374 **<u>PAYMENTS</u> is hereby deleted in its entirety and replaced with the following:**

375 <u>CHARGES FOR DELINQUENT PAYMENTS</u>

376 14. (a) The Contractor shall be subject to interest, administrative and penalty
377 charges on delinquent installments or payments. When a payment is not received by the due
378 date, the Contractor shall pay an interest charge for each day the payment is delinquent beyond
379 the due date. When a payment becomes sixty (60) days delinquent, the Contractor shall pay an
380 administrative charge to cover additional costs of billing and processing the delinquent payment.
381 When a payment is delinquent ninety (90) days or more, the Contractor shall pay an additional
382 penalty charge of six (6%) percent per year for each day the payment is delinquent beyond the
383 due date. Further, the Contractor shall pay any fees incurred for debt collection services
384 associated with a delinquent payment.

385 (b) The interest charge rate shall be the greater of the rate prescribed quarterly
386 in the Federal Register by the Department of the Treasury for application to overdue payments,
387 or the interest rate of one-half of one (0.5%) percent per month prescribed by Section 6 of the
388 Reclamation Project Act of 1939 (Public Law 76-260). The interest charge rate shall be
389 determined as of the due date and remain fixed for the duration of the delinquent period.

390 (c) When a partial payment on a delinquent account is received, the amount
391 received shall be applied, first to the penalty, second to the administrative charges, third to the
392 accrued interest, and finally to the overdue payment.

393 7. **Subdivision (5) of Article 16 of the Existing Contract entitled**
394 **CONVEYANCE OF NON-PROJECT WATER is hereby amended by deleting the words:**
395 "the provisions of Articles 24, 25 and 26" and substituting therefore the words "the provisions of
396 subdivision (b) of Article 31 of this Contract."

397 8. **Article 17 of the Existing Contract entitled TRANSFER OF CARE,**
398 **OPERATION, AND MAINTENANCE OF SAN BENITO FACILITIES TO THE**
399 **CONTRACTOR is hereby amended by changing its designation as article 17, to article**
400 **"17.1", and the following is added as article 17:**

401 OPERATION AND MAINTENANCE BY OPERATING NON-FEDERAL ENTITY

402 17. (a) The operation and maintenance (O&M) of a portion of the Project
403 facilities which serve the Contractor, and responsibility for funding a portion of the costs of such
404 O&M, have been transferred to the San Luis & Delta-Mendota Water Authority, and Operating
405 Non-Federal Entity by separate agreement (8-07-20-X0354) between the United States and the
406 Operating Non-Federal Entity San Luis & Delta-Mendota Water Authority. That separate
407 agreement shall not interfere with or affect the rights or obligations of the Contractor or the
408 United States hereunder.

409 (b) The Contracting Officer has previously notified the Contractor in writing
410 that the Operation and Maintenance of a portion of the Project facilities which serve the
411 Contractor has been transferred to the Operating Non-Federal Entity San Luis & Delta-Mendota

412 Water Authority, and therefore, the Contractor shall pay directly to the Operating Non-Federal
413 Entity San Luis & Delta-Mendota Water Authority, or to any successor approved by the
414 Contracting Officer under the terms and conditions of the separate agreement between the United
415 States and the Operating Non-Federal Entity San Luis & Delta-Mendota Water Authority
416 described in subdivision (a) of this Article, all rates, charges, or assessments of any kind,
417 including any assessment for reserve funds, which the Operating Non-Federal Entity San Luis &
418 Delta-Mendota Water Authority or such successor determines, sets, or establishes for the O&M
419 of the portion of the Project facilities operated and maintained by the Operating Non-Federal
420 Entity San Luis & Delta-Mendota Water Authority or such successor. Such direct payments to
421 the Operating Non-Federal Entity San Luis & Delta-Mendota Water Authority or such successor
422 shall not relieve the Contractor of its obligation to pay directly to the United States the
423 Contractor's share of the Project Rates, Charges, and Tiered Pricing Component except to the
424 extent the Operating Non-Federal Entity San Luis & Delta-Mendota Water Authority collects
425 payments on behalf of the United States in accordance with the separate agreement identified in
426 subdivision (a) of this Article.

427 (c) For so long as the O&M of any portion of the Project facilities serving the
428 Contractor is performed by the Operating Non-Federal Entity San Luis & Delta-Mendota Water
429 Authority, or any successor thereto, the Contracting Officer shall adjust those components of the
430 Rates for Water Delivered under this Contract representing the cost associated with the activity
431 being performed by the Operating Non-Federal Entity San Luis & Delta-Mendota Water
432 Authority or its successor.

433 (d) In the event the O&M of the Project facilities operated and maintained by
434 the Operating Non-Federal Entity San Luis & Delta-Mendota Water Authority is re-assumed by
435 the United States during the term of this Contract, the Contracting Officer shall so notify the
436 Contractor, in writing, and present to the Contractor a revised Exhibit "B" which shall include
437 the portion of the Rates to be paid by the Contractor for Project Water under this Contract
438 representing the O&M costs of the portion of such Project facilities which have been re-assumed.
439 The Contractor shall, thereafter, in the absence of written notification from the Contracting
440 Officer to the contrary, pay the Rates, Charges, and Tiered Pricing Component specified in the
441 revised Exhibit "B" directly to the United States in compliance with Article 7 of this Contract.

442 9. **Article 18 of the Existing Contract entitled <u>CARE, OPERATION, AND</u>**
443 **<u>MAINTENANCE OF TRANSFERRED AND OTHER DIVISION WORKS</u> is hereby**
444 **amended as follows:**

445 **A new subdivision (c) is added as follows, and the remaining subdivisions are redesignated**
446 **(d) – (r) accordingly:**

447 **(c)** The Contractor is authorized under this Contract to undertake activities
448 necessary for the complete care, operation, maintenance and replacement of the San Benito
449 Facilities, to ensure efficient and reliable operating condition and fulfillment of authorized
450 San Felipe Division purposes. The Contracting Officer shall use its best efforts to promptly
451 review proposals for work to be undertaken by the Contractor pursuant to said agreement, and to
452 promptly coordinate and facilitate such work. To the extent that the approval or determination of

453 the Contracting Officer is required in connection with any such activities, such approval or
454 determination shall not be unreasonably withheld.

455 10. **The Existing Contract is hereby amended to add Articles 18.1 and 18.2**
456 **entitled RIGHT TO RECOVER COSTS INCURRED BY SAN BENITO COUNTY**
457 **WATER DISTRICT; and RIGHT TO RECOVER COSTS INCURRED BY SANTA**
458 **CLARA VALLEY WATER DISTRICT:**

459 RIGHT TO RECOVER COSTS INCURRED BY SAN BENITO COUNTY WATER
460 DISTRICT

461 18.1 (a) In addition to operation and maintenance charges, the Contractor, as the
462 Operating Non-Federal Entity for the San Benito Facilities, has the right to impose upon any
463 entity a charge to recover costs incurred by the Contractor in accordance with this Contract,
464 provided such charges are just and reasonable.

465 (b) In any contract with an entity or individual to deliver Project water or non-
466 Project water through the San Benito Facilities, the Contracting Officer shall require that such
467 entity or individual enter into an agreement with the Contractor to pay such charges as are just
468 and reasonable for use of the San Benito Facilities.

469 RIGHT TO RECOVER COSTS INCURRED BY SANTA CLARA VALLEY WATER
470 DISTRICT

471 18.2 (a) Santa Clara Valley Water District, as the Operating Non-Federal Entity,
472 has the right to require any entity to pay Santa Clara Valley Water District an amount(s) to
473 recover costs incurred by Santa Clara Valley Water District for Reach 1 Facilities, Reach 2
474 Facilities, and Reach 3 Facilities, in addition to O&M costs, provided that such amount(s) are

475 just and reasonable. In any contract or approval by the Contracting Officer to deliver water
476 through such Facilities, the Contracting Officer shall require the entity to pay such amount(s) to
477 Santa Clara Valley Water District, upon presentation of Santa Clara Valley Water District's
478 invoice therefore;

479 (b) Unless otherwise agreed, Santa Clara Valley Water District's right to
480 recover capital costs from the Contractor is limited to such capital costs for its share of Reach 1
481 Facilities that are not paid directly to the United States by the Contractor under the terms of this
482 Contract as may be further amended or renewed. The Contractor's share of Reach 1 Facilities
483 shall be based on Article 3(b) of Contract No. 6-07-20-X0290 entitled Contract For The Transfer
484 Of The Operation And Maintenance Of Certain San Felipe Division Facilities between the
485 United States and Santa Clara Valley Water District dated September 8, 1986, or as otherwise
486 mutually agreed upon by the Contractor and Santa Clara Valley Water District in a separate
487 contract.

488 11. **Article 24 of the Existing Contract entitled LANDS NOT TO RECEIVE**
489 **WATER FURNISHED TO CONTRACTOR BY UNITED STATES UNTIL OWNERS**
490 **THEREOF EXECUTE CERTAIN CONTRACTS, Article 25 of the Existing Contract**
491 **entitled VALUATION AND SALE OF EXCESS LANDS and Article 26 of the Existing**
492 **Contract entitled EXCESS LANDS are hereby deleted in their entirety and the following is**
493 **added as subdivision (b) of Article 31 entitled RULES AND REGULATIONS:**

494 (b) Except as provided by the San Felipe Division Act of August 28,
495 1967 (81 Stat. 173), the parties agree that the delivery of agricultural water or use of Federal
496 facilities pursuant to this Contract is subject to Federal Reclamation law, including but not
497 limited to the Reclamation Reform Act of 1982 (43 U.S.C.390aa et seq.), as amended and
498 supplemented, and the rules and regulations promulgated by the Secretary of the Interior under
499 Federal Reclamation law.

500 12. **The Existing Contract is hereby amended to add Article 43 entitled WATER**
501 **CONSERVATION:**

502 WATER CONSERVATION

503 43. (a) Prior to the delivery of water provided from or conveyed through
504 Federally constructed or Federally financed facilities pursuant to this Contract, the Contractor
505 shall be implementing an effective water conservation and efficiency program based on the
506 Contractor's water conservation plan that has been determined by the Contracting Officer to meet
507 the conservation and efficiency criteria for evaluating water conservation plans established under
508 Federal law. The water conservation and efficiency program shall contain definite water
509 conservation objectives, appropriate economically feasible water conservation measures, and
510 time schedules for meeting those objectives. Continued Project water delivery pursuant to this
511 Contract shall be contingent upon the Contractor's continued implementation of such water
512 conservation program. In the event the Contractor's water conservation plan or any revised water
513 conservation plan completed pursuant to this Contract have not yet been determined by the
514 Contracting Officer to meet such criteria, due to circumstances which the Contracting Officer

515 determines are beyond the control of the Contractor, water deliveries shall be made under this
516 Contract so long as the Contractor diligently works with the Contracting Officer to obtain such
517 determination at the earliest practicable date, and thereafter the Contractor immediately begins
518 implementing its water conservation and efficiency program in accordance with the time
519 schedules therein.

520 (b) Should the amount of M&I Water delivered pursuant to subdivision (c) of
521 Article 3 of this Contract equal or exceed 2,000 acre-feet per Year, the Contractor shall
522 implement the Best Management Practices identified by the time frames issued by the California
523 Urban Water Conservation Council for such M&I Water unless any such practice is determined
524 by the Contracting Officer to be inappropriate for the Contractor.

525 (c) The Contractor shall submit to the Contracting Officer a report on the
526 status of its implementation of the water conservation plan on the reporting dates specified in the
527 then existing conservation and efficiency criteria established under Federal law.

528 (d) At 5 year intervals, the Contractor shall revise its water conservation plan
529 to reflect the then current conservation and efficiency criteria for evaluating water conservation
530 plans established under Federal law and submit such revised water management plan to the
531 Contracting Officer for review and evaluation. The Contracting Officer will then determine if
532 the water conservation plan meets Reclamation's then current conservation and efficiency
533 criteria for evaluating water conservation plans established under Federal law.

534 (e) If the Contractor is engaged in direct groundwater recharge, such activity
535 shall be described in the Contractor's water conservation plan.

PRESERVATION OF EXISTING CONTRACT

13. Except as expressly modified by the provisions hereof, the Existing Contract shall remain in full force and effect.

IN WITNESS WHEREOF, the parties hereto have executed this Second Amendment Contract No. 8-7-20-W0130A on the day and year first above written.

APPROVED AS TO LEGAL FORM AND SUFFICIENCY
James E. Turner
OFFICE OF REGIONAL SOLICITOR
DEPARTMENT OF THE INTERIOR

THE UNITED STATES OF AMERICA

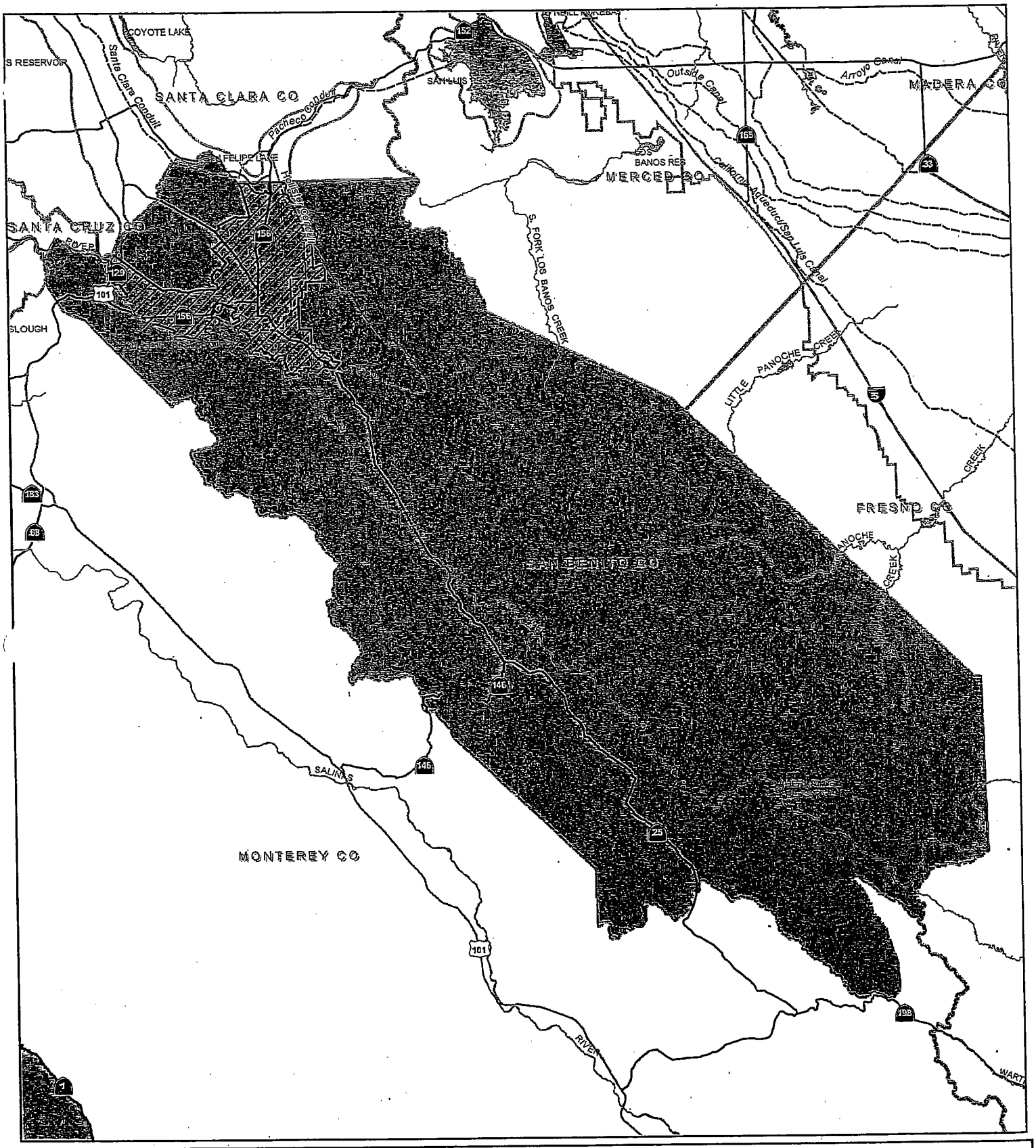
By: _____
Regional Director, Mid-Pacific Region
Bureau of Reclamation

SAN BENITO COUNTY WATER DISTRICT

By: _____
President of the Board of Directors

Attest:

By: _____
Secretary of the Board of Directors



San Benito Co. W.D.

San Benito Co. WD Boundary

San Benito Co WD Service Area

Consolidated Place of Use

San Benito Co W.D. Contract No. 8-07-20-W0130A
Exhibit A

0 10 20 Miles

Date: June 27, 2006
File Name: N:\Districts\Contracts\SantaClaraSanBenitoJoint\SanBenito.mxd

921-202-6

EXHIBIT B
[RATES AND CHARGES]

EXHIBIT B

March 1, 2007 to February 28, 2008, Water Rates
for Second Amendment to Contract No. 8-07-20-W0130
San Benito County Water Conservation and Flood Control District

BUREAU OF RECLAMATION O&M COST-OF-SERVICE RATES:	Rates per Acre-Foot Irrigation Water	M&I Water
Capital Rate	$9.19	$14.73
O&M Rates:		
Water Marketing	6.86	5.76
Storage	7.23	9.10
Direct Pumping	8.69	8.69
TOTAL O&M RATES	$22.78	$23.55
CFO/PFR Adjustment Rate:	$0.00	$0.00
Deficit Rates:		
Non-Interest Bearing	N/A	N/A
Interest Bearing	$0.00	$0.00
TOTAL DEFICIT RATE	$0.00	$0.00
TOTAL COST-OF-SERVICE RATES (COS)	**$31.97**	**$38.28**
FULL COST RATES		
Section 202(3) Rates is applicable to a Qualified Recipient or to a Limited Recipient receiving irrigation water on or before October 1, 1981.	**$46.92**	

Section 205(a)(3) Rate is applicable to a Limited Recipient that did not receive irrigation water on or before October 1, 1981.	**$55.57**	

TIERED PRICING RATES

Tier 1 Pricing Rate <= 80% of Contract total [COS Rate]	**$31.97**	**$38.28**
Tier 2 Pricing Rate > 80% <= 90% of Contract Total [Full Cost Rate [(202(3)) + (COS Rate)/2][1]	**$39.45**	**$43.71**
Tier 3 Pricing Rate > 90% of Contract Total [Full Cost Rate [202(3)][1]	**$46.92**	**$49.13**

[1] ***When triggered, district must assess those irrigation users already subject to full cost rates. Greater rate will apply.***

SURCHARGES UNDER P.L. 102-575 TO RESTORATION FUND *

Restoration Payments (3407 (d)(2)(A))	**$8.58**	**$17.15**

* Conveyance and Conveyance Pumping Operation & Maintenance cost were removed for ratesetting purposes and are to be billed directly to the water authorities.

** The surcharges are payments in addition to water rates and were determined pursuant to Title XXXIV of Public Law 102-575. These surcharges are on a fiscal year basis (10/1-9/30) and will change each fiscal year.

M&I HISTORIC USE
FOR 2006 CONTRACT YEAR:

4,288 acre-feet

EXHIBIT C
SAN FELIPE DIVISION REIMBURSABLE CAPITAL COSTS

	Total	Reach 1 Facilities	Reach 2 Facilities	Reach 3 Facilities	SBCWD Facilities
Reclamation Facilities					
Pacheco Pumping Plant	$30,220,448	$30,220,448			
Pacheco Substation 70 kv Line	$239,745	$239,745			
Pacheco Substation 70-kv IDC	$5,044	$5,044			
Pacheco Tunnel	$75,352,668	$75,352,668			
Pacheco Conduit	$29,764,210	$29,764,210			
Santa Clara Tunnel and Conduit	$67,877,286		$23,186,694	$44,690,592	
Coyote Pumping Plant	$16,493,415			$16,493,415	
Coyote Pumping Plant - 115 kv Line	$1,923,559			$1,923,559	
Coyote Pumping Plant - 115 kv Line IDC	$18,082			$18,082	
Hollister Canal and Conduit	$26,032,191				$26,032,191
San Justo Dam & Reservoir	$35,286,142				$35,286,142
San Felipe Division IDC	$32,227,149	$17,075,058	$4,907,593	$9,459,014	$785,484
San Felipe Division Permanent Operating Facilities	$234,222	$234,222			
San Felipe Division Wildlife Mitigation Lands	$301,445	$301,445			
Power System					
Pacheco Pumping Plant Substation	$1,203,910	$1,203,910			
Pacheco Pumping Plant IDC	$370,824	$370,824			
Coyote Pumping Plant Substation	$1,649,124			$1,649,124	
Coyote Pumping Plant IDC	$218,184			$218,184	
	$319,417,648	$154,767,574	$28,094,287	$74,451,970	$62,103,817

Amounts listed for each facility include interest during construction.
Amounts reflected are as of September 30, 2004

Amendatory Contract
No. 8-07-20-W0130A

EXHIBIT D
SAN BENITO COUNTY WATER DISTRICT
REPAYMENT SCHEDULE

Irrigation	M&I *	Unpaid Capital Interest	TOTAL
$68,924,535.02	$19,471,641.66	$2,036,399.00	$90,432,575.67
0.0000%	3.4874%	3.5000%	

Payment Due Date		Payment #	Payment: Irrigation	Payment: M&I	Payment: Unpd Cap Int	Payment: Total	Interest Charges: M&I	Interest Charges: Unpd Cap Int	Principal: Irrigation	Principal: M&I	Principal: Capital Interest	Remaining Balance: Irrigation 0.0000%	Remaining Balance: M&I 3.4874%	Remaining Balance: Capital Interest 3.5000%	Total
												$68,924,535.02	$19,471,941.66	$2,036,399.00	$90,432,575.67
2007	January 1	1	$125,000.00	$516,931.86	$54,143.92	$696,075.77	$0.00	$0.00	$125,000.00	$516,931.86	$54,143.92	$68,799,535.02	$18,954,709.80	$1,982,255.08	$89,736,499.90
	July 1	2	$125,000.00	$516,931.86	$54,143.92	$696,075.77	$330,513.27	$34,689.46	$125,000.00	$186,418.58	$19,454.45	$68,674,535.02	$18,768,291.22	$1,962,800.63	$89,405,626.87
2008	January 1	3	$125,000.00	$516,931.86	$54,143.92	$696,075.77	$327,262.69	$34,349.01	$125,000.00	$189,669.16	$19,794.91	$68,549,535.02	$18,578,622.06	$1,943,005.73	$89,071,162.80
	July 1	4	$125,000.00	$516,931.86	$54,143.92	$696,075.77	$323,955.43	$34,002.60	$125,000.00	$192,976.42	$20,141.32	$68,424,535.02	$18,385,645.63	$1,922,864.41	$88,733,045.06
2009	January 1	5	$125,000.00	$516,931.86	$54,143.92	$696,075.77	$320,590.50	$33,650.13	$125,000.00	$196,341.36	$20,493.79	$68,299,535.02	$18,189,304.28	$1,902,370.62	$88,391,209.92
	July 1	6	$125,000.00	$516,931.86	$54,143.92	$696,075.77	$317,166.90	$33,291.49	$125,000.00	$199,764.96	$20,852.43	$68,174,535.02	$17,989,539.32	$1,881,518.19	$88,045,592.53
2010	January 1	7	$125,000.00	$516,931.86	$54,143.92	$696,075.77	$313,683.60	$32,926.57	$125,000.00	$203,248.26	$21,217.35	$68,049,535.02	$17,786,291.06	$1,860,300.84	$87,696,126.92
	July 1	8	$125,000.00	$516,931.86	$54,143.92	$696,075.77	$310,139.56	$32,555.26	$125,000.00	$206,792.30	$21,588.65	$67,924,535.02	$17,579,498.77	$1,838,712.19	$87,342,745.97
2011	January 1	9	$125,000.00	$516,931.86	$54,143.92	$696,075.77	$306,533.72	$32,177.46	$125,000.00	$210,398.14	$21,966.45	$67,799,535.02	$17,369,100.63	$1,816,745.74	$86,985,381.38
	July 1	10	$125,000.00	$516,931.86	$54,143.92	$696,075.77	$302,865.01	$31,793.05	$125,000.00	$214,066.85	$22,350.87	$67,674,535.02	$17,155,033.78	$1,794,394.87	$86,623,963.67
2012	January 1	11	$125,000.00	$516,931.86	$54,143.92	$696,075.77	$299,132.32	$31,401.91	$125,000.00	$217,799.53	$22,742.01	$67,549,535.02	$16,937,234.25	$1,771,652.87	$86,259,422.13
	July 1	12	$125,000.00	$516,931.86	$54,143.92	$696,075.77	$295,334.55	$31,003.93	$125,000.00	$221,597.30	$23,139.99	$67,424,535.02	$16,715,636.95	$1,748,512.87	$85,888,684.84
2013	January 1	13	$125,000.00	$516,931.86	$54,143.92	$696,075.77	$291,470.56	$30,598.98	$125,000.00	$225,461.29	$23,544.94	$67,299,535.02	$16,490,175.65	$1,724,967.93	$85,514,678.60
	July 1	14	$125,000.00	$516,931.86	$54,143.92	$696,075.77	$287,539.19	$30,186.94	$125,000.00	$229,392.66	$23,956.98	$67,174,535.02	$16,260,782.99	$1,701,010.96	$85,136,328.96
2014	January 1	15	$125,000.00	$516,931.86	$54,143.92	$696,075.77	$283,539.27	$29,767.69	$125,000.00	$233,392.58	$24,376.22	$67,049,535.02	$16,027,390.41	$1,676,634.73	$84,753,560.15
	July 1	16	$125,000.00	$516,931.86	$54,143.92	$696,075.77	$279,469.61	$29,341.11	$125,000.00	$237,462.25	$24,802.81	$66,924,535.02	$16,789,928.16	$1,651,831.92	$84,366,295.10
2015	January 1	17	$125,000.00	$516,931.86	$54,143.92	$696,075.77	$275,328.98	$28,907.05	$125,000.00	$241,602.88	$25,236.86	$66,799,535.02	$16,548,325.28	$1,626,595.07	$83,974,455.36
	July 1	18	$125,000.00	$516,931.86	$54,143.92	$696,075.77	$271,116.15	$28,465.41	$125,000.00	$245,815.71	$25,678.50	$66,674,535.02	$16,302,509.57	$1,600,916.56	$83,677,961.15
2016	January 1	19	$125,000.00	$516,931.86	$54,143.92	$696,075.77	$266,829.86	$28,016.04	$125,000.00	$250,102.00	$26,127.88	$66,549,535.02	$15,052,407.57	$1,574,788.69	$83,176,731.28
	July 1	20	$125,000.00	$516,931.86	$54,143.92	$696,075.77	$262,468.93	$27,558.80	$125,000.00	$254,463.03	$26,585.11	$66,424,535.02	$14,797,944.55	$1,548,203.57	$82,770,693.14
2017	January 1	21	$400,000.00	$516,931.86	$54,143.92	$971,075.77	$258,031.76	$27,093.56	$400,000.00	$258,900.10	$27,050.35	$66,024,535.02	$14,539,044.45	$1,521,153.22	$82,084,732.69
	July 1	22	$400,000.00	$516,931.86	$54,143.92	$971,075.77	$253,517.02	$26,620.18	$400,000.00	$263,414.64	$27,523.74	$65,624,535.02	$14,275,629.91	$1,493,629.48	$81,393,794.41
2018	January 1	23	$400,000.00	$516,931.86	$54,143.92	$971,075.77	$248,924.16	$26,138.52	$400,000.00	$268,007.70	$28,005.40	$65,224,535.02	$14,007,622.22	$1,465,624.08	$80,697,761.32
	July 1	24	$400,000.00	$516,931.86	$54,143.92	$971,075.77	$244,250.91	$25,648.42	$400,000.00	$272,680.95	$28,495.49	$64,824,535.02	$13,734,941.27	$1,437,128.59	$79,996,604.87
2019	January 1	25	$400,000.00	$516,931.86	$54,143.92	$971,075.77	$239,496.17	$25,149.75	$400,000.00	$277,435.69	$28,994.17	$64,424,535.02	$13,457,505.58	$1,408,134.42	$79,290,175.02
	July 1	26	$400,000.00	$516,931.86	$54,143.92	$971,075.77	$234,658.52	$24,642.35	$400,000.00	$282,273.33	$29,501.56	$64,024,535.02	$13,175,232.25	$1,378,632.86	$78,578,400.13
2020	January 1	27	$400,000.00	$516,931.86	$54,143.92	$971,075.77	$229,736.52	$24,126.08	$400,000.00	$287,195.33	$30,017.84	$63,624,535.02	$12,888,036.92	$1,348,615.02	$77,861,186.95
	July 1	28	$400,000.00	$516,931.86	$54,143.92	$971,075.77	$224,728.70	$23,600.76	$400,000.00	$292,203.16	$30,543.15	$63,224,535.02	$12,595,833.77	$1,318,071.86	$77,138,440.64
2021	January 1	29	$400,000.00	$516,931.86	$54,143.92	$971,075.77	$219,633.55	$23,066.26	$400,000.00	$297,298.30	$31,077.66	$62,824,535.02	$12,298,535.46	$1,286,994.20	$76,410,064.68
	July 1	30	$400,000.00	$516,931.86	$54,143.92	$971,075.77	$214,449.56	$22,622.40	$400,000.00	$302,482.29	$31,621.52	$62,424,535.02	$11,996,053.17	$1,255,372.69	$75,675,960.87
2022	January 1	31	$400,000.00	$516,931.86	$54,143.92	$971,075.77	$209,175.18	$21,969.02	$400,000.00	$307,756.68	$32,174.89	$62,024,535.02	$11,688,296.49	$1,223,197.79	$74,936,029.30
	July 1	32	$400,000.00	$516,931.86	$54,143.92	$971,075.77	$203,808.83	$21,405.96	$400,000.00	$313,123.03	$32,737.95	$61,624,535.02	$11,375,173.46	$1,190,459.84	$74,190,168.32
2023	January 1	33	$400,000.00	$516,931.86	$54,143.92	$971,075.77	$198,348.90	$20,833.05	$400,000.00	$318,582.96	$33,310.87	$61,224,535.02	$11,056,590.51	$1,157,148.97	$73,438,274.49
	July 1	34	$400,000.00	$516,931.86	$54,143.92	$971,075.77	$192,793.77	$20,250.11	$400,000.00	$324,138.09	$33,893.81	$60,824,535.02	$10,732,452.42	$1,123,255.16	$72,680,242.59
2024	January 1	35	$400,000.00	$516,931.86	$54,143.92	$971,075.77	$187,141.77	$19,656.97	$400,000.00	$329,790.08	$34,486.95	$60,424,535.02	$10,402,662.34	$1,088,768.21	$71,915,965.56
	July 1	36	$400,000.00	$516,931.86	$54,143.92	$971,075.77	$181,391.22	$19,053.44	$400,000.00	$335,540.63	$35,090.47	$60,024,535.02	$10,067,121.70	$1,053,677.74	$71,145,334.45
2025	January 1	37	$400,000.00	$516,931.86	$54,143.92	$971,075.77	$175,540.40	$18,439.36	$400,000.00	$341,391.45	$35,704.56	$59,624,535.02	$9,725,730.25	$1,017,973.18	$70,368,238.44
	July 1	38	$400,000.00	$516,931.86	$54,143.92	$971,075.77	$169,587.56	$17,814.53	$400,000.00	$347,344.30	$36,329.39	$59,224,535.02	$9,378,385.95	$981,643.79	$69,584,564.76
2026	January 1	39	$400,000.00	$516,931.86	$54,143.92	$971,075.77	$163,530.92	$17,178.77	$400,000.00	$353,400.94	$36,965.15	$58,824,535.02	$9,024,985.01	$944,678.64	$68,794,198.67
	July 1	40	$400,000.00	$516,931.86	$54,143.92	$971,075.77	$157,368.66	$16,531.86	$400,000.00	$359,563.19	$37,612.04	$58,424,535.02	$8,665,421.82	$907,066.60	$67,997,023.44

Exhibit D
Revised
8/6/07
See new schedule
following pg 34

EXHIBIT D
SAN BENITO COUNTY WATER DISTRICT
REPAYMENT SCHEDULE

Payment Due Date		Payment #	Payment				Interest Charges		Principal			Remaining Balance			Total
			Irrigation	M&I	Unpd Cap Int	Total	M&I	Unpd Cap Int	Irrigation	M&I	Capital Interest	Irrigation 0.0000%	M&I 3.4874%	Capital Interest 3.5000%	
												$68,924,535.02	$19,471,641.66	$2,036,399.00	$90,432,575.67
2027	January 1	41	$2,921,226.75	$516,931.86	$54,143.92	$3,492,302.52	$151,098.96	$15,673.67	$2,921,226.75	$365,832.90	$38,270.25	$55,603,308.26	$18,299,598.92	$1968,796.35	$64,671,693.54
	July 1	42	$2,921,226.75	$516,931.86	$54,143.92	$3,492,302.52	$144,719.93	$15,203.94	$2,921,226.75	$372,211.92	$38,939.98	$52,582,081.51	$17,927,377.00	$1929,856.37	$61,339,314.89
2028	January 1	43	$2,921,226.75	$516,931.86	$54,143.92	$3,492,302.52	$138,229.97	$14,522.49	$2,921,226.75	$378,702.18	$39,621.43	$49,660,854.76	$17,548,674.82	$1890,234.94	$57,999,764.52
	July 1	44	$2,921,226.75	$516,931.86	$54,143.92	$3,492,302.52	$131,626.24	$13,829.11	$2,921,226.75	$385,305.61	$40,314.80	$46,739,628.01	$17,163,369.20	$1849,920.14	$54,652,917.35
2029	January 1	45	$2,921,226.75	$516,931.86	$54,143.92	$3,492,302.52	$124,907.87	$13,123.60	$2,921,226.75	$392,024.19	$41,020.31	$43,818,401.26	$16,771,345.02	$1808,899.82	$51,298,646.10
	July 1	46	$2,921,226.75	$516,931.86	$54,143.92	$3,492,302.52	$118,071.94	$12,405.76	$2,921,226.75	$398,859.91	$41,738.17	$40,897,174.51	$16,372,485.10	$1767,161.65	$47,936,821.27
2030	January 1	47	$2,921,226.75	$516,931.86	$54,143.92	$3,492,302.52	$111,117.02	$11,675.33	$2,921,226.75	$405,814.83	$42,468.58	$37,975,947.76	$15,966,670.27	$1724,693.07	$44,567,311.10
	July 1	48	$2,921,226.75	$516,931.86	$54,143.92	$3,492,302.52	$104,040.83	$10,933.13	$2,921,226.75	$412,891.03	$43,211.79	$35,054,721.01	$15,553,779.24	$1681,481.28	$41,189,891.53
2031	January 1	49	$2,921,226.75	$516,931.86	$54,143.92	$3,492,302.52	$96,841.25	$10,175.92	$2,921,226.75	$420,090.61	$43,967.99	$32,133,494.26	$15,133,688.64	$1637,513.29	$37,804,696.18
	July 1	50	$2,921,226.75	$516,931.86	$54,143.92	$3,492,302.52	$89,516.13	$9,406.48	$2,921,226.75	$427,415.73	$44,737.43	$29,212,267.51	$14,706,272.91	$1592,775.85	$34,411,316.27
2032	January 1	51	$2,921,226.75	$516,931.86	$54,143.92	$3,492,302.52	$82,053.28	$8,623.66	$2,921,226.75	$434,868.58	$45,520.34	$26,291,040.76	$14,271,404.33	$1447,255.51	$31,009,700.60
	July 1	52	$2,921,226.75	$516,931.86	$54,143.92	$3,492,302.52	$74,480.48	$7,826.97	$2,921,226.75	$442,451.39	$46,316.94	$23,369,814.01	$13,828,952.95	$1400,938.57	$27,599,705.53
2033	January 1	53	$2,921,226.75	$516,931.86	$54,143.92	$3,492,302.52	$66,765.45	$7,016.42	$2,921,226.75	$450,166.40	$47,127.49	$20,448,587.26	$13,378,786.55	$1353,811.08	$24,181,184.80
	July 1	54	$2,921,226.75	$516,931.86	$54,143.92	$3,492,302.52	$58,916.90	$6,191.69	$2,921,226.75	$458,015.95	$47,952.22	$17,527,360.50	$12,920,770.60	$1305,858.86	$20,763,989.95
2034	January 1	55	$2,921,226.75	$516,931.86	$54,143.92	$3,492,302.52	$50,929.48	$5,352.53	$2,921,226.75	$466,002.38	$48,791.39	$14,606,133.75	$12,454,768.22	$1257,067.47	$17,317,969.44
	July 1	56	$2,921,226.75	$516,931.86	$54,143.92	$3,492,302.52	$42,803.79	$4,498.68	$2,921,226.75	$474,128.06	$49,645.24	$11,684,907.00	$11,980,640.15	$1207,422.23	$13,872,969.39
2035	January 1	57	$2,921,226.75	$516,931.86	$54,143.92	$3,492,302.52	$34,536.42	$3,629.89	$2,921,226.75	$482,395.43	$50,514.03	$8,763,680.25	$11,498,244.72	$1156,908.21	$10,418,833.18
	July 1	58	$2,921,226.75	$516,931.86	$54,143.92	$3,492,302.52	$26,124.89	$2,745.89	$2,921,226.75	$490,806.96	$51,398.02	$5,842,453.50	$11,007,437.76	$1105,510.18	$6,955,401.44
2036	January 1	59	$2,921,226.75	$516,931.86	$54,143.92	$3,492,302.52	$17,566.89	$1,845.43	$2,921,226.75	$499,365.16	$52,297.49	$2,921,228.75	$508,072.59	$53,212.69	$3,482,512.04
	July 1	60	$2,921,226.75	$516,931.86	$54,143.92	$3,492,302.52	$8,859.26	$931.22	$2,921,226.75	$508,072.59	$53,212.69	$0.00	$0.00	$0.00	$0.00
		Total	$68,924,535.02	$31,015,911.35	$3,248,634.98	$103,189,081.35	$11,544,269.70	$1,212,238.98	$68,924,535.02	$19,471,641.66	$2,036,399.00	$3,151,764,483.27	$662,055,955.89	$69,270,627.36	$3,883,091,066.54

* Weighted composite rate [Pacheco Inlet ($6,327,528) at 3.137%; all other facilities at 3.500%]

Revised 8/6/07

See new schedule next page

(Note: Revised Exhibit D)

cc: NS ✓ LJ ✓ [illegible]

United States Department of the Interior

BUREAU OF RECLAMATION
Mid-Pacific Regional Office
2800 Cottage Way
Sacramento, California 95825-1898

IN REPLY REFER TO:
MP-440
WTR 4.00

AUG - 6 2007

RECEIVED
AUG 09 2007
SAN BENITO COUNTY WATER DISTRICT

Mr. Robert Swanson
President
San Benito County Water District
P.O. Box 899
Hollister, CA 95024

Subject: Financial Analysis of Article 12 (Repayment Obligation) of the San Benito County Water District (District) Amendatory Contract No. 8-07-20-W0130A – San Felipe Division – Central Valley Project, California

Dear Mr. Swanson:

The purpose of this letter is to notify the District of a change in the application of payments submitted pursuant to Amendatory Contract No. 8-07-20-W0130A (W0130A). As you know, Article 12 of the District's Amendatory Contract requires that the District make semi-annual payments toward repayment of the capital costs of the District's share of the San Felipe Division facilities. The original Repayment Schedule (Exhibit D) included in Contract No. W0130A identified an inaccuracy in the application of each semi-annual payment. Current Departmental Accounting Directives require that the Bureau of Reclamation recover all interest on investment first, prior to applying any remaining revenues to the other loan functions, i.e., irrigation/-municipal and industrial (M&I) principal. Upon receipt of each payment made under the contract, revenues are applied as follows:

(1) Current year's interest on the total Federal investment.
(2) Unpaid prior year expenses (deficits) (which includes prior unpaid interest).
(3) Amortization of investment in descending order of interest rates, except that net revenues will be applied first to any required repayment of investment.

The original Repayment Schedule identified revenues being applied to principal prior to total interest being recovered. This is inconsistent with Federal accounting standards. Pursuant to Article 12(e)(2) of Contract No. W0130A, Reclamation has revised Exhibit D to accurately reflect the application of revenues, and no amendment to the contract is required. Semi-annual payment amounts will remain the same.

Please note that based on the revised application, the District will now recognize an overall savings based on payments being directed to interest-bearing M&I capital and interest under the

Federal standards. Enclosed is a revised Exhibit D for Contract No. W0130A. Please discard the original Exhibit D, and replace with the enclosed new Exhibit D. No other changes are being made to the contract at this time.

Reclamation has sent to the District a Bill for Collection dated July 20, 2007, for payments due on January 1 and July 1, 2007. Please remit payment within 30 days of the bill date to avoid late payment penalties. Once received, these payments will be applied using the current accounting standards. For questions regarding the application of payments to the District's account, please contact Ms. Lora Close, Assistant Financial Manager, at 916-978-5352. For all other contract related questions, please contact Mr. Richard Stevenson, Chief, Water Rights and Contracts Branch, at 916-978-5250.

Sincerely,

Richard J. Woodley
Regional Resources Manager

cc: Ms. Shelley Giancola
San Benito County Water District
P.O. Box 899
Hollister, CA 95024

Ms. Janet K. Goldsmith
Attorney
Kronick, Moskovitz, et al.
400 Capital Mall, 27th Floor
Sacramento, CA 95814-4417

Exhibit D
San Benito County Water District Repayment Schedule

Payment Due Date		Pmnt #	Payment Total	Current Year Interest Charges: M&I CY IOI	Current Year Interest Charges: Int on Deficit	Total Current Year Interest	Payment Application, Repayment Order Per FIN 06-30: 1. CY Interest	2. Pymt on Deficit	3. M&I Cap	4. Irrigation	Remaining Balance: Int on Deficit	M&I Cap	Irr Cap
											3.5000%	3.4874%	0.0000%
2007						-	-	-	-	-	2,036,398.00	19,471,642.00	68,924,535.00
	July 1	1&2	1,392,151.54	679,054.04	71,273.93	750,327.97	750,327.97	641,823.57	-	-	2,036,398.00	19,471,642.00	68,924,535.00
2008	January 1	3	696,075.77	339,527.02	24,405.05	363,932.07	363,932.07	332,143.70	-	-	1,394,574.43	19,471,642.00	68,924,535.00
	July 1	4	696,075.77	339,527.02	18,592.54	358,119.56	358,119.56	337,956.21	-	-	1,062,430.74	19,471,642.00	68,924,535.00
2009	January 1	5	696,075.77	339,527.02	12,678.30	352,205.33	352,205.33	343,870.44	-	-	724,474.53	19,471,642.00	68,924,535.00
	July 1	6	696,075.77	339,527.02	6,660.57	346,187.59	346,187.59	349,888.18	-	-	380,604.08	19,471,642.00	68,924,535.00
2010	January 1	7	696,075.77	339,527.02	537.53	340,064.55	340,064.55	30,715.91	325,295.31	-	30,715.91	19,471,642.00	68,924,535.00
	July 1	8	696,075.77	333,854.85	-	333,854.85	333,854.85	-	362,220.92	-	-	19,146,346.69	68,924,535.00
2011	January 1	9	696,075.77	327,538.80	-	327,538.80	327,538.80	-	368,536.97	-	-	18,784,125.76	68,924,535.00
	July 1	10	696,075.77	321,112.62	-	321,112.62	321,112.62	-	374,963.15	-	-	18,415,588.79	68,924,535.00
2012	January 1	11	696,075.77	314,574.39	-	314,574.39	314,574.39	-	381,501.38	-	-	18,040,625.65	68,924,535.00
	July 1	12	696,075.77	307,922.15	-	307,922.15	307,922.15	-	388,153.62	-	-	17,659,124.26	68,924,535.00
2013	January 1	13	696,075.77	301,153.92	-	301,153.92	301,153.92	-	394,921.85	-	-	17,270,970.64	68,924,535.00
	July 1	14	696,075.77	294,267.66	-	294,267.66	294,267.66	-	401,808.11	-	-	16,876,048.79	68,924,535.00
2014	January 1	15	696,075.77	287,261.33	-	287,261.33	287,261.33	-	408,814.44	-	-	16,474,240.68	68,924,535.00
	July 1	16	696,075.77	280,132.84	-	280,132.84	280,132.84	-	415,942.93	-	-	16,065,426.25	68,924,535.00
2015	January 1	17	696,075.77	272,880.04	-	272,880.04	272,880.04	-	423,195.73	-	-	15,649,483.31	68,924,535.00
	July 1	18	696,075.77	265,500.78	-	265,500.78	265,500.78	-	430,574.99	-	-	15,226,287.59	68,924,535.00
2016	January 1	19	696,075.77	257,992.84	-	257,992.84	257,992.84	-	438,082.93	-	-	14,795,712.59	68,924,535.00
	July 1	20	696,075.77	250,353.99	-	250,353.99	250,353.99	-	445,721.78	-	-	14,357,629.66	68,924,535.00
2017	January 1	21	971,075.77	242,581.94	-	242,581.94	242,581.94	-	728,493.83	-	-	13,911,907.88	68,924,535.00
	July 1	22	971,075.77	229,879.19	-	229,879.19	229,879.19	-	741,196.58	-	-	13,183,414.05	68,924,535.00
2018	January 1	23	971,075.77	216,954.95	-	216,954.95	216,954.95	-	754,120.82	-	-	12,442,217.47	68,924,535.00
	July 1	24	971,075.77	203,805.34	-	203,805.34	203,805.34	-	767,270.43	-	-	11,688,096.65	68,924,535.00
2019	January 1	25	971,075.77	190,426.45	-	190,426.45	190,426.45	-	780,649.32	-	-	10,920,826.22	68,924,535.00
	July 1	26	971,075.77	176,814.26	-	176,814.26	176,814.26	-	794,261.51	-	-	10,140,176.89	68,924,535.00
2020	January 1	27	971,075.77	162,964.73	-	162,964.73	162,964.73	-	808,111.04	-	-	9,345,915.39	68,924,535.00
	July 1	28	971,075.77	148,873.69	-	148,873.69	148,873.69	-	822,202.08	-	-	8,537,804.34	68,924,535.00
2021	January 1	29	971,075.77	134,536.96	-	134,536.96	134,536.96	-	836,538.81	-	-	7,715,602.27	68,924,535.00
	July 1	30	971,075.77	119,950.23	-	119,950.23	119,950.23	-	851,125.54	-	-	6,879,063.46	68,924,535.00
2022	January 1	31	971,075.77	105,109.15	-	105,109.15	105,109.15	-	865,966.62	-	-	6,027,937.91	68,924,535.00
	July 1	32	971,075.77	90,009.29	-	90,009.29	90,009.29	-	881,066.48	-	-	5,161,971.30	68,924,535.00
2023	January 1	33	971,075.77	74,646.14	-	74,646.14	74,646.14	-	896,429.63	-	-	4,280,904.82	68,924,535.00
	July 1	34	971,075.77	59,015.09	-	59,015.09	59,015.09	-	912,060.68	-	-	3,384,475.19	68,924,535.00
2024	January 1	35	971,075.77	43,111.49	-	43,111.49	43,111.49	-	927,964.28	-	-	2,472,414.51	68,924,535.00
	July 1	36	971,075.77	26,930.58	-	26,930.58	26,930.58	-	944,145.19	-	-	1,544,450.23	68,924,535.00
2025	January 1	37	971,075.77	10,467.52	-	10,467.52	10,467.52	-	600,305.04	360,303.21	-	600,305.04	68,924,535.00
	July 1	38	971,075.77	-	-	-	-	-	-	971,075.77	-	-	68,564,231.79
2026	January 1	39	971,075.77	-	-	-	-	-	-	971,075.77	-	-	67,593,156.02
	July 1	40	971,075.77	-	-	-	-	-	-	971,075.77	-	-	66,622,080.25
2027	January 1	41	3,492,302.52	-	-	-	-	-	-	3,492,302.52	-	-	65,651,004.48
	July 1	42	3,492,302.52	-	-	-	-	-	-	3,492,302.52	-	-	62,158,701.96
2028	January 1	43	3,492,302.52	-	-	-	-	-	-	3,492,302.52	-	-	58,666,399.44
	July 1	44	3,492,302.52	-	-	-	-	-	-	3,492,302.52	-	-	55,174,096.92
2029	January 1	45	3,492,302.52	-	-	-	-	-	-	3,492,302.52	-	-	51,681,794.40
	July 1	46	3,492,302.52	-	-	-	-	-	-	3,492,302.52	-	-	48,189,491.88
2030	January 1	47	3,492,302.52	-	-	-	-	-	-	3,492,302.52	-	-	44,697,189.36
	July 1	48	3,492,302.52	-	-	-	-	-	-	3,492,302.52	-	-	41,204,886.84
2031	January 1	49	3,492,302.52	-	-	-	-	-	-	3,492,302.52	-	-	37,712,584.32
	July 1	50	3,492,302.52	-	-	-	-	-	-	3,492,302.52	-	-	34,220,281.80
2032	January 1	51	3,492,302.52	-	-	-	-	-	-	3,492,302.52	-	-	30,727,979.28
	July 1	52	3,492,302.52	-	-	-	-	-	-	3,492,302.52	-	-	27,235,676.76
2033	January 1	53	3,492,302.52	-	-	-	-	-	-	3,492,302.52	-	-	23,743,374.24
	July 1	54	3,492,302.52	-	-	-	-	-	-	3,492,302.52	-	-	20,251,071.72
2034	January 1	55	3,492,302.52	-	-	-	-	-	-	3,492,302.52	-	-	16,758,769.20
	July 1	56	3,492,302.52	-	-	-	-	-	-	3,492,302.52	-	-	13,266,466.68
2035	January 1	57	3,492,302.52	-	-	-	-	-	-	3,492,302.52	-	-	9,774,164.16
	July 1	58	3,492,302.52	-	-	-	-	-	-	3,492,302.52	-	-	6,281,861.64
2036	January 1	59	3,492,302.52	-	-	-	-	-	-	3,492,302.52	-	-	2,789,559.12
	July 1	60	3,492,302.52	-	-	-	-	-	-	3,492,302.52	-	-	(702,743.40)
			103,189,081.20	8,427,312.36	134,147.92	8,561,460.28	8,561,460.28	2,036,398.00	19,471,642.00	73,119,680.92			(4,195,045.92)
	Check Figure		103,189,081.20										

E> 'll be updated to include capital costs from October 2004 through March 2007
Ea ıual Period Includes Interest from October through September

30 yrs

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Operation and Maintenance of Certain Works of the San Felipe Division" and authorizes the President of the Board of Directors of District to sign the Contract.

BE IT FURTHER RESOLVED, that the District makes the following CEQA finding and determination:

> The Second Amendment provides for repayment of San Felipe Division facilities, implementation of tiered pricing and water conservation reporting consistent with the CVPIA. The Second Amendment will not result in any change in water deliveries, facilities, distribution or management of water than would otherwise occur under the District's existing CVP contract. None of the provisions of the Second Amendment will result in direct physical change to the environment or result in any reasonably foreseeable indirect change to the environment. Therefore, the Second Amendment does not constitute a "project" as defined by CEQA.

BE IT FURTHER RESOLVED that the District Manager/Engineer is authorized to sign and file with the San Benito County Clerk a Notice of Exemption from CEQA.

BE IT FURTHER RESOLVED, that counsel for the District is authorized to file a Validating Proceeding pursuant to CCP § 860 et seq. in the San Benito County Superior Court for the purpose of obtaining a judgment from the court validating the Second Amendment.

The foregoing Resolution was passed and adopted by the Board of Directors of the San Benito County Water District this 31st day of January, 2007, by the following vote:

AYES: DIRECTORS: Swanson, Bettencourt, Tobias and Perry
NOES: DIRECTORS: None
ABSENT: DIRECTORS: Flores

Robert M. Swanson, President

Attest: Shelley Giancola
Shelley Giancola, District Secretary

Appendix H

Water Usage Trends by Customer Category in City and Sunnyslope

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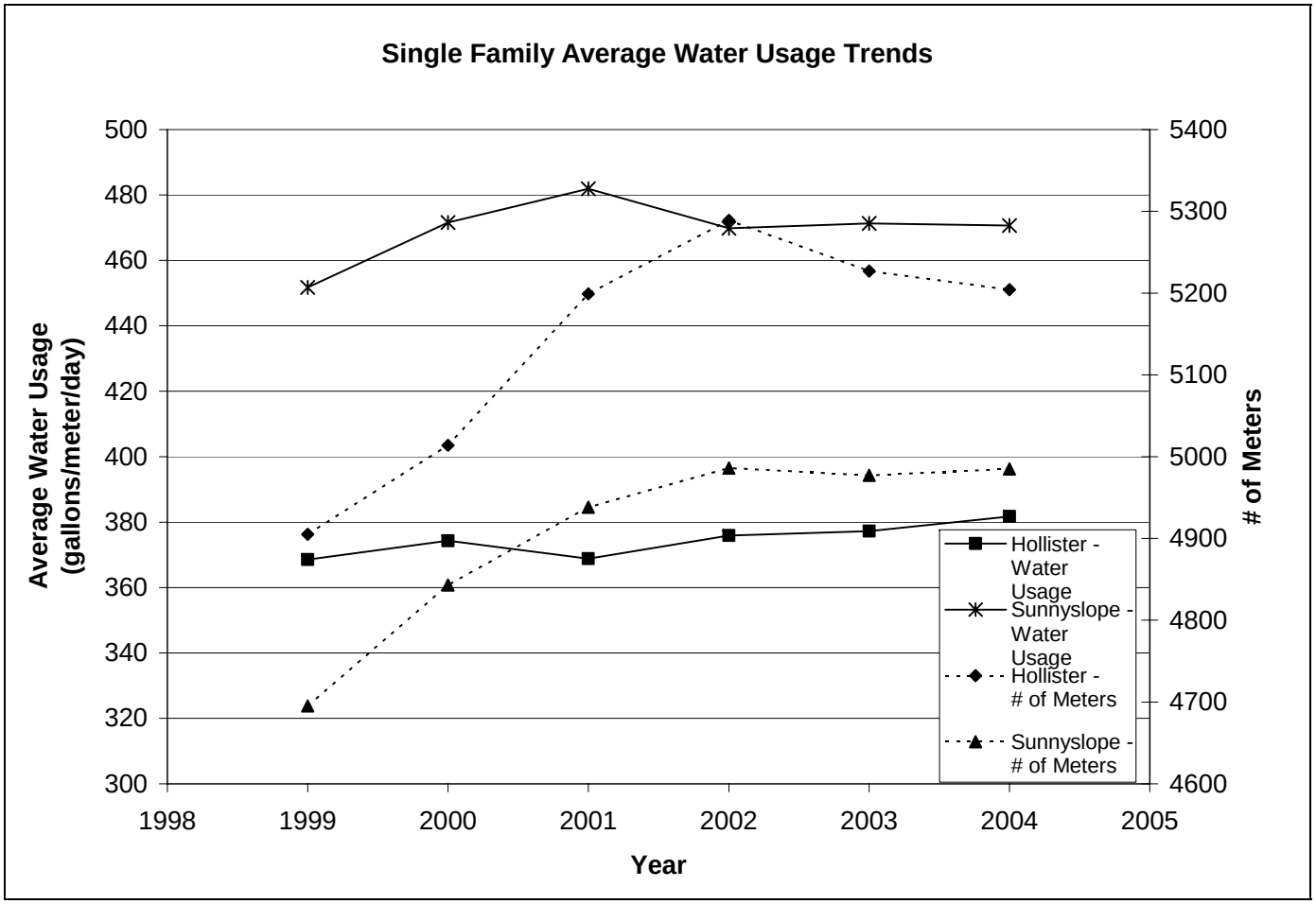
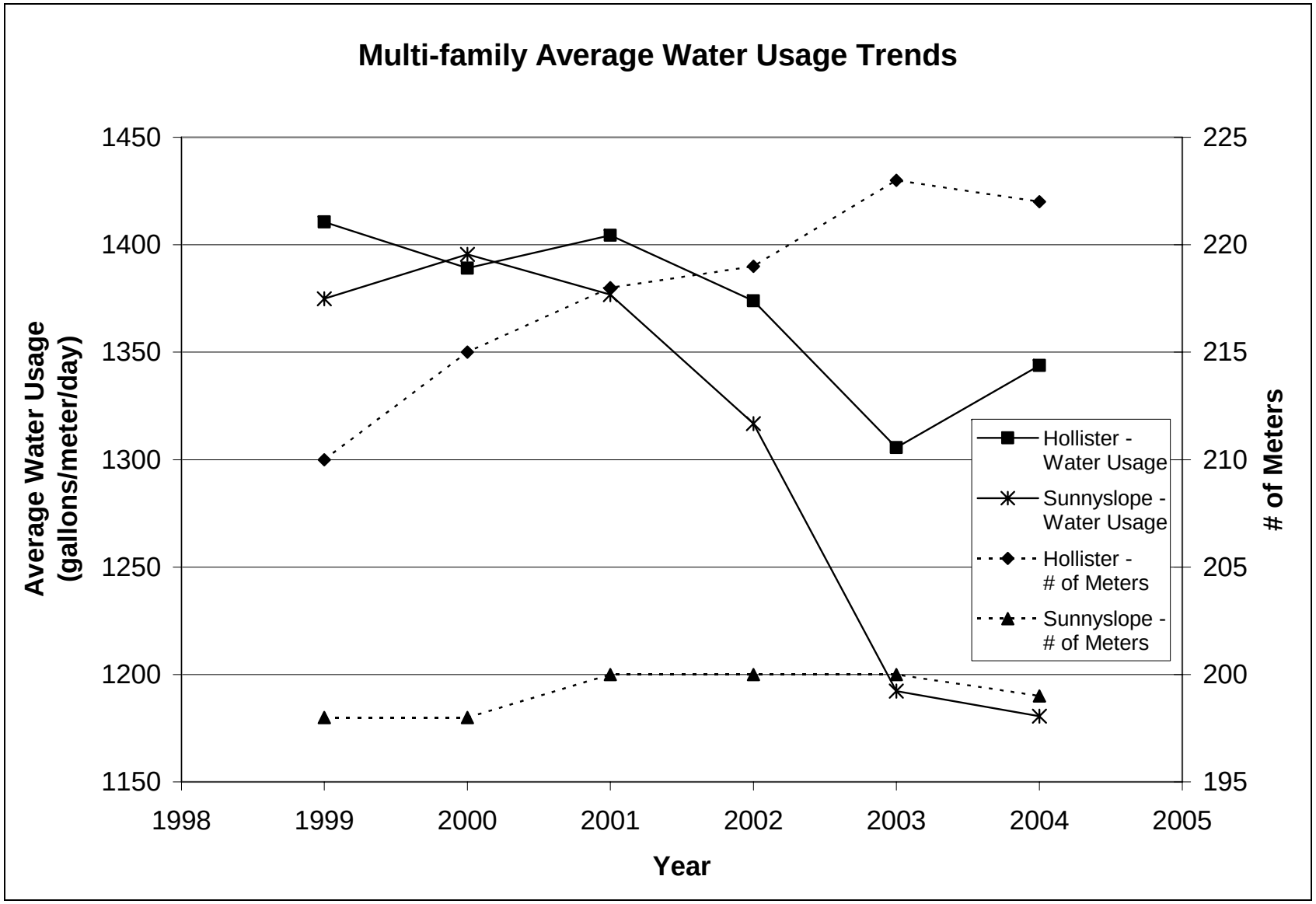
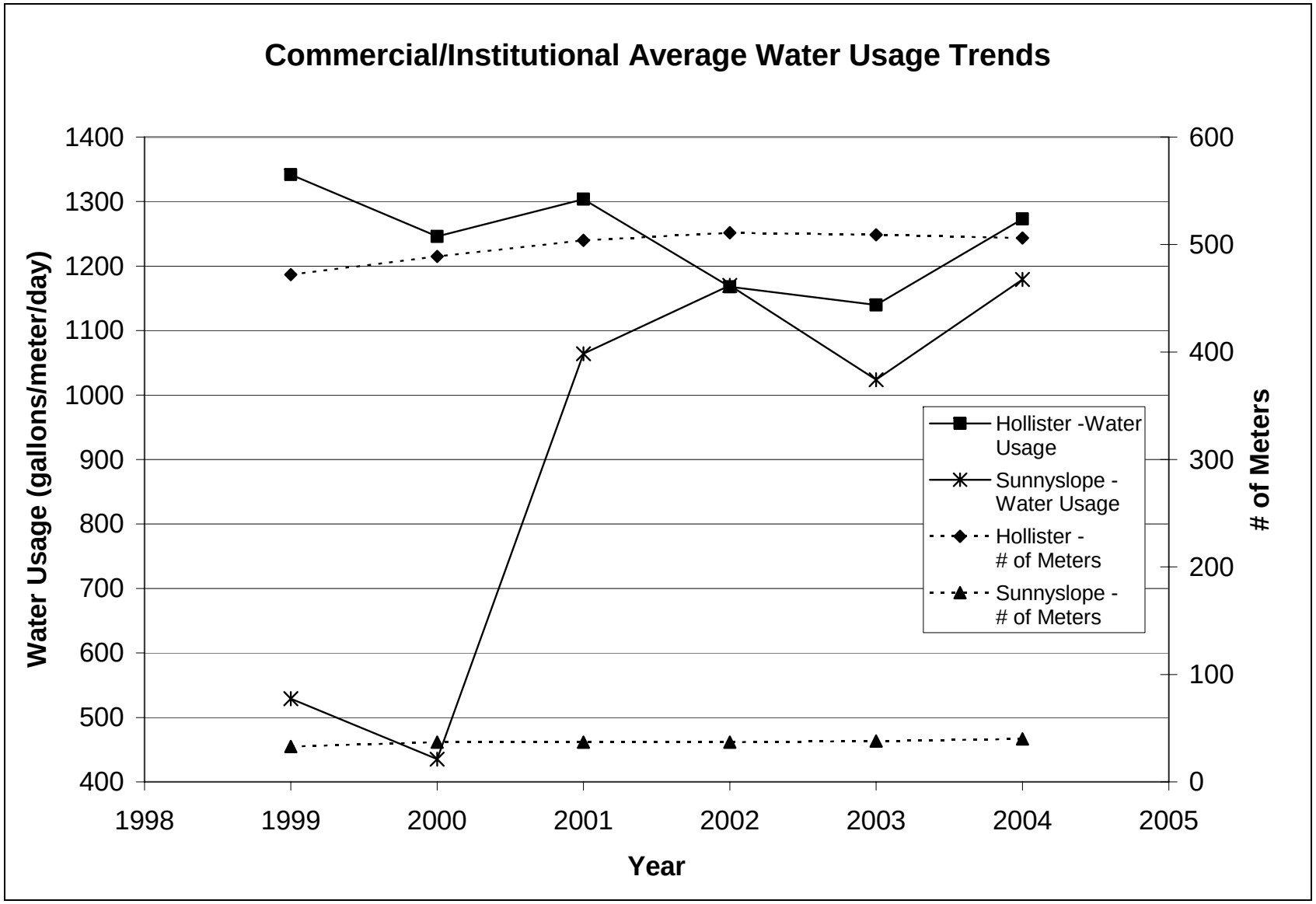
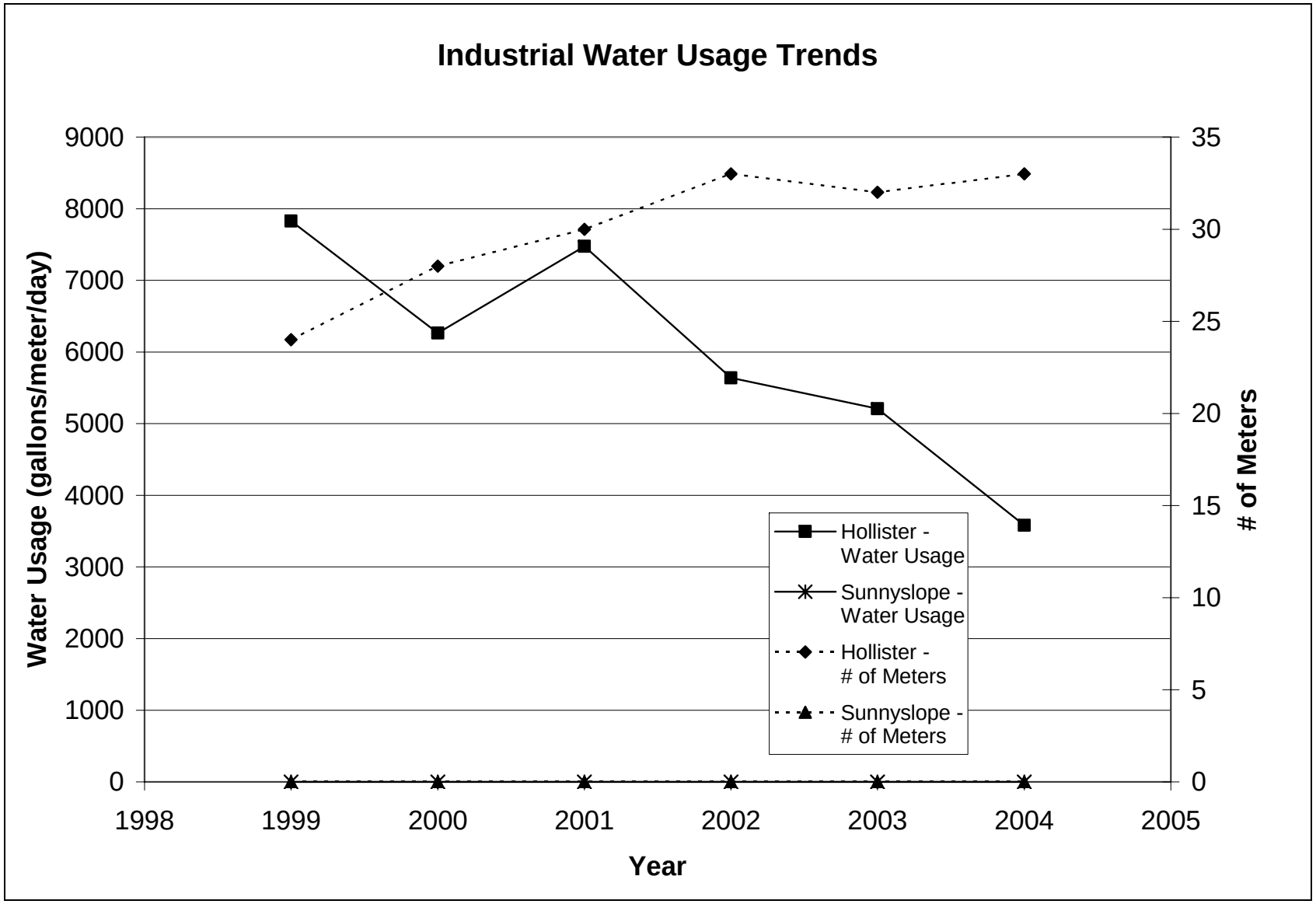
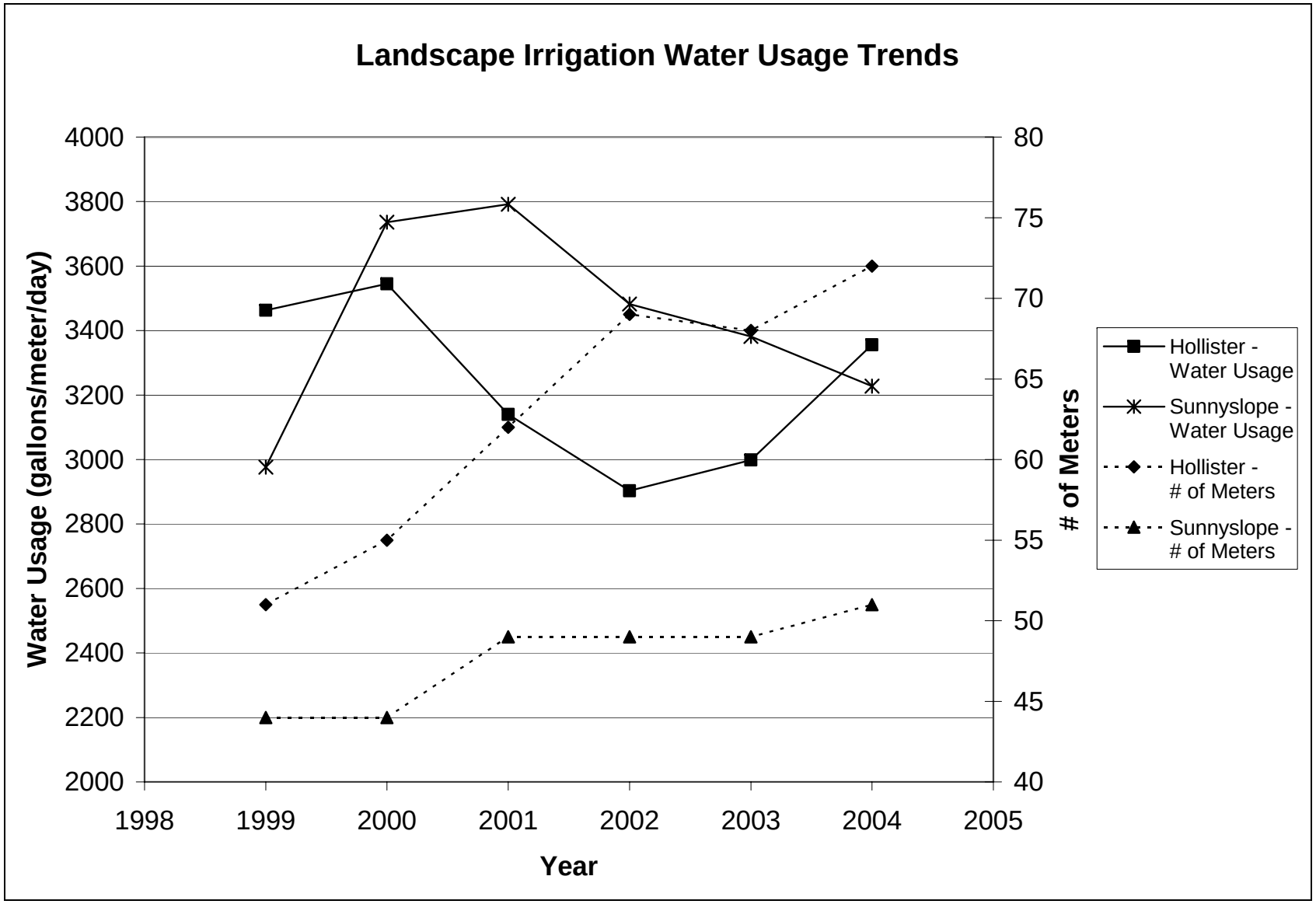

Single Family Average Water Usage Trends
Average Water Usage (gallons/meter/day)
# of Meters
Year
500
480
460
440
420
400
380
360
340
320
300
5400
5300
5200
5100
5000
4900
4800
4700
4600
1998
1999
2000
2001
2002
2003
2004
2005
Hollister - Water Usage
Sunnyslope - Water Usage
Hollister - # of Meters
Sunnyslope - # of Meters


Multi-family Average Water Usage Trends
Average Water Usage (gallons/meter/day)
# of Meters
Year
1450
1400
1350
1300
1250
1200
1150
225
220
215
210
205
200
195
1998
1999
2000
2001
2002
2003
2004
2005
Hollister - Water Usage
Sunnyslope - Water Usage
Hollister - # of Meters
Sunnyslope - # of Meters


Commercial/Institutional Average Water Usage Trends
Water Usage (gallons/meter/day)
# of Meters
Year
1400
1300
1200
1100
1000
900
800
700
600
500
400
600
500
400
300
200
100
0
1998
1999
2000
2001
2002
2003
2004
2005
Hollister -Water Usage
Sunnyslope - Water Usage
Hollister - # of Meters
Sunnyslope - # of Meters


Industrial Water Usage Trends
Water Usage (gallons/meter/day)
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
# of Meters
35
30
25
20
15
10
5
0
1998
1999
2000
2001
2002
2003
2004
2005
Year
Hollister - Water Usage
Sunnyslope - Water Usage
Hollister - # of Meters
Sunnyslope - # of Meters


Landscape Irrigation Water Usage Trends
Water Usage (gallons/meter/day)
4000
3800
3600
3400
3200
3000
2800
2600
2400
2200
2000
# of Meters
80
75
70
65
60
55
50
45
40
1998
1999
2000
2001
2002
2003
2004
2005
Year
Hollister - Water Usage
Sunnyslope - Water Usage
Hollister - # of Meters
Sunnyslope - # of Meters

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Appendix I

BMP Summary and CUWCC Annual BMP Reports for the City of Hollister

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RESOLUTION NO. 2007- 04

RESOLUTION APPROVING OF THE SECOND AMENDMENT TO CONTRACT BETWEEN THE UNITED STATES AND THE SAN BENITO COUNTY WATER DISTRICT FOR WATER SERVICE AND FOR OPERATION AND MAINTENANCE OF CERTAIN WORKS OF THE SAN FELIPE DIVISION AND AUTHORIZING THE PRESIDENT TO SIGN, AUTHORIZING THE FILING OF A NOTICE OF EXEMPTION UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT, AND DIRECTING THE FILING OF A VALIDATION ACTION

WHEREAS, the United States of America (United States) and the San Benito County Water District (District) entered into a contract for the delivery of Central Valley Project water to the District, Contract No. 8-07-20-W0130 dated April 15, 1978, which was subsequently amended on February 28, 1992 (Existing Contract); and

WHEREAS, the Central Valley Improvement Act (CVPIA) was enacted in 1992 and addressed the renewal of long-term water service contracts and required that certain terms be included in contracts renewed or amended after January 1, 1988; and

WHEREAS, the parties desire to amend the Existing Contract on the terms set forth in the Second Amendment to Contract in order to comply with the CVPIA; and

WHEREAS, none of the provisions of the Second Amendment will result in direct physical change to the environment, nor any reasonably foreseeable indirect change to the environment, and, therefore, is not a project as defined by the California Environmental Quality Act (CEQA) and is exempt therefrom; and

WHEREAS, it the District's desire to validate the Second Amendment by filing an action in the San Benito County Superior Court under CCP § 860 et seq.

NOW, THEREFORE, BE IT RESOLVED, that the District hereby approves of the "Second Amendment to Contract Between the United States and San Benito County Water District for Water Service and For

Water Supply & Reuse

Reporting Unit: **City of Hollister**

Year: **2004**

Water Supply Source Information

Supply Source Name	Quantity (AF) Supplied	Supply Type
Well 1	0	Groundwater
Well 2	701.44	Groundwater
Well 3	351.34	Groundwater
Well 4	706.22	Groundwater
Well 5	981.22	Groundwater
Well 6	13.8	Groundwater
Cienega	116.67	Groundwater
Lessalt WTP	650.69	Imported

Total AF: 3521.38

Reported as of 7/

Accounts & Water Use

Reporting Unit Name:	Submitted to	Year:
City of Hollister	CUWCC **03/01/2005**	**2004**

A. Service Area Population Information:

1. Total service area population 19015

B. Number of Accounts and Water Deliveries (AF)

Type	Metered		Unmetered	
	No. of Accounts	Water Deliveries (AF)	No. of Accounts	Water Deliveries (AF)
1. Single-Family	5204	2226.57	0	0
2. Multi-Family	222	626.08	0	0
3. Commercial	506	721.87	0	0
4. Industrial	33	132.49	0	0
5. Institutional	0	0	0	0
6. Dedicated Irrigation	72	270.82	0	0
7. Recycled Water	0	0	0	0
8. Other	0	0	0	0
9. Unaccounted	NA	0	NA	0
Total	6037	3977.83	0	0
	Metered		**Unmetered**	

Reported as of 7/

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

Reporting Unit:	BMP Form Status:	Year:
City of Hollister	**100% Complete**	**2004**

A. Implementation

1. Based on your signed MOU date, 09/10/1991, your Agency STRATEGY DUE DATE is:	09/09/1993
2. Has your agency developed and implemented a targeting/ marketing strategy for SINGLE-FAMILY residential water use surveys?	yes
a. If YES, when was it implemented?	6/30/2000
3. Has your agency developed and implemented a targeting/ marketing strategy for MULTI-FAMILY residential water use surveys?	yes
a. If YES, when was it implemented?	6/30/2000

B. Water Survey Data

Survey Counts:	**Single Family Accounts**	**Multi-Family Units**
1. Number of surveys offered:	5204	222
2. Number of surveys completed:	265	77
Indoor Survey:		
3. Check for leaks, including toilets, faucets and meter checks	yes	yes
4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary	yes	yes
5. Check toilet flow rates and offer to install or recommend installation of displacement device or direct customer to ULFT replacement program, as neccesary; replace leaking toilet flapper, as necessary	yes	yes
Outdoor Survey:		
6. Check irrigation system and timers	yes	yes
7. Review or develop customer irrigation schedule	yes	yes
8. Measure landscaped area (Recommended but not required for surveys)	no	no
9. Measure total irrigable area (Recommended but not required for surveys)	no	no
10. Which measurement method is typically used (Recommended but not required for surveys)		None
11. Were customers provided with information packets that included evaluation results and water savings recommendations?	yes	yes
12. Have the number of surveys offered and completed, survey results, and survey costs been tracked?	yes	yes
a. If yes, in what form are surveys tracked?		spreadsheet

b. Describe how your agency tracks this information.

Information from survey forms and field notes are entered into computer for tracking.

C. Water Survey Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	9500	15000
2. Actual Expenditures	9500	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

Residential water conservation audits are regularly offered in billing notices, newspaper ads and civic events.

Reported as of 7/

BMP 02: Residential Plumbing Retrofit

Reporting Unit:	BMP Form Status:	Year:
City of Hollister	**100% Complete**	**2004**

A. Implementation

1. Is there an enforceable ordinance in effect in your service area requiring replacement of high-flow showerheads and other water use fixtures with their low-flow counterparts? no

   a. If YES, list local jurisdictions in your service area and code or ordinance in each:

2. Has your agency satisfied the 75% saturation requirement for single-family housing units? yes
3. Estimated percent of single-family households with low-flow showerheads: 90%
4. Has your agency satisfied the 75% saturation requirement for multi-family housing units? yes
5. Estimated percent of multi-family households with low-flow showerheads: 90%
6. If YES to 2 OR 4 above, please describe how saturation was determined, including the dates and results of any survey research.

   Survey of a sample number of homes shows most homes have retrofitted to low flow replacements due to hard water effects. Survey results show average showerhead flow is <2.3 gpm.

B. Low-Flow Device Distribution Information

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

   a. If YES, when did your agency begin implementing this strategy? 5/15/2001

   b. Describe your targeting/ marketing strategy.

   Retrofits are part of surveys offered and conducted. Notice of availability is through mailings with water bills. Also, distribution is made during "distribution days" and community events advertised in newspapers and community calenders.

Low-Flow Devices Distributed/ Installed	SF Accounts	MF Units
2. Number of low-flow showerheads distributed:	181	77
3. Number of toilet-displacement devices distributed:	181	77
4. Number of toilet flappers distributed:	181	77
5. Number of faucet aerators distributed:	273	115

6. Does your agency track the distribution and cost of low-flow devices? yes

   a. If YES, in what format are low-flow devices tracked? Spreadsheet

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

   Results from survey forms and field notes are entered into computer for tracking.

C. Low-Flow Device Distribution Expenditures

	This Year	Next Year
1. Budgeted Expenditures	12000	12000
2. Actual Expenditures	8500	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

Although exemption request is filed, retrofits are still provided as added incentives to accept residential audits.

Reported as of 7/

BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit:	BMP Form Status:	Year:
City of Hollister	**100% Complete**	**2004**

A. Implementation

1. Has your agency completed a pre-screening system audit for this reporting year?	yes
2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:	
a. Determine metered sales (AF)	3675.83
b. Determine other system verifiable uses (AF)	0
c. Determine total supply into the system (AF)	3521.38
d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required.	1.04
3. Does your agency keep necessary data on file to verify the values used to calculate verifiable uses as a percent of total production?	no
4. Did your agency complete a full-scale audit during this report year?	no
5. Does your agency maintain in-house records of audit results or the completed AWWA audit worksheets for the completed audit?	no
6. Does your agency operate a system leak detection program?	no
a. If yes, describe the leak detection program:	

B. Survey Data

1. Total number of miles of distribution system line.	45
2. Number of miles of distribution system line surveyed.	0

C. System Audit / Leak Detection Program Expenditures

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

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

Water production figures may not accurately reflect all water transferred from adjacent inter-connected system.

Reported as of 7/

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

Reporting Unit:	BMP Form Status:	Year:
City of Hollister	**100% Complete**	**2004**

A. Implementation

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

B. Feasibility Study

1. Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters?	no
a. If YES, when was the feasibility study conducted? (mm/dd/yy)	n/a
b. Describe the feasibility study:	
2. Number of CII accounts with mixed-use meters.	539
3. Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting period.	4

C. Meter Retrofit Program Expenditures

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

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

All current and new accounts are metered, so a retrofit program is not needed for unmetered connections.

Reported as of 7/

BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit:	BMP Form Status:	Year:
City of Hollister	**100% Complete**	**2004**

A. Water Use Budgets

1. Number of Dedicated Irrigation Meter Accounts:	72
2. Number of Dedicated Irrigation Meter Accounts with Water Budgets:	0
3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF):	0
4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF):	0
5. Does your agency provide water use notices to accounts with budgets each billing cycle?	no

B. Landscape Surveys

1. Has your agency developed a marketing / targeting strategy for landscape surveys?	yes
a. If YES, when did your agency begin implementing this strategy?	6/1/2001

b. Description of marketing / targeting strategy:

Offer surveys to largest water quantity users with dedicated landscape meters targeted first.

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

a. If YES, describe below:

Contact landscape managers by phone to determine what audit recommendations were implemented and what barriers were encountered. Offer re-survey to evaluate effectiveness of initial survey.

C. Other BMP 5 Actions

1. An agency can provide mixed-use accounts with ETo-based landscape budgets in lieu of a large landscape survey program. Does your agency provide mixed-use accounts with landscape budgets?	no
2. Number of CII mixed-use accounts with landscape budgets.	0
3. Do you offer landscape irrigation training?	no

4. Does your agency offer financial incentives to improve landscape water use efficiency?	no

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

5. Do you provide landscape water use efficiency information to new customers and customers changing services?	No
a. If YES, describe below:	
6. Do you have irrigated landscaping at your facilities?	yes
a. If yes, is it water-efficient?	yes
b. If yes, does it have dedicated irrigation metering?	yes
7. Do you provide customer notices at the start of the irrigation season?	yes
8. Do you provide customer notices at the end of the irrigation season?	yes

D. Landscape Conservation Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	7500	10000
2. Actual Expenditures	7500	

E. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

F. Comments

Most large landscape and agricultural accounts are outside city service area.

Reported as of 7/

BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit:	BMP Form Status:	Year:
City of Hollister	**100% Complete**	**2004**

A. Implementation

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

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

   PG&E offers $75 rebates for customers buying qualifying units.

2. Does your agency offer rebates for high-efficiency washers? yes
3. What is the level of the rebate? 100
4. Number of rebates awarded. 157

B. Rebate Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	12000	12000
2. Actual Expenditures	15700	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no

   a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Reported as of 7/

BMP 07: Public Information Programs

Reporting Unit:	BMP Form Status:	Year:
City of Hollister	**100% Complete**	**2004**

A. Implementation

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

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

Information has been sent through direct mailings and with water bills, (including a regular Newsletter) distributed to the public at community events, presented in media ads and displayed between shows at a local movie theater.

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

Public Information Program Activity	Yes/No	Number of Events
a. Paid Advertising	yes	20
b. Public Service Announcement	yes	3
c. Bill Inserts / Newsletters / Brochures	yes	6
d. Bill showing water usage in comparison to previous year's usage	yes	
e. Demonstration Gardens	no	0
f. Special Events, Media Events	yes	2
g. Speaker's Bureau	yes	0
h. Program to coordinate with other government agencies, industry and public interest groups and media	yes	

B. Conservation Information Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	35000	35000
2. Actual Expenditures	11200	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Reported as of 7/

BMP 08: School Education Programs

Reporting Unit:	BMP Form Status:	Year:
City of Hollister	**100% Complete**	**2004**

A. Implementation

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

2. Please provide information on your school programs (by grade level):

Grade	Are grade-appropriate materials distributed?	No. of class presentations	No. of students reached	No. of teachers' workshops
Grades K-3rd	no	0	0	0
Grades 4th-6th	yes	0	1700	0
Grades 7th-8th	no	0	0	0
High School	yes	0	100	0

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

4. When did your Agency begin implementing this program? 5/15/1998

B. School Education Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	3000	9000
2. Actual Expenditures	1500	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Some curriculum support provided to High School science/environmental classes. Agriculture Day at the Fair for 4th graders provides some water education

Reported as of 7/

BMP 09: Conservation Programs for CII Accounts

Reporting Unit:	BMP Form Status:	Year:
City of Hollister	**100% Complete**	**2004**

A. Implementation

1. Has your agency identified and ranked COMMERCIAL customers according to use?	yes
2. Has your agency identified and ranked INDUSTRIAL customers according to use?	yes
3. Has your agency identified and ranked INSTITUTIONAL customers according to use?	yes

Option A: CII Water Use Survey and Customer Incentives Program

4. Is your agency operating a CII water use survey and customer incentives program for the purpose of complying with BMP 9 under this option?	yes

CII Surveys	Commercial Accounts	Industrial Accounts	Institutional Accounts
a. Number of New Surveys Offered	4	4	1
b. Number of New Surveys Completed	3	3	1
c. Number of Site Follow-ups of Previous Surveys (within 1 yr)	0	0	0
d. Number of Phone Follow-ups of Previous Surveys (within 1 yr)	0	0	0

CII Survey Components	Commercial Accounts	Industrial Accounts	Institutional Accounts
e. Site Visit	yes	yes	yes
f. Evaluation of all water-using apparatus and processes	yes	yes	yes
g. Customer report identifying recommended efficiency measures, paybacks and agency incentives	yes	yes	yes

Agency CII Customer Incentives	Budget ($/Year)	No. Awarded to Customers	Total $ Amount Awarded
h. Rebates	0	0	0
i. Loans	0	0	0
j. Grants	0	0	0
k. Others	0	0	0

Option B: CII Conservation Program Targets

5. Does your agency track CII program interventions and water savings for the purpose of complying with BMP 9 under this option?	no
6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings?	no
7. Estimated annual savings (AF/yr) from site-verified actions taken by agency since 1991.	0
8. Estimated annual savings (AF/yr) from non-site-verified actions taken by agency since 1991.	0

B. Conservation Program Expenditures for CII Accounts

	This Year	Next Year
1. Budgeted Expenditures	5000	5000
2. Actual Expenditures	2500	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Commercial and institutional accounts audited were primarily evaluated for possible ULFT retrofits

Reported as of 7/

BMP 09a: CII ULFT Water Savings

Reporting Unit:	BMP Form Status:	Year:
City of Hollister	**100% Complete**	**2004**

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

A. Targeting and Marketing

1. What basis does your agency use to target customers for participation in this program? Check all that apply.
   - Consumption ranking
   - Service area zones
   - Potential savings

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

   High volume water users were identified and directly contacted to offer and provide audits and retrofit options.

2. How does your agency advertise this program? Check all that apply.
   - Bill insert
   - Newsletter
   - Telephone
   - Newspapers
   - Trade shows and events

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

   Identifying high volume water users and directly contacting them to provide audits and retrofit options was the approach used.

B. Implementation

1. Does your agency keep and maintain customer participant information? (Read the Help information for a complete list of all the information for this BMP.) — Yes
2. Would your agency be willing to share this information if the CUWCC did a study to evaluate the program on behalf of your agency? — No
3. What is the total number of customer accounts participating in the program during the last year ? — 13

CII Subsector	Number of Toilets Replaced				
4.	**Standard Gravity Tank**	**Air Assisted**	**Valve Floor Mount**	**Valve Wall Mount**	**Type Not Specified**
a. Offices	3	0	0	0	0
b. Retail / Wholesale	3	0	0	0	0

c. Hotels	0	0	0	0	0
d. Health	0	0	20	13	0
e. Industrial	6	0	0	0	0
f. Schools: K to 12	47	0	0	30	0
g. Eating	2	0	0	0	0
h. Government	0	0	10	0	0
i. Churches	24	0	0	0	0
j. Other	0	0	0	0	0

5. Program design.

Rebate or voucher
Direct installation
Direct distribution

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

a. If yes, check all that apply. Plumbing contractors/subcontracts

7. Participant tracking and follow-up. Telephone

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

a. Disruption to business	3
b. Inadequate payback	2
c. Inadequate ULFT performance	3
d. Lack of funding	3
e. American's with Disabilities Act	1
f. Permitting	1
g. Other. Please describe in B. 9.	2

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

General indifference to problems and concern about performance of units.

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

Program still not as effective as residential, though improving.

C. Conservation Program Expenditures for CII ULFT

1. CII ULFT Program: Annual Budget & Expenditure Data

	Budgeted	Actual Expenditure
a. Labor	500	500

b. Materials	32000	32000
c. Marketing & Advertising	500	500
d. Administration & Overhead	500	500
e. Outside Services	500	500
f. Total	34000	34000

2. CII ULFT Program: Annual Cost Sharing

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

D. Comments

Reported as of 7/

BMP 11: Conservation Pricing

Reporting Unit:	BMP Form Status:	Year:
City of Hollister	**100% Complete**	**2004**

A. Implementation

Rate Structure Data Volumetric Rates for Water Service by Customer Class

1. Residential	
a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	$1424019
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	$0
2. Commercial	
a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	$243576
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	$0
3. Industrial	
a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	$47187
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	$0
4. Institutional / Government	
a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	$81192
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	$0
5. Irrigation	
a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	$107898
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	$0
6. Other	
a. Water Rate Structure	Service Not Provided
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	$0

d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources $0

B. Conservation Pricing Program Expenditures

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

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Commercial/Institutional revenues are not recorded in separate accounts. Institutional revenues are estimated at 25% of the combined revenues.

Reported as of 7/

BMP 12: Conservation Coordinator

Reporting Unit:	BMP Form Status:	Year:
City of Hollister	**100% Complete**	**2004**

A. Implementation

1. Does your Agency have a conservation coordinator?	yes
2. Is this a full-time position?	no
3. If no, is the coordinator supplied by another agency with which you cooperate in a regional conservation program ?	yes
4. Partner agency's name:	Water Resources Association
5. If your agency supplies the conservation coordinator:	
a. What percent is this conservation coordinator's position?	0%
b. Coordinator's Name	Eva Schmoock /Shawn Novack
c. Coordinator's Title	Conservation Specialist
d. Coordinator's Experience and Number of Years	Certified, 4 years experience
e. Date Coordinator's position was created (mm/dd/yyyy)	09/01/1999
6. Number of conservation staff, including Conservation Coordinator.	3

B. Conservation Staff Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	65000	77000
2. Actual Expenditures	65000	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	no

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

The Conservation Coordinator serves all member agencies of the Water Resources Association, including the City of Hollister. A landscape/irrigation specialist and a part time assistant are also on staff. Also, the City Utility Technician is a certified and functional Conservation Practitioner since 2003. Shawn Novack succeeded Eva Schmoock in October 2004, as coordinator.

Reported as of 7/

BMP 13: Water Waste Prohibition

Reporting Unit:	BMP Form Status:	Year:
City of Hollister	**100% Complete**	**2004**

A. Requirements for Documenting BMP Implementation

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

a. If YES, describe the ordinance:

Requires all water users in City to avoid non-essential, indiscriminate, excessive or unreasonable running or certain specified wasteful uses of potable water. Requires timely repair of leaks and restricts various water uses.

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

a. List local jurisdictions in your service area in the first text box and water waste ordinance citations in each jurisdiction in the second text box:

City of Hollister	None

B. Implementation

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

a. Gutter flooding	yes
b. Single-pass cooling systems for new connections	no
c. Non-recirculating systems in all new conveyor or car wash systems	no
d. Non-recirculating systems in all new commercial laundry systems	no
e. Non-recirculating systems in all new decorative fountains	no
f. Other, please name washing cars, exterior areas without shut-off nozzles; outdoor irrigation 9AM - 5PM without shut-off; no potable water for construction or outdoor washdown	yes

2. Describe measures that prohibit water uses listed above:

Violators may receive Notice of Violation listing corrective action; possible fine or imprisonment for refusal to comply.

Water Softeners:

3. Indicate which of the following measures your agency has supported in developing state law:

a. Allow the sale of more efficient, demand-initiated regenerating DIR models.	no
b. Develop minimum appliance efficiency standards that:	
i.) Increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used.	no
ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced.	no
c. Allow local agencies, including municipalities and special districts, to set more stringent standards and/or to ban on-site regeneration of water softeners if it is demonstrated and found by the agency governing board that there is an adverse	no

effect on the reclaimed water or groundwater supply.

4. Does your agency include water softener checks in home water audit programs?	yes
5. Does your agency include information about DIR and exchange-type water softeners in educational efforts to encourage replacement of less efficient timer models?	yes

C. Water Waste Prohibition Program Expenditures

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

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	no

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

Public awareness and educational materials which address water waste and water softeners are covered in budget information in BMP 7 and 8.

Reported as of 7/

BMP 14: Residential ULFT Replacement Programs

Reporting Unit:	BMP Form Status:	Year:
City of Hollister	**100% Complete**	**2004**

A. Implementation

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

Number of Toilets Replaced by Agency Program During Report Year

Replacement Method	SF Accounts	MF Units
2. Rebate	40	0
3. Direct Install	0	0
4. CBO Distribution	485	14
5. Other	0	0
Total	**525**	**14**

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

Flyers and billing messages sent to water customers offer free toilets for installation by customer, or rebates of $85 for a ULF toilet to replace non-ULFT units.

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

Flyers and bill messages sent to water customers offer free toilets for installation by customer, or rebates of $75 for a ULF toilet to replace non-ULFT units. Direct contact with managers of larger apartment buildings offered free toilets to those willing to install them.

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

9. List local jurisdictions in your service area in the left box and ordinance citations in each jurisdiction in the right box:

City of Hollister None

B. Residential ULFT Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	90000	90000
2. Actual Expenditures	90000	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Reported as of 7/

Appendix I - Water Conservation Best Management Practices Reporting
Water Resources Association of San Benito County

Best Management Practices (BMP) Report

BMP	Activity			2001				2002				2003				2004				2005				2006*			
			UWMP Yearly Goals	CH	SS	SJB	SBCWD	CH	SS	SJB	SBCWD	CH	SS	SJB	SBCWD	CH	SS	SJB	SBCWD	CH	SS	SJB	SBCWD	CH	SS	SJB	SBCWD
1	Surveys- Residential	sf	200	120	71	5	0	78	75	4	0	204	162	13	2	169	181	7	7	148	245	5	0	73	129	6	2
		mf	50	88	0	0	0	0	115	0	0	16	11	0	0	72	0	0	0	20	20	0	0	4	124	89	0
		Total	**250**	**284**				**272**				**408**				**436**				**438**				**427**			
				CH	SS	SJB	SBCWD	CH	SS	SJB	SBCWD	CH	SS	SJB	SBCWD	CH	SS	SJB	SBCWD	CH	SS	SJB	SBCWD	CH	SS	SJB	SBCWD
2	Plumbing Retrofits	sf	522	199	130	25	0	94	92	34	5	283	192	15	8	181	179	7	7	184	279	30	0	105	184	22	51
		mf	133	88	0	0	0	0	115	0	0	0	11	0	22	77	0	0	0	0	0	0	0	0	116	46	0
		Total	**655**	**442**				**340**				**531**				**451**				**493**				**524**			
				CH	SS	SJB	SBCWD	CH	SS	SJB	SBCWD	CH	SS	SJB	SBCWD	CH	SS	SJB	SBCWD	CH	SS	SJB	SBCWD	CH	SS	SJB	SBCWD
5	Lg. Landscape Audits		3% of accounts/yr	0	0	3		3	0	0	0	0	0	3	0	1	0	2	2	3	1	0	0	1	2	2	0
				3				**3**				**6**				**5**				**4**				**5**			
																CH	SS	SJB	SBCWD	CH	SS	SJB	SBCWD	CH	SS	SJB	SBCWD
6	High-Eff. Washer Rebates ($100)		budgeted for 300 rebates													70	96	1	1	99	158	4	0	62	93	4	2
				n/a				**3 awarded as prizes**				**170**				**168**				**261**				**161**			
				CH	SS	SJB	SBCWD	CH	SS	SJB	SBCWD	CH	SS	SJB	SBCWD	CH	SS	SJB	SBCWD	CH	SS	SJB	SBCWD	CH	SS	SJB	SBCWD
14	ULF Toilet Replacements		rebates	42	63	5	2	55	38	1	1	68	45	4	5	19	24	2	0	20	20	1	0	15	14	0	0
			sf giveaway/install	0	0	0	0	159	159	17	0	799	452	111	0	285	225	17	0	167	180	10	0	72	82	15	0
			mf giveaway/install	0	0	0	0	0	75	0	0	30	91	0	0	14	0	0	0	74	31	2	0	4	7	0	0
			institutional	0	0	0	0	4	3	7	0	74	70	0	0	157	24	0	0	31	57	6	0	0	28	5	0
			commercial	0	0	0	0	1	0	0	0	21	0	0	0	4	12	0	0	5	0	0	0	10	32	43	0
		Total	**540**	**112**				**520**				**1794**				**783**				**604**				**327**			

Source: WRA Water Conservation Coordinator
* Through July 31, 2006

CH=City of Hollister, SS=Sunnyslope County Water District, SJB= San Juan Bautista,SBCWD=San Benito County Water District

sf=single-family residences, mf=multi-family residences

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Appendix J

Public/School Information Materials

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Volume 4 Issue 2
Spring 2008

Water Conservation Update

May 2008 - Water Awareness Month

Water Awareness Month Festival Saturday, May 17th

Fun For The Entire Family!
11 am to 3 pm
Veteran's Park, Hollister
Memorial Drive between Sunnyslope Road and Hillcrest Avenue

Games for kids!
Information on landscaping, irrigation, plumbing, local water conservation & resource issues

FREE PRIZES!!!

FREE FOOD!!!

Learn to save money by conserving water!

In San Benito County and the rest of California, people are facing greater uncertainly about their water supply due to environmental degradation, climate change and drought. Help stretch the supply of this precious resource by being water efficient. Here are some tips:

Indoor water saving tips

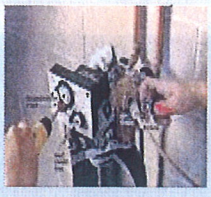
- Only run full loads in the washing machine and if you are purchasing a new washer sometime soon, purchase a water and energy saving model. **A $100 rebate is available for qualifying clothes washers through the WRA.**
- Use water-saving showerheads and faucet aerators. **Free through the WRA!**
- Fix leaky faucets and toilets – if the toilet flapper valve leaks, it's an easy problem to fix and stops enormous waste of water. **Free service through the WRA!**
- Replace your pre-1992 high-consumption toilet.**(See back page)**
- Turn off water while brushing your teeth. Don't let water go down the drain unnecessarily!

Outdoor water saving tips

- Use drip irrigation for your flowers, trees and garden.
- Stop watering before water starts to flow from your yard to the gutter.
- Know how to use your automatic sprinkler system, and set your time to local watering hours. Turn it off during rainy seasons and don't let sprinklers run if it's raining.
- Water your yard in the early morning or late evening to minimize evaporation and don't use the sprinklers on windy days.
- Maintain your sprinkler systems and fix leaking pipes.
- Make sure your sprinklers are directed toward watering the yard, not the sidewalk or driveway.
- Consider replacing part of your lawn with a deck, patio or low water-use plants. Grass is one of the highest users of water in outdoor landscaping.
- Instead of a hose, use a broom to clean driveways and walkways.
- Use a shutoff nozzle on your hose. **Free through the WRA!**
- Cover pools and spas to reduce evaporation.

Water Resources Association
PO Box 899
Hollister, CA 95023
(831) 637-4378
www.wrasbc.org

Representing the City of Hollister, the City of San Juan Bautista, Sunnyslope County Water District, and San Benito County Water District



$150 - $300 REBATE
Water Softener Replacement and Demolition Program

Customers of the City of Hollister, the City of San Juan Bautsita, Sunnyslope County Water District and Zone 6 of the San Benito County Water District who already own a pre-1999 water softener and are upgrading to a Demand Initiated Regeneration (DIR) water softener, an offsite water softening service or demolishing their pre-1999 water softener without a replacement water softener are eligible to participate . Help lower the salt load to our community water systems and save money on your water bill and salt purchases.

Spring Is The Time To Check Your Irrigation System

Call the Water Resources Association to schedule a FREE landscape irrigation check and receive a suggested watering schedule for your yard! In addition, you will receive a free hose nozzle for outdoor water use.

Attractive gardens and landscape add to the value of your home and bring years of beauty and enjoyment. With a water efficient design you'll be able to curb plant disease, minimize the use of chemical fertilizers, **and** save water, money, and labor time.

Upgrade the look of your landscape by learning the *how-to's* of proper lawn care, irrigation system maintenance and low water use gardens.

The Water Resources Association has a reference library on these topics. These books are available to the public on loan.

Calendar of Events
Water Awareness Month

May 1st
Water Awareness Month Begins

May 3rd
FREE TOILETS!!
Saturday from 8am-12 noon
San Benito County Water District
For those customers of the City of Hollister, the City of San Juan Bautista and Sunnyslope County Water District who are replacing toilets older than 1992. Get rid of your older, high-consumption water guzzling toilet and replace with a low-flow toilet.
Call for details

May 15th
Spotlight On Hollister
Business Trade Show
Veterans Hall Downtown Hollister
Learn how being water efficient in the workplace can improve your bottom line!

May 17th
Water Awareness Month Festival
Saturday from 11am-3pm FREE!!!
Veteran's Park, Hollister
Fun For The Entire Family!
Games, Food, Water Conservation Information
Prizes and FREE Gifts For Children

May 21st & 28th
Farmer's Market Downtown Hollister
Corner of 4th and San Benito
Come by the WRA booth and sign up for a FREE Home Water Survey. The Survey includes: leak check, free showerheads and faucet aerators, irrigation check, suggested watering schedule and a free high-quality hose nozzle. All items are FREE! Information on rebate programs, literature on ways to conserve water and water conservation devices will be available. FREE while supplies last!

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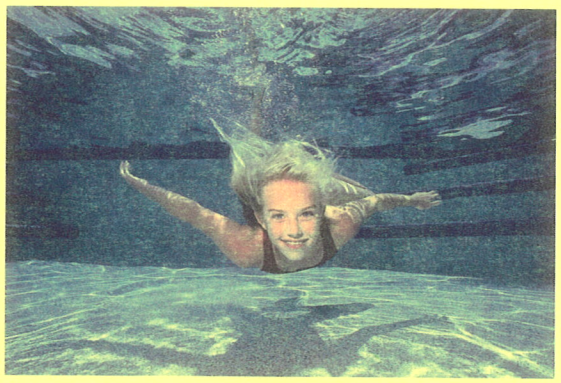
Hollister, CA 95023
(831) 637-4378
www.wrasbc.org

WATER CONSERVATION IS EVERYBODY'S CONCERN



Rainfall amounts in San Benito County have been well below normal this year. Other areas of our state have instituted mandatory water restrictions. Fortunately, our area is in better shape than most. However, if drought conditions continue throughout next year we could be facing water restrictions in our area too. By doing your part NOW you can help stretch the supply of this precious resource. Here are some tips on how you can conserve water:

- **Stop Those Leaks!** Many silent leaks allow water and your money to go down the drain. Studies have shown homes can waste more than 10% due to leaks, which costs both you and the environment.

CALL THE WATER RESOURCES ASSOCIATION FOR A FREE HOME WATER SURVEY.

The survey includes:

- ✓ Leak check
- ✓ Showerheads and faucet aerators
- ✓ Irrigation check
- ✓ Suggested watering schedule
- ✓ High-quality hose nozzle
- ✓ Water softener assistance

ALL FREE!!!

- **Replace your old Toilet, the largest water user inside your home.** If your home was built before 1992 and the toilet has never been replaced, then it is very likely that you do not have a water efficient 1.6 gallon per flush toilet. A family of four could potentially save over 14,000 gallons of water per year by replacing their older inefficient toilet.

THE WATER RESOURCES ASSOCIATION HAS TWO PROGRAMS TO ASSIST QUALIFYING RESIDENTS IN REPLACING THEIR OLDER, INEFFICIENT TOILETS:

- ✓ Free Toilet Giveaway – Saturday, August 18th
- ✓ $75 Toilet Rebate

- **Replace your Clothes Washer, the second largest water user in your home.** Energy Star™ rated washers use 35-50% less water and 50% less detergent.

THE WATER RESOURCES ASSOCIATION HAS A $100 REBATE FOR QUALIFYING RESIDENTS THAT PURCHASE AN Energy Star™ RATED WASHER.

- **Water Only What Your Plants Need**

THE WATER RESOURCES ASSOCIATION WILL CALCULATE A WATERING SCHEDULE FOR YOUR YARD – CALL FOR A FREE HOME WATER SURVEY TODAY!!!

To find out more information on our programs and ways you can save water call us or visit our website:

WATER RESOURCES ASSOCIATION OF SAN BENITO COUNTY
(831) 637-4378 www.wrasbc.org

San Benito County Water District
Water Conservation & Management Program

Water Efficiency - Irrigate More Land with the Same Amount of Water

Color Coding Sprinklers Avoids Nozzle Mix-up

A recent survey at a local farm revealed that five different sizes of sprinkler nozzles were being used in a random pattern on one field. As a result, 35%-45% more water was being applied than would have been necessary if all the nozzles had been the same size!

How can this nozzle mix-up happen?

It can happen very easily because suppliers of replacement parts or farm employees substitute different sized nozzles figuring that their chose is "close enough". More commonly, sprinkler pipes with different sized nozzles become intermixed when being placed in storage.

We suggest that you inspect all your sprinkler systems, sort them based on nozzle size and install enough new nozzles to assure a uniformed size in each system. Then color-code the risers using a different paint color for each nozzle size. Unmarked nozzles with round openings can have their size checked by carefully inserting the shank of an unused steel drill bit into the nozzle. The bit with a snug fit indicates the nozzle size. This method can also be used for nozzle wear. A sloppily fitting drill bit of the same size as that stamped on the nozzle indicates substantial wear and the nozzle should be replaced. Nozzles do wear and after three to five years of silt wear the flow rates can increase by 20%-25%. Ideally, all nozzles on your sprinkler systems should be around the same age for distribution uniformity and performance reasons.

Sprinkler system efficiency improvements enable more acres to be planted with the same amount of water at a very small cost. It can also help reduce excess deep percolation on areas affected by shallow groundwater. Better distribution uniformity reduces or eliminates dry areas.

Have a water efficient tip that you would like to share?

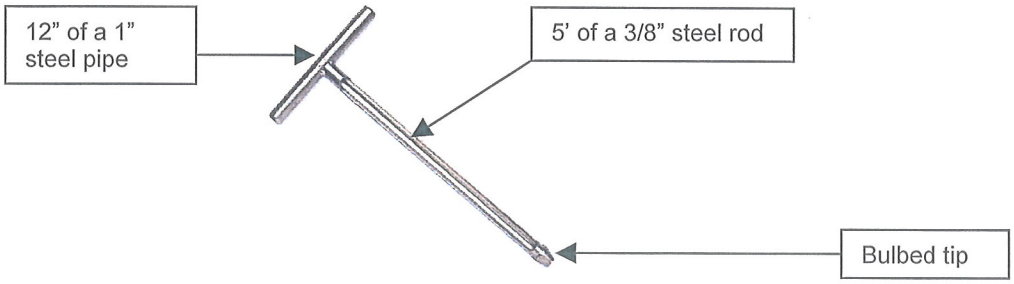
Email: ljohnson@sbcwd.com

Mail: Mr. Lance Johnson, District Manager
San Benito County Water District
30 Mansfield Road
Hollister, CA 95023

San Benito County Water District
Water Conservation & Management Program

Low Cost Gadget is a Great Water Conservation Tool

The Lowly Hand-Held Probe



Sometimes the simplest, most obvious approaches to efficient water management escape us. Take the hand-held soil probe. Any farm shop can make a tool for a few dollars that can produce answers to many questions facing growers seeking to improve irrigation efficiency. Questions such as, "When is the crop soil profile filled? When is water being lost underground? Have efforts to deal with infiltration problem areas been successful?"

This sounds like data obtained through a sophisticated water management analysis. Actually, it can be obtained by using a simple hand-held probe made from five feet of 3/8" steel rod with a bulbed and pointed lower end and a short crossbar handle at the top. The probe can easily be pushed into wet soil to measure water penetration during irrigation. It tells the user when he hits dry soil.

When you can determine the water penetration depth at any point of the field at any given time you can learn the answers to the questions posed above, among others.

It's a "super gadget" in the efficient management of irrigation water that can lead to big dollar savings on water and more profitable crops!

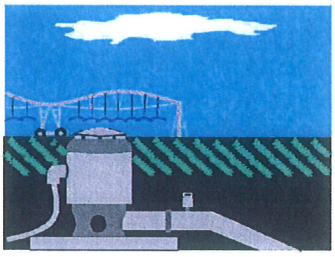
Have a water efficient tip that you would like to share?

Email: ljohnson@sbcwd.com

Mail: Mr. Lance Johnson, District Manager
San Benito County Water District
30 Mansfield Road
Hollister, CA 95023

San Benito County Water District
Water Conservation & Management Program

All Is Well That Ends Well



Between drought conditions and cutbacks on water deliveries from the Delta and the Central Valley Project (CVP) our water supply is severely stressed. This situation will be with us for awhile. In response, farmers have turned to their wells to supplement their CVP water to meet their irrigation needs. To get the most water from a well per kilowatt hour and to reduce energy cost, the following suggestions are offered:

- **Install a water meter** to gauge well performance and irrigation efficiency. The meter provides real time performance data (in cubic feet per second) and a drop in flow rate may signal pump damage, a broken casing, or obstructed well casing perforations. The irrigation efficiency can be estimated by comparing the amount of water required to refill the soil profile with the amount pumped for the irrigation.

- **Check electric pump efficiency.** This provides a baseline for gauging well performance. If efficiency drops below 50 percent, the bowl may need to be overhauled, replaced or the well casing perforations checked.

PG&E provides pump efficiency tests for free. In addition, PG&E has a program entitled, "The Agricultural Pumping Efficiency Program (APEP)". Incentives are available for pump bowl/impeller retrofit or replacement and other actions to improve pump efficiency or reduce pumping system pressure.

Call PG&E at (800) 845-6038 or visit http://www.pumpefficiency.org/

The following example illustrates pump performance savings after a retrofit:

Item:	**Current Conditions**	**Assumed After Retrofit**
Name Plate Horse Power	100	100
Input Horse Power	119.27	85.19
Flow (gpm) at Well Head	600	600
Discharge Pressure (psi) at Well Head	60	60
Calculations:		
Composite *average* power cost ($/kWh)	0.17	0.17
Acre-feet/Year (af)	250	250
Annual hours of operation	2263	2263
Average $/ Acre-Feet	$137.05	$97.89
Average $/hour	$15.14	$10.81
Annual Cost	$34,262.50	$24,473.06

That's an annual savings of $9, 789.44!

Have a water efficient tip that you would like to share?

Email Mr. Lance Johnson, District Manager at: ljohnson@sbcwd.com

San Benito County Water District
Water Conservation & Management Program

"Furrow Torpedoes" Can Help Conserve Water and Cut Costs

A farmer in the Central Valley reduced his water use by approximately 62% during his first irrigation by pulling heavy shop-made torpedoes down his furrows prior to irrigation.

The torpedoes compact and smooth furrows in "guess rows" and where tractor tires don't run helping to reduce infiltration rates and improving distribution uniformity by evening the rate of advance between compacted and uncompacted furrows.

Method: Four to five 10-inch diameter heavy steel pipes (cut 3 ½ feet long and domed or pointed at the front end) were chained to a tractor tool bar (one torpedo every other row) and pulled at roughly six miles per hour through the furrows.

Results: Untorpedoed fields required eight inches of water for the first irrigation. Torpedoed fields required only three inches of water. This is a water cost reduction of about $35.00/acre. The costs of torpedoing (labor and equipment) is about $8.00/acre. Net savings: 5 inches of water and approximately $27.00/acre.

Not only do furrow torpedoes conserve water enabling more land to be irrigated they reduce costs and can reduce deep percolation losses contributing to shallow groundwater drainage problems.

Other specifications: Torpedo pipe weight: 55 pounds per foot. Run length: ¼ mile, fed by gated pipe. Slope: 0.25-0.30'/100'. Soil type: panoche loam.

Have a water efficient tip that you would like to share?

Email: ljohnson@sbcwd.com

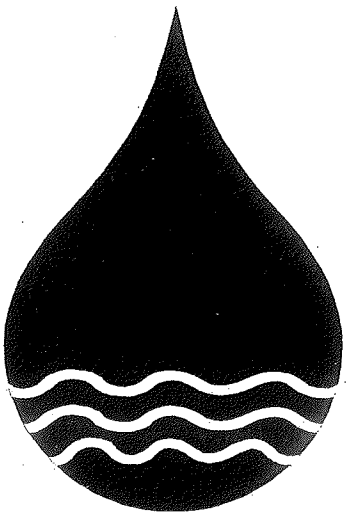
Mail: Mr. Lance Johnson, District Manager
San Benito County Water District
30 Mansfield Road
Hollister, CA 95023

AG Waivers: Frequently Asked Questions

Alison Jones, Regional Water Quality Control Board

FREQUENTLY ASKED QUESTIONS ABOUT THE NEW CONDITIONAL WAIVER FOR IRRIGATED AGRICULTURE

What is the new conditional waiver?
On July 9, 2004, the Central Coast Regional Water Quality Control Board adopted a new conditional waiver for discharges from irrigated lands, replacing a 1983 waiver that had expired. The California Water Code gives Regional Water Quality Control Boards (Regional Boards) the authority to regulate discharges of waste that could impact the waters of the state of California, through permits called ***"Waste Discharge Requirements"***. *A discharge is any release of waste, such as fertilizer, pesticide or sediment, to a water of the state. Waters of the state include rivers, streams, lakes, bays and estuaries, and also groundwater.* Regional Boards may also waive issuance of Waste Discharge Requirements for specific discharges or categories of discharges if it is in the public interest to do so.



Who does the waiver apply to?
The conditional waiver applies to ALL irrigated lands used for producing commercial crops, including, but not limited to, land planted to row, vineyard, field and tree crops, commercial nurseries, nursery stock production and greenhouse operations with soil floors that are not currently operating under Waste Discharge Requirements.

Why did the Regional Board adopt a new conditional waiver for irrigated agriculture?
Water quality data from the Central Coast Ambient Monitoring Program (CCAMP) indicate water quality problems in irrigated agricultural areas throughout the region. Many of the region's impaired water bodies (with subsequent Total Maximum Daily Loads determinations) are for waterbodies running through agricultural lands. In addition, many groundwater basins underlying agricultural areas show levels of nitrate that exceed drinking water standards. In 1983, the Regional Board approved waivers for several categories of discharge, including irrigation return water and stormwater discharges. The legislature recently amended California Water Code section 13269, causing all waivers of Waste Discharge Requirements that existed on January 1, 2000, to expire on January 1, 2003. Regional Boards are required to review and either renew existing waivers or adopt new ones. All waivers must be reviewed at least every five years. Because of both new legal requirements and well-documented water quality problems, the Regional Board adopted a new waiver with conditions to ensure that water quality is being protected.

What are farmers expected to do?
All farmers are expected to complete 15 hours of farm water quality education within three years of adoption of the waiver, develop farm water quality management plans that address, at a minimum, irrigation management, nutrient management, pesticide management and erosion control, and begin implementing management practices identified in their plans. *Those who have completed the above requirements by **January 1, 2005**, will qualify for a **Tier 1** waiver with reduced reporting requirements.*

What do I need to do to enroll in the waiver?
All irrigated operations meeting the above definition may obtain coverage under the waiver by filing a Notice of Intent (NOI) with the Regional Board by January 1, 2005. The Regional Board is developing both a paper and web-based enrollment system. Enrollment forms will be available on-line and in hard copy by December 1, 2004. *The NOI is a statement of your intent to meet the conditions of the waiver and obtain coverage.* The NOI will include information about the farming operation, including location, contact information for the owner and operator, currently implemented management practices (the "checklist"), a map, a statement of farm water quality plan completion if applicable, certificates of education, and election of monitoring option.

What is the difference between a Tier 1 and a Tier 2 waiver?
Growers who have completed 15 hours of water quality education and have completed a farm plan will only have to enroll and submit an updated management practice checklist midway through the five-year waiver cycle; all others must submit annual reports until they meet the education requirements and complete their farm plan.

If I have completed the education requirement and have a farm plan, will I automatically be placed in Tier 1?
If you state on your Notice of Intent that you have a completed farm water quality plan that meets the requirements of the waiver and you provide proof of education (copies of certificates signed by education providers), you may assume that you are in Tier 1 unless notified otherwise by the Regional Board.

If I am in Tier 2 and complete all of the Tier 1 requirements, what do I need to do?
Once you complete the Tier 1 requirements, submit a revised NOI and you will be placed in Tier 1. You will remain in Tier 1 for the remainder of the five-year waiver cycle.

If I am in Tier 2, do I need to submit an NOI every year?
You do not need to submit a new NOI, but you will need to submit an annual report each year until you complete all Tier 1 requirements. The annual report must include proof of progress toward meeting education requirements and a checklist of man-

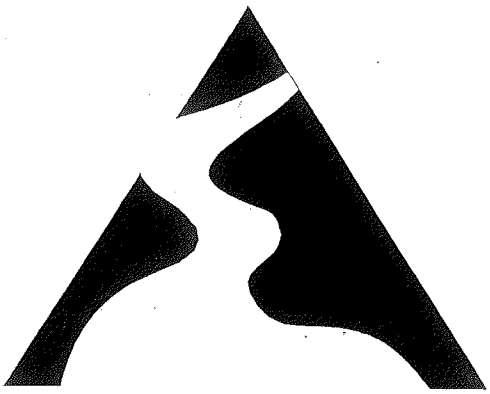
Frequently Asked Questions continued...

agement practices currently implemented. An annual report template will be available from the Regional Board in hard copy and on-line.

What if there are not enough education classes available for all growers to meet the 15-hour requirement in three years?
Ensuring continued availability of the University of California Cooperative Extension's Farm Water Quality short courses is a priority, but other courses will also be available to satisfy education requirements, through organizations such as the Central Coast Vineyard Team, Resource Conservation Districts, University of California Cooperative Extension (UCCE), and others. The Regional Board is certifying other courses on an on-going basis. Organizations interested in offering classes for certification should contact the Regional Board. The Regional Board will review education availability and annual progress reports as part of the overall program evaluation and recommend changes to the program as necessary. Growers should make every effort to complete the 15 hours of education and develop farm water quality plans within the three-year period.

What educational opportunities are available for Spanish-speaking growers?
UCCE offers the Farm Water Quality short course in Spanish. The Central Coast Vineyard Team has offered tail-gate meetings in Spanish. In addition, many of the local Resource Conservation Districts and other technical assistance organizations are developing Spanish-language classes and materials to assist growers in meeting waiver requirements.

Is water quality monitoring required?
Yes, California Water Code (Section 13269) requires monitoring to ensure the effectiveness of the waiver program and the adequacy of waiver conditions. Keeping monitoring costs as low as possible while having a monitoring program that can show water quality improvement over time are both important considerations. Growers have the option of performing individual monitoring or participating in a cooperative monitoring program. It is likely that cooperative monitoring will be the least costly alternative, and will satisfy requirements of the law.



What is the Cooperative Monitoring Program?

The Cooperative Monitoring Program is an option allowed under the waiver to satisfy the monitoring requirement. Individual growers may pool resources and conduct group monitoring, much as industrial dischargers in other areas have done to satisfy their monitoring obligations and reduce their overall costs. Under the conditional waiver, a group of twenty-three Central Coast agricultural organizations have agreed to implement the Cooperative Monitoring Program. The program will be supported initially with a combination of settlement and grant funds, and for the first two to three years of the program it is likely that costs to participate will be minimal or none. The agricultural industry is forming an Agricultural Committee to oversee the program.

What do I need to do to participate in the Cooperative Monitoring Program?

In order to participate in the Cooperative Monitoring Program, you must elect the Cooperative Monitoring option when you submit your Notice of Intent (NOI). Because monitoring is required under the waiver, you must select a monitoring option in order for your NOI to be considered complete. You may change your monitoring option at any time by submitting a revised NOI. If you choose individual monitoring, you must begin monitoring October 1, 2005.

If I participate in the Cooperative Monitoring Program, will I be liable if the results show water quality problems?

If ambient monitoring reveals water quality problems, follow-up monitoring will almost always be necessary. The exception is where there is only one possible source of the problem in a watershed. The Regional Board cannot take enforcement action unless it can show which operation(s) are responsible for the problems. The Regional Board has a variety of options once it determines the source(s): assist the facility to come into compliance or implement alternate BMPs; issue a notice of violation or civil liability complaint; or, in the rare case where compliance with waiver conditions will not adequately control the discharge, issue individual waste discharge requirements. The Regional Board's goal is to improve water quality, not to collect penalties, and it will use whatever tools are most appropriate to accomplish that goal.

What will water quality monitoring cost me?
Monitoring costs will depend on the type of monitoring each operation chooses. Individual monitoring costs will depend on the type of discharge, and will generally be highest for operations that discharge tailwater directly to surface water. Costs could be several thousand dollars per year. The Cooperative Monitoring Program will monitor fixed sites around the region on a regular basis. Costs to participate in the Cooperative Monitoring Program will depend on the size of operation and type of discharge and will be set by a cost allocation subcommittee established by the agricultural industry. Initially, the program will try to utilize settlement and grant funds to defray costs; once the program is fully implemented, costs will likely be substantially lower than individual monitoring.

Additional Questions and Resources

(Continued from page 7)

Will I be held responsible for the quality of groundwater I use for irrigation?
The Regional Board recognizes that groundwater in many areas exceeds water quality standards and will not hold growers responsible for the quality of groundwater that they use. Growers will be expected to not contribute to further deterioration of groundwater quality and should identify practices they are implementing to protect groundwater, such as improving irrigation efficiency, testing for crop needs and residual soil nitrogen before fertilizing, etc.

Will I be expected to monitor groundwater?
We are not including groundwater monitoring requirements at this time. It is recommended that growers know the nitrogen in their irrigation water and incorporate that information into their nutrient management program.

Will I have to contain all my storm water on site?
No, there is not a requirement to retain a fixed amount of stormwater. Each operation will need to identify site-specific practices to prevent sediment, fertilizer and pesticides from moving off site during storm events. The Regional Board also recognizes the difficulty of preventing erosion during large storm events, and recognizes that some sediment runoff and erosion would occur even if the land were in its natural state.

Do I have to allow inspections of my property or make trade secrets public?
The conditional waiver will require you to provide reasonable access to Regional Board staff for inspections. You will receive prior notice of inspections so that you or your representative can participate in the inspection and ensure that any necessary safeguards (for example, measures to prevent spread of plant disease) are in place.
The conditional waiver also includes various reporting requirements. Although you must prepare a Farm Water Quality Plan and you must have the plan available for on-site inspections by Regional Board staff, the waivers only require you to provide copies upon request. Monitoring data must also be available to the public. If you believe that any information requested by the Regional Board would reveal a trade secret, you will have the opportunity to demonstrate that the information contains trade secrets. After you make that determination to the Regional Board's satisfaction, the information will be kept separate from Regional Board's public records and will not be disclosed to members of the public, except as required by law (for example, pursuant to a court order).

Will separate waivers be required for each individual field operation or can a single waiver cover multiple parcels owned or operated by the same grower? How will monitoring be handled for multiple parcels?
Multiple parcels owned or operated by the same grower can be covered through a single waiver. Onsite farm plans may be developed at the parcel level or for the entire farm operation. If the grower elects to conduct individual monitoring, it must be done at the parcel level. Cooperative monitoring will be done at fixed sites located on streams flowing through agricultural areas, with growers contributing to the program based on a cost allocation structure. Costs of participating in the cooperative monitoring program will likely be based on size of operation and type of discharge.

Does the owner or the operator apply for the waiver?
Both the owner and the operator will be held responsible for compliance with waiver conditions and requirements. The Notice of Intent will require information about both owner and operator, and may be filed by either party.

When multiple owners and/or operators are involved in a single farm operation, who is responsible for obtaining the 15 hours of education?

Educational requirements should be obtained by farm owners or managers or other persons in a position to ultimately make decisions about practice implementation, and who have a long-term commitment to the operation.

Do I need to have a waiver if I have no runoff?
If you have no discharge, you will not need to have a waiver; however, many operations have some discharge, either through percolation of wastes such as nutrients or pesticides to groundwater or through movement of nutrients, pesticides or sediments offsite during storm events. Although drip systems are generally less likely to impact water quality than tailwater discharges, there is still a potential impact to groundwater if the system is not properly operated or maintained. The conditional waivers will provide coverage for irrigated operations that may discharge some waste in the course of their operation.
zaaaa
What if a grower farms in more than one region? Growers must comply with regulation requirements of the Regional Board where the farm is located. However, all Regional Boards will rely on implementation of best management practices to protect water quality. It is likely that attending farm water quality education classes, developing a farm plan and implementing management practices to protect water quality will be core requirements in many areas.

How do I get more information? Additional information is available on the Regional Board's website, http://www.swrcb.ca.gov/rwqcb3/AGWaivers/Index.htm, by contacting Alison Jones at (805) 542-4646 or by sending an email to ajones@rb3.swrcb.ca.gov.

You may also sign up for email updates on the Regional Board's website (**www.swrcb.ca.gov/rwqcb3**) by clicking on "Electronic Mailing List Subscription" on the right side of the page.

Volume 3 Issue 2
Fall 2007

Water Conservation Update

Water Resources Association of San Benito County

November is the time to turn off your irrigation system for the winter.

Need help with your irrigation controller? The WRA can help!

Call the WRA for a FREE Home Water Survey. The survey includes:

√Leak check

√Showerheads and faucet aerators

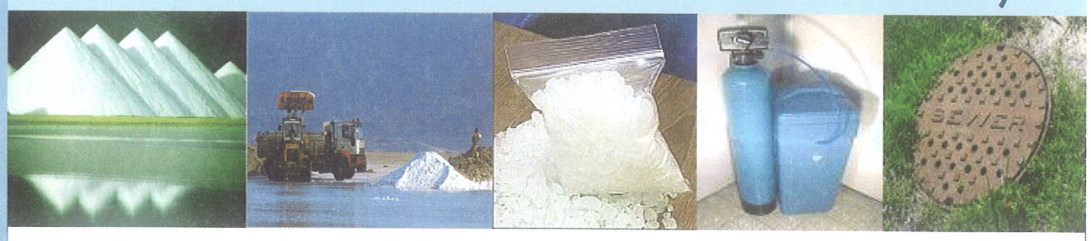
√Irrigation check

√Suggested watering schedule

√High-quality hose nozzle

√Water softener assistance

Learn to save money by conserving water!



WATER SOFTENERS & SALT

There is more to water softeners than just soft water. Water softeners reduce the "hardness" of the water, which can have several benefits for consumers: smaller amounts of soap and detergents (non-synthetic) are necessary for laundry and cleaning processes; reduced staining, spotting, scaling; bathing and showering feelings; increased fabric life; and energy savings in water heating due to less scaling. HOWEVER...

The problem

The discharge of salt brines from the regeneration of water softeners into the wastewater collection system has a negative impact on recycled water and wastewater effluent. Higher salinity increases the treatment costs and reduces the potential for reuse of wastewater for non-potable irrigation and industrial purposes. It can also impair a wastewater treatment agency's ability to comply with discharge standards for total dissolved solids (TDS) which is a measure of the total concentration of dissolved minerals in water, including concentrations such as sodium, calcium, magnesium, potassium, and anions such as chloride, sulfate, and many others. A typical wastewater treatment facility removes very little of these mineral concentrations from the waste stream and they are passed back into our groundwater supply.

Results of Noncompliance

Every wastewater treatment facility in the State must meet strict limits issued by the State and Federal agencies on the amount of TDS and mineral concentrations before reclaimed wastewater can be introduced back into the environment. If a wastewater treatment facility is found to be in violation of the discharge limits set by these agencies, significant fines may result. These fines are ultimately passed on to the consumer. **One of many contributing factors to this problem is salt brine from water softening units.**

(continued—see back page)

Water Resources Association
PO Box 899
Hollister, CA 95023
(831) 637-4378
www.wrasbc.org

Representing the City of Hollister, the City of San Juan Bautista, Sunnyslope County Water District, and San Benito County Water District

$150 TO GET THE SALT OUT!
Water Softener Replacement Program

Customers of the City of Hollister, the City of San Juan Bautsita and Sunnyslope County Water District who already own a currently working water softener installed prior to 1999 and who are upgrading to a Demand Initiated Regeneration (DIR) water softener or to an offsite water softening service are eligible to participate . By upgrading your older technology water softener you will help lower the salt load to our community water systems and save money on your water bill and salt purchases.

Get a $100 Rebate When You Purchase a High-Efficiency Clothes Washer

FREE Toilets! Replacement program for homeowners with toilets older than 1992. Call 637-4378 for details.

Next Giveaway Day—Saturday, November 3rd

STORM DRAINS

Unlike the water that goes down your drain to the sewer, water that flows into storm drains is not treated and filtered for pollutants. This contaminated water flows into canals, into streams and lakes, then ends up in the ocean. Everything other than pure rain water is a potential contaminant that degrades water quality. It's very important that you help prevent contaminants from flowing into storm drains and never pour anything into them. Intentionally pouring water and pollutants into street gutters and storm drains is dangerous to the environment and is also illegal.

For more information visit:

http://www.epa.gov/npdes/pubs/after_the_storm.pdf

FOR ALL PROGRAM DETAILS CALL: 637-4378

-Water Softeners and Salt (continued from page 1)

Possible Solutions

Finding practical, cost effective solutions to this problem has been difficult. So, if you decide to use a water softener, you should determine if a softener is necessary. Water with a measured hardness of less than 50 mg/l is considered soft. Generally, water 50 to 150 mg/l is suitable for use in most homes and it is not necessary to use a softener. Our local water hardness ranges from these lows to a very high hardness content and can fluctuate seasonally. That's why it's very important to check with your local water provider for the hardness in your area before you consider purchasing a water softener. If you find that a softener is necessary, then operate it as efficiently as possible. A possible solution, which may not solve but can greatly reduce the problem, is to ***use less salt***. Most softener owners use at least twice as much salt to soften water as is necessary. By adjusting your softener to use the proper amount of salt per regeneration required to soften your water may greatly reduce the amount of sodium or chloride being used and subsequently discharged to the sewer. You also may want to consider switching to potassium chloride from sodium chloride in your softener. This substitution will help with the sodium problem, however, the downside of potassium chloride is it will add to any chloride problem and costs more than sodium chloride. It has also been found that many softeners are set to recharge or backwash too frequently. By adjusting the backwash cycle to the appropriate time period between each backwash can significantly reduce the amount of sodium or chloride being discharged into the sewer system. Instead of a daily or every other day recharge cycle, a five-day cycle may be used to achieve the proper softening level. Consider converting your water softener to an offsite regeneration service that disposes the brine water in a commercial setting that is more efficient than a residential customer is able to achieve. Another way to help with the problem is to convert your older, pre-1999 water softener to a Demand Initiated Regeneration (DIR) softener that regenerates soft water on demand rather than a preset time/day when no soft water may be needed. **See $150 rebate information at the top of the column on the left.**

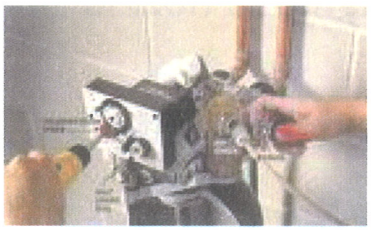
Filthy water cannot be washed.
-West African proverb

GET THE SALT OUT!!

Replace or Remove Your Currently Working Pre-1999 Water Softener and Receive up to a $300 Rebate!!!!

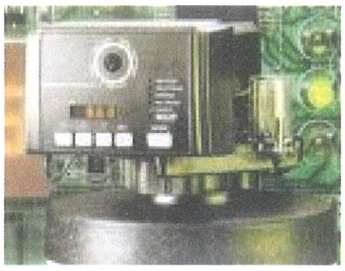
The discharge of salt brines from the regeneration of water softeners into the wastewater collection system has a negative impact on recycled water and wastewater effluent. Higher salinity increases treatment costs and reduces the potential for reuse of wastewater for non- potable irrigation and industrial purposes. It can also impair a wastewater treatments agency's ability to comply with discharge standards for total dissolved solids (TDS).

The Water Resources Association has received a state grant that supplements local funds. These funds are to assist water softener owners in demolishing, switching to an off site regeneration service or upgrading to newer technology to help reduce the salt load on our wastewater systems and groundwater supply.



Remove and do not replace your pre-1999 water softener and receive $300 (special rules apply)

Remove your pre-1999 water softener and replace with a tank exchange service and receive $250



Remove your pre-1999 water softener and replace with a Demand Initiated Regeneration water softener and receive $150

This program is available to customers of the City of Hollister, Sunnyslope County Water District, the City of San Juan Bautista and the San Benito County Water District (Zone 6 ONLY).

For Details Call The Water Resources Association: 637-4378
or visit us at www.wrasbc.org

Funds are limited and special rules apply

WATER CONSERVATION IS EVERYBODY'S CONCERN

CALL THE WATER RESOURCES ASSOCIATION FOR A <u>FREE</u> HOME WATER SURVEY.

The survey includes:

- ✓ Leak check
- ✓ Showerheads and faucet aerators
- ✓ Irrigation check
- ✓ Suggested watering schedule
- ✓ High-quality hose nozzle
- ✓ Water softener assistance

ALL FREE!!!

To find out more information on all our programs and ways you can save water call us or visit our website:

WATER RESOURCES ASSOCIATION OF SAN BENITO COUNTY

(831) 637-4378 www.wrasbc.org

Water Resources Association
San Benito County

"Get The Salt Out!"
$150 - $300 Rebate

Qualifications:

- **Applicant must own a currently working water softener installed prior to November 1999.**

- **Purchase a new demand-initiated regeneration (DIR) water softener for a $150 rebate.**

- **Purchase a minimum 1-year contract with an offsite regeneration service for a $250 rebate.**

- **Demolish your water softener entirely (with no replacement) and receive a $300 rebate (special rules apply, call for details).**

Customers of the City of Hollister, the City of San Juan Bautista, the Sunnyslope County Water District and San Benito County Water District (Zone 6 only) are eligible to apply for this rebate.

- Offer is limited to one (1) water softener rebate per household. Offer void where prohibited or restricted by Law.

- Offer expires when funds are depleted.

- The Water Resources Association of San Benito County reserve the right to verify customer eligibility, water softener sale, and installation before/after rebate is paid.

- If you are replacing your old water softener with a new DIR softener or offsite service, the water softener must remain at an eligible site for a minimum of twelve (12) months after the installation date.

Four Steps to Receive Your Rebate:

Step 1. —Before removal of your old water softener, call the WRASBC at **(831) 637-4378** to set up a pre-removal inspection.

Step 2. —After pre-removal inspection is completed and approved, you are eligible to purchase a new water softener, arrange for an offsite regeneration service or remove your existing water softener.

Step 3. —Complete and mail the rebate application form with the original sales receipt* to the address listed below:

Water Softener
Rebate Program
WRASBC
PO Box 899
Hollister, CA 95023-0899

Step 4. —A representative of the Water Resources Association will contact you for a post-installation/removal inspection. Once a post-installation/removal inspection is completed, allow 4-6 weeks to receive your rebate check.

**Copies of original receipt are accepted, please have original ready to show technician during post inspection.*

Water Softener Replacement/Demolition Program

Applicant Information:

_____
Last Name, First Name

_____ _____
Address **Apt#**
(Where rebate check should be sent)

_____CA, _____ (___) _____
City **Zip** **Telephone No.**

_____ _____
Address **Apt#**
(Where water softener is installed, if different from above)

_____CA, _____ (___) _____
City **Zip** **Telephone No.**

Water Softener Information

_____/_____/_____ $_____
Date of Purchase **Purchase Price (pre-tax)**

_____ _____
Manufacturer

Serial Number

Water Softener Model Name or Number

Replaced water softener with DIR - $150 rebate

Replaced water softener with offsite service - $250 rebate

Water softener demolished - $300 rebate

PLEASE MAIL THIS APPLICATION FORM TO THE ADDRESS LISTED BELOW:

Water Softener Replacement Rebate Program
PO Box 899
Hollister, CA 95023-0899

Please Note: I certify that this water softener was purchased new at retail price for personal use, not for resale. I agree to sale, delivery, demolition and product installation verification by the Water Resources Association San Benito County (WRASBC). I will neither apply for nor accept any other WRASBC cash rebate or incentive for the appliance described on this application. The undersigned expressly agrees that the WRASBC may inspect all qualifying water softener installations or demolitions; that installation of qualifying water softener may not result in lower water bills; and that the WRASBC does not warrant any water softeners or installation to be free of defects, the quality of workmanship, or the suitability of the premises for the water softener installation. I agree to allow the WRASBC to be given access to the property's water use information for the purpose of evaluating the effectiveness of the Water Softener Replacement Rebate Program. I understand that my water retailer will be supplying the water use information to WRASBC. The undersigned further agrees to hold harmless the WRASBC, its directors, officers, and employees, from all personal injury or injury to property including loss, damage, expense and or liability resulting from the loss, destruction or damage to property arising out of or in any way connected with exchange, demolition and installation of a water softener.

I have read, understand, and agree to the terms and conditions of this rebate program including the "Qualifications" and "Please Note" sections of this application.

X_____
Applicant's Signature

_____/_____/_____
Date

Water Softener Replacement Rebate Application

Office Use				
	Pre-Inspection	Date:	By:	☐Approved ☐Denied
	Application Received	Date:	By:	Authorized Signature:
	Post Inspection	Date:	By:	6270-0182-511-08
	Date Processed:		Amount: $	

$75 Toilet Rebate Application

1. Number of toilets replaced:
2. Name:
3. Phone:
4. Address where toilet(s) are installed:
5. City, state, zip code:
6. Address where you want rebate check sent (if different than above):

7. Which of the following best describes your reasons for purchasing a new toilet:
a. It was time to replace the toilet:
b. The bathroom was being remodeled:
c. Concern for water conservation:
d. I want to lower my water bill:
e: Other (please explain):

8. I, _____, have read the Toilet Rebate Guidelines on the back of this form and agree to all the conditions stated therein.

Signed: _____ Dated: _____

Please <u>return this application</u> with:

a. The original receipt for the new toilet
b. A copy of your latest water bill from the City of Hollister, City of San Juan Bautista, or Sunnyslope County Water District
c. Return old toilet(s) to the San Benito County Water District, 30 Mansfield Road, Hollister or call the Water Resources Association for them to pick it up.

Return application to:

The Water Resources Association San Benito County
PO Box 899
Hollister, CA 95024-0899
(831) 637-4378

<u>This box is for office use only</u>

Old toilet(s) received: #_____ Date: _____ Initials_____

Standards rebate: $75 x _____ =$_____
Toilet(s) returned: $10 x _____ =$_____

Total: $_____

$75 Toilet Rebate Application
For customers of the following water providers: City of Hollister, City of San Juan Bautista, Sunnyslope County Water District, and others where applicable

Instructions:

1. Check your old toilet carefully. This rebate is for replacing toilets manufactured prior to 1992. Toilets older than 1992 use much more water than those manufactured today. As much as 2-4 times as much! Most toilets have a date stamped into the porcelain either in the inside part of the lid on the tank or on the sidewall inside the tank. Your toilet is NOT eligible if it says, "1.6 gpf" behind the toilet seat where the manufacturers logo is usually found. Call the Water Resources Association if you have questions.
2. Purchase a new toilet and install it or have one installed by a plumber. All new toilets manufactured today are 1.6 gallon per flush or lower.
3. **Return the old toilet(s) to the San Benito County Water District (SBCWD) at 30 Mansfield Road in Hollister** for recycling and age verification. **You will receive an additional $10 for returning the old toilet to the SBCWD.** If you cannot return the toilet, call the Water Resources Association and arrange a day for them to pick up for the old toilet. **NOTE: Old toilet are received Monday AND Fridays between 8am and 5pm (closed from noon to 1pm for lunch)**
4. Send your application, a copy of a recent water bill, and the original receipt for the new toilet. We don not accept photocopies-we need the original receipt to process your rebate.
5. We will make a photocopy of the original receipt and send the original back to you **if requested.**
6. **You will receive your rebate usually within 30-45 days.** For toilets costing less than $75, the rebate amount will equal the purchase price of the toilet.
7. **This rebate cannot be applied to a new house or bathroom addition.**
8. EXPIRES 9/30/2008

Water Resources Association San Benito County

High Efficiency Clothes Washer $100 Rebate

IMPORTANT: Read eligibility requirement information on the back of this application

Name:	
Mailing Address:	
City:	Zip:
Telephone:	
Water Provider/Utility:	
Address where clothes washer is installed (if different than mailing address):	
Washer must be installed at a location served by City of Hollister, City of San Juan Bautista, Sunnyslope County Water District, or CSA 31 (Stonegate)	
Washer Manufacturer:	
Model Number:	
Date purchased:	Date installed:
I have read and agree to the terms and conditions as stated on the $100 Rebate Eligibility Requirements: Applicants Signature: _____Date: _____	

Please include a copy of your current <u>water bill</u> and the <u>receipt for the washer</u>

We will call you within 1-2 weeks to schedule a short installation inspection and Home Water Checkup. Appointments take about 30 minutes total time!

You may submit your washing machine receipt in any of the following ways:

1. Include the original receipt with the application. It will be returned to you at the time of the installation inspection if requested.
2. OR: Include a photocopy of the receipt and have the original available at the time of the installation inspection.
3. OR: Bring the original receipt to our office where it will be copied and returned to you.

The Water Resources Association is located at 30 Mansfield Road, Hollister inside the offices of the San Benito County Water District. Mail form to: The Water Resources Association, PO Box 899, Hollister, CA 95024 – QUESTIONS? Call 831-637-4378

Official Use Only

Inspected By_____ Energy Label Checked_____ Date_____

Approved By_____Date_____Amount_____ Rebate#_____

Water Resources Association San Benito County

High Efficiency Clothes Washer Rebate Program

$100 Rebate Eligibility Requirements

- Rebates are given only on **ENERGY STAR ®** labeled clothes washers. These clothes washers use 50% less energy and 40% less water than older top loading machines. These machines can save 13,000 gallons of water a year per household and send less wastewater through our local sewer system (s).
- The clothes washer must be purchased new on or after October 1, 2007.
- The clothes washer must be installed at a location served by Sunnyslope County Water District, City of Hollister water, City of San Juan Bautista water, or Stonegate CSA.
- An on-site inspection by a representative of the Water Resources Association will be required to verify installation before a rebate is paid. A FREE Home Water Checkup will be included at the time of inspection with free showerheads, toilet and faucet kits offered at NO CHARGE. A sprinkler checkup and the recommendations is also included.
- Residential customers are limited to one clothes washer rebate per household.
- **Rebate application must be filled out completely and with the sales receipt and recent water bill to the Water Resources Association no later than September 30, 2008. Rebates are subject to available funds.**

Procedures

1. Purchase an **ENERGY STAR ®** labeled clothes washer. Install clothes washer at an address within qualifying areas served by the before mentioned water providers.
2. Complete this rebate form. Attach the sales receipt showing the model of the washing machine and the date of purchase. Include a copy of your most recent water bill. Return these documents to the Water Resources Association for processing.
3. A representative of the Water Resources Association will contact you, verify installation of the qualifying clothes washer, and conduct a FREE Home Water Checkup.
4. Allow 4-6 weeks from the date of inspection to receive your rebate check.

Note:

This program provides financial assistance to customers wishing to purchase water conserving clothes washers for their home or business. The Water Resources Association does not endorse or recommend specific brands, products or dealers. Selection and installation of the appliance is the sole responsibility of the applicant as is determination of the adequacy and compatibility of their existing plumbing system. The Water Resources Association assumes no responsibility for any damage that may occur to an applicant's property as a result of participation in this program. Due to circumstances beyond its control, the Water Resources Association cannot guarantee that the installation of the clothes washer will result in lower utility cost.

San Benito County Water District

Water Budget Calculator

Water Demands	March	April	May	June	July	August	Sept.	Nov.	Dec.	Jan.	Feb.	Total Annual
Crop _____												
Acres Planted _____												
Avg. ET Ac-In/Ac.												
Eff. Precip Ac-In/Ac												
ET Water Req'd -AF												
Other Water 1/												
Irrigation Eff. %												
Total Wtr. Req'd - AF/Mo.												

Available Water Supply & Budget

CVP	SBCWD	New Yr.											
	Reschuled												
Transfers													
Groundwater - AF/Mo.													
Remaining Supply													

Notes 1/ "Other Water" may consist of Leaching Requirements, "Cultural Practive" water such as preharvest etc.

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Water Resources Association of San Benito County
Water Conservation

- Why Conserve Water?
- Indoor Water Conservation
- Outdoor Water Conservation
- Programs, Rebates & Free Literature
- How YOU Can Protect Our Water Quality
- Contact W.R.A. Water Conservation
- Free Toilets!!!!
- Watering Index
- Conservation Links
- Poster contest

Next WRA Board Meeting: Thursday, October 5th @ 7pm-City Hall, Hollister

Water Resources Association of San Benito County
Water Conservation

Why Conserve Water?

Indoor Water Conservation

Outdoor Water Conservation

Programs, Rebates & Free Literature

How YOU Can Protect Our Water Quality

Contact W.R.A. Water Conservation

Home

Why Conserve Water?

Did you know that we receive, on average, only 11 inches of rainfall a year in San Benito County?

By contrast, New York state receives approximately 47 inches of rainfall a year.

Water Conservation: Nature recommends it!

Conserving water:

- can save YOU money on water and sewer bills
- saves OUR COMMUNITY money by keeping sewer and water facility upgrades to a minimum
- saves ENERGY by requiring less pumping
- saves CHEMICALS used in water treatment
- saves WATER, a precious resource

This Web Site Designed and Hosted by:

HOLLINET
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Water Resources Association of San Benito County
Water Conservation

Why Conserve Water?

Indoor Water Conservation

Outdoor Water Conservation

Programs, Rebates & Free Literature

How YOU Can Protect Our Water Quality

Contact W.R.A. Water Conservation

Home

Ways to Conserve Water Indoors

- Replace old toilets with a new, water-conserving models; did you know that you can save thousands of gallons of water a year with this one simple change? ?
- Make sure showerheads and faucets are water efficient; the Water Conservation Department offers FREE home water checkups and water conservation kits.?
- Run washing machines and dishwashers only when full
- Consider replacing old washing machines with water and energy-conserving front-loading models- save up to 50% on water and electricity costs.
- Check toilets regularly for leaks. We can send you a kit to check for a leak, or we'll do it for you FREE of charge!?
- Repair drips and leaks promptly
- Develop water-conscious habits when showering, shaving, brushing teeth, and washing dishes
- CALL FOR A FREE HOME WATER CHECKUP!

Home water checkups include:

- a leak check
- free showerheads
- faucet kits
- other water saving devices

Call (831) 637-4378 for more information.

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Water Resources Association of San Benito County
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How YOU Can Protect Our Water Quality

Contact W.R.A. Water Conservation

Home

Outdoor Water Conservation

Did you know that landscape irrigation accounts for almost half of residential water use in?San Benito County?

Check out the San Benito County Library's selection of books on landscaping, native plants, and water-efficient gardening

Ways to save water outdoors:

- **Get a free landscape irrigation checkup?**
- **Use a licensed irrigation contractor when installing an irrigation system**
- **Limit turf areas**
- **Change your irrigation timer with the seasons**
- **Practice Smart Watering**
- **Use mulch**
- **Request free literature**

- **Use a licensed irrigation contractor when installing a landscape irrigation system.** The layout and spacing of the sprinkler heads determines the system's uniformity of application and overall efficiency. With a well-designed system, you will use less water and have fewer brown spots on your lawn.?

- **Limit turf areas.** A lawn requires more irrigation than almost any other landscape feature. Limit it?s size to just what you need. Consider replacing at least part of your lawn with a deck, paving, or lower water-use plants. Avoid narrow strips of lawn (along sidewalks, for example) because they cannot be irrigated efficiently. And consider using drip or micro-spray for borders and non-turf areas. There are many books at the the Hollister and San Juan Bautista libraries on this and related subjects.

- **Change your irrigation timer with the seasons.** Did you know that your landscaping needs different amounts of water during spring, summer, and fall? For example, in April, your landscaping will only need about half the water it uses in July. And many types of landscaping require no irrigation during the winter months. A free residential water survey can help you set up a seasonal watering schedule.

- **Practice Smart Watering.** Knowing when and how long to water can save you thousands of gallons per year. How do I know when my landscaping needs water? Grass needs to be watered when footprints remain after someone walks on it. Watering in the early morning is best because less is lost to evaporation. In the summer, grass should be watered 2-3 times per week. Shrubs, on the other hand, do well when watered once a week, or less. Large shrubs and trees prefer deep, infrequent watering.

- **How much Water?** When a landscape needs water, enough should be applied to wet the soil as deep as the plants? roots extend. For grass, this is about 6 inches below the surface. The type of soil has a great deal to do with how much water is needed. Soil types in San Benito County tend to be clay. Because clay soils absorb water slowly, the rate of flow coming out of the sprinkler should be as low as possible, so that water is absorbed and does not pool or become lost as runoff. If you see water running onto the sidewalk, into the gutter, or pooling in low areas, runoff is occurring. If runoff is still a problem after the rate of flow has been adjusted, consider watering for shorter periods of time. If you want to know more about smart watering, call us or email us at

snovack@SBCWD.com and we will send you an information packet.

- **Use mulch.** To reduce weeds, slow erosion, and reduce moisture loss through evaporation, apply a 2-4 inch layer of mulch or compost over soil around plants.

This Web Site Designed and Hosted by:

HOLLINET
We Bring the Internet To You!™

Water Resources Association of San Benito County
Water Conservation

Why Conserve Water?

Indoor Water Conservation

Outdoor Water Conservation

Programs, Rebates & Free Literature

How YOU Can Protect Our Water Quality

Contact W.R.A. Water Conservation

Home

Free Toilets

Residential Programs, Rebates & Free Literature

- $150 rebate Pilot Water Softener Rebate Program
- $100 rebate on High Efficiency Washing Machines
- $75 toilet rebate
- Custom sprinkler schedule
- Free conservation devices and home water checkup?
- Free literature available
- Commercial, Industrial, and Institutional water conservation programs

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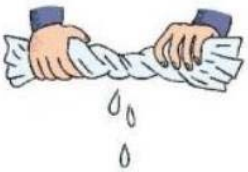
PILOT PROGRAM ENDED

NOVEMBER 30, 2005

CHECK BACK FOR NEW PROGRAM

APPROXIMATELY SEPTEMBER 2006

Water Resources Association of San Benito County



Every Drop Matters!

$150 Pilot Water Softener Rebate Program

APPLICATION AND OFFICIAL RULES

Qualifications:

- Applicant must own a currently working timer-based self-regenerating water softener installed prior to November 1999.
- The old softener must be replaced with a new demand initiated regeneration (DIR) water softener that meets California efficiency rating of at least 4,000 grains of total hardness removal per pound of salt utilized or an offsite regeneration service must be used with a minimum of a one year service agreement.
- Installation must be in the City of Hollister, Sunnyslope County Water District, or the City of San Juan Bautista.
- After completion of the pre-inspection by WRA staff; complete the rebate application form and mail with the original sales receipt and or service contract to: **Pilot Water Softener Rebate Program, Water Resources Association, P.O. Box 899, Hollister, CA, 95024-0899**.
- **Offer expires when funds are depleted.**
- Offer is limited to one (1) water softener rebate per single family home, condominium, apartment, or mobile home.
- The Water Resources Association limits this Pilot Rebate Program to residential applications only.
- Water Resources Association (WRA) reserves the right to verify customer eligibility, water softener sale, and installation before/after a rebate is paid. **After installation, the water softener must remain at an eligible site for a minimum of twelve (12) months after the installation date.**
- Offer void where prohibited or restricted by Law.
- **Do not submit application until pre-installation inspection has been completed.**

Five Steps to Receive Your Rebate:

1. Before removal of your old softener, call the WRA at (831) 637-4378 to set up a pre-installation inspection.
2. Purchase a new eligible water softener or sign a contract for an offsite service.
3. Complete and mail the rebate application form with the original sales receipt and copy of your water bill.
4. After installation of the new water softener, call the WRA at (831) 637-4378 to set up a post installation inspection.
5. Allow 6-8 weeks for the $150 rebate check to be processed.

Please complete all information and mail with the original sales receipt in an envelope addressed to:

Pilot Water Softener Rebate Program

Water Resources Association of San Benito County

Softener Information:

_____/_____/_____
Date Purchased

$_____
Purchase Price

PO Box 899

Hollister, CA 95024-0899

Applicant Information:

Applicant?s First Name Last Name

_____ Address
(where rebate check should be sent) Apt#

_____CA, _____ (_____) _____
City Zip Code
Telephone Number

_____
Address (where water softener is installed if different from above) Apt#
_____CA, _____ (_____) _____
City Zip Code Telephone Number

_____
Name of Water Provider

_____
Water Service Account Number

Did you include the original sales receipt and a copy of your water bill?

Did you complete all the information on the rebate form?

_____
Brand

Water Softener Model Number

Serial Number

Please Note: I certify that this water softener was purchased new at retail price for personal use, not for resale. I agree to sale, delivery and product installation verification by the Water Resources Association of San Benito County (WRASBC). I will neither apply for nor accept any other WRASBC cash rebate or incentive for the appliance described on this application. The undersigned expressly agrees that the WRASBC may inspect all qualifying water softener installations; that installation of qualifying water softener may not result in lower water bills; and that the WRASBC does not warrant any water softeners or installation to be free of defects, the quality of workmanship, or the suitability of the premises for the water softener installation. I agree to allow the WRASBC to be given access to the property?s water use information for the purpose of evaluating the effectiveness of the Pilot Water Softener Rebate Program. I understand that my water retailer will be supplying the water use information to WRASBC. The undersigned further agrees to hold harmless the WRASBC, its directors, officers, and employees, from all personal injury or injury to property including loss, damage, expense and or liability resulting from the loss, destruction or damage to property arising out of or in any way connected with exchange and installation of a water softener. **I have read, understand, and agree to the terms and conditions of this rebate program including the ?Qualifications? and ?Please Note? sections of this application.**

X_____

Applicant?s Signature

_____/_____/_____

Date

Water Resources Association of San Benito County
Water Conservation

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Outdoor Water Conservation

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$100 Washer Rebate

Get a $100 rebate from the Water Resources Association of San Benito County when you purchase a High-Efficiency clothes washer.

To qualify, you must:

- Receive a water bill from the City of Hollister, Sunnyslope County Water District, or the City of San Juan Bautista
- Purchase a new high-efficiency washer with an Energy Star label after October, 2005
- Print out, complete, and mail us the "$100 High-Efficiency Washing Machine Rebate Application" (see link below)
- Allow an inspection verifying installation

High Efficiency Clothes Washer Rebate Program

$100 Rebate Eligibility Requirements:

- Rebates are given only on ENERGY STAR? labeled clothes washers. These clothes washers use 50% less energy and 40% less water than federal requirements, can save 13,000 gallons of water a year per household, and send less wastewater to our local sewer system.
- The clothes washer must be purchased new on or after October, 2005.
- The clothes washer must be installed at a location served by Sunnyslope County Water District, City of Hollister water, City of San Juan Bautista water, or CSA ? (Stonegate).
- An on-site inspection by a representative of the Water Conservation Department will be required to verify installation before a rebate is paid. A FREE Home Water Checkup will be included at the time of inspection, with free showerheads, toilet and faucet kits offered at no charge.
- Residential customers are limited to one clothes washer rebate per household.
- Rebate application must be filled out completely and returned with a copy of the sales receipt and recent water bill to the Water Resources Association no later than September 30, 2006.

Procedure

1. Purchase and install your new clothes washer. Verify with the appliance retailer that the clothes washer you are purchasing qualifies as an ENERGY STAR? labeled appliance.
2. Complete the rebate form (available below). Attach a copy of the sales receipt showing the model of the washing machine and date of purchase. Include a copy of a recent water bill. Return to the Water Resources Association for processing.
3. A representative of the Water Resources Association will contact you and verify installation of the qualifying clothes washer. Allow 4 weeks from the date of inspection to receive your rebate check.

Note: This program provides financial assistance to customers wishing to purchase water-conserving clothes washers for their home or business. The Water Resources Association does not endorse or recommend specific brands, products or dealers. Selection and installation of the appliance is the sole responsibility of the applicant, as is determination of the adequacy and compatibility of their existing plumbing system. The Association assumes no responsibility for any damage that may occur to an applicant?s property as a result of participation in this rebate program. Due to circumstances beyond its control, the Association cannot guarantee that the installation of the clothes washer will result in lower utility costs.

Click on the link to obtain a copy of the **$100 High-Efficiency**

Washing Machine Rebate Application.

If you have questions, call Water Conservation at (831) 637-4378

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$75 Toilet Rebate Guidelines

For customers of the following water providers:
City of Hollister, City of San Juan Bautista, Sunnyslope County Water District,
(and others where applicable)

Instructions:

1. Check your old toilet carefully. This rebate is for replacing toilets manufactured prior to 1991. Toilets older than 1991 use from 2x to 4x as much water as those manufactured today. Take a look, you may find a date imprinted faintly on the inside of the tank. In addition, your toilet is NOT eligible if it says "1.6 GPF" behind the toilet seat, where the brand logo usually is. Call us if you have any questions.

2. Purchase a new Ultra Low Flush (1.6 gallons per flush) toilet and install it, or have one installed by a plumber. All new toilets available today are 1.6 gallons per flush and are acceptable for the rebate.

3. Get the old toilet to the San Benito County Water District for recycling and age verification. You can either:

a. **Deliver it and receive up to $85 per toilet.**
b. Or call us for a pick up. You?ll get up to a $75 rebate per toilet.

4. Send your application, a copy of a recent water bill, and the original receipt for the new toilet. We will keep it on file for 3 years. Alternatively, we will make and accept a photocopy of the original if you bring it in person to 30 Mansfield Rd.

5. You will receive your rebate within a few weeks. For toilets costing less than $75, the rebate amount will equal the purchase price of the toilet. **Receive an additional $10 for delivering your old toilet to the District Office at 30 Mansfield Rd.**

6. The rebate cannot be applied to a new house or new addition.

7. Expires 9/30/06

Click on the link to obtain a copy of the

$75 Toilet Rebate Application

Selecting a Water-Efficient Toilet

There is a lot to think about when choosing a water efficient toilet. Consumers tend to make their toilet decisions based on a variety of factors such as style, color, name brand recognition, and price. Often toilet flushing performance is not given thorough consideration.

One of the best ways to insure satisfactory flushing performance is to ask plumbers or plumbing suppliers for suggestions on models that have high customer satisfaction. Another popular method is to select toilet models that friends and neighbors have installed and that they recommend. And some consumer publications rank various toilet models according to factors such as price and performance.

The National Association of Home Builders Research Center (NAHB) tested a number of toilet models in the summer of 2002. A summary of some of the results is in the table below. The following toilets performed in the top half of all toilets tested and cost $100 or

less:

Manufacturer	Model Name	Model# or Tank/Bowl#
American Standard	Compact	4010.012.020/3027.012.020
American Standard	Plebe	4392.312.020/3344.312.020
Briggs (Proflo 3212T/2200B)	Abingdon III	4229=4440T/4857B
Crane/Universal Rundle	Atlas	4471/4290
Kohler	Wellworth	4620-0/4277-0
Niagara	Flapperless or Turbo	N2216 or N2220
Toto		CST703

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Get a FREE Custom Sprinkler Schedule

Our Water Conservation Specialist will design a watering schedule tailored to your habits, your sprinkler's output, and the seasonal water needs of your lawn and garden.
It takes only 20 minutes to measure your sprinkler's output, create a schedule for each season, and even program your automatic sprinkler timer, if you request it.

Call (831) 637-4378 or email snovack@sbcwd.com to make an appointment to get yourself ready for the spring and summer watering seasons.

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Get Free Water-Saving Devices!

We will install them wherever you can save water in your house

OR

You can install them yourself

If you would like a free home water conservation checkup including free showerheads, faucet aerators, toilet tank bags and toilet leak checks, call (831) 637-4378 to make an appointment. We will install water-saving fixtures wherever your home has the potential to save water.

If you would like to install free devices yourself, call (831) 637-4378 or send an email to snovack@sbcwd.com; we will mail or email you a form you can fill out so that we can assemble a custom water conservation kit for your house.

Attention restaurant, cafeterias, and other food service providers!
Free spray valves from the Water Resources Association
T&S B-0107 Pre-rinse valve
(handle and hose not included)

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Free Literature Available Includes...

Water Quality

- Water Softener information

Landscaping

- Sunset's How to Water Your Garden
- Sunset's Waterwise Gardening for California
- Drip Irrigation Guidelines
- Irrigation Controllers for the Homeowner
- Selected list of landscaping books available at the San Benito County Library

General Conservation

- 25 Things You Can Do to Prevent Water Waste
- Consejos Para Conservar Agua, Energia, y Dinero (Spanish)
- Flex Your Power "Save Water, Save Energy"

Please contact Water Conservation to request literature via email or phone at: snovack@sbcwd.com or (831) 637-4378.

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Water Resources Association of San Benito County

Water Conservation

Commercial, Industrial, and Institutional

Water Conservation Program

One of our representatives will conduct an on-site survey to identify potential water-saving measures. The customer report we'll generate for you will contain water savings calculations and information on water-efficiency rebates.

SAVE MONEY!

HELP OUR COMMUNITY!

Call 831-637-4378 for more information or to schedule your water survey.

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How YOU Can Protect Our Water Quality

Use less salt in your water softener.

Use and dispose of household chemicals with care.

Reduce or eliminate herbicide and pesticide application.

Recycle used oil.

Keep pollutants away from boat marinas and water ways.

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How you can use less salt and protect our groundwater quality...

Water Softeners that use salt or potassium add sodium and/or chlorides to our water supply. These substances lower water quality and are not easily removed, so with years of use, salt and mineral concentrations in groundwater increase. The water becomes less palatable to drink and less beneficial to agriculture and landscaping because it can stunt the growth of plants, reduce crop yields and burn foliage.

How can you reduce the environmental impact of your water softener?

- If you don't own one already, consider not buying a water softener. The best way to protect our groundwater is to add as few additional minerals and salts as possible. But if you already own a water softener, there are ways to lessen their environmental impact?.
- Consider using a portable exchange water softener. A number of water softener companies offer this service. Instead of discharging brine to the wastewater system, the used brine is picked up by the water softener company. The salts can then be disposed of under more controlled conditions.
- Make sure your water softener has an on-demand setting, and not just a timer. If your water softener is an older model, consider replacing it with a newer, more efficient on-demand softener. This means that the machine will only recharge when it really needs it, not just when it's timer tells it to recharge, based on a pre-programmed recharge volume. An on-demand model tracks how much water you actually use, and regenerates only when needed. With an efficient on-demand softener, you can save 30% or more on salt alone. The Water Resources Association is offering a $150 rebate for people upgrading their currently working pre-1999 timer-based water softener to an on-demand system or converting to an offsite regeneration service with a one year minimum service contract. (Expires 11/30/05)
- Call our office for details: 637-4378.
- If your water softener is the older type that regenerates based on a timer, make sure it recharges at the lowest effective rate, and turn it off when you go on vacation.
- Set your water softener for the correct hardness level. Many water softeners have multiple hardness settings but are set at the highest hardness level when they are manufactured. In San Benito County, water softeners should be set between 15 and 30 grains per gallon. Setting the softener for the proper hardness will save you money on salt and help protect our groundwater resources.

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Use & Dispose of Household Chemicals with Care

Household chemicals can pollute our water supply if we do not use them correctly and dispose of them properly. When they get into the gutter and storm drain system, they can pollute the San Benito River and/or seep down into the groundwater basin. If they are flushed down the drain, they may not be completely removed at the wastewater treatment plant, winding up in our groundwater. And if they are thrown into the garbage and hauled to a landfill, they may be leached, over time, into the soil and water surrounding the landfill.

What are Household Hazardous Chemicals and how can you dispose of them properly?

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Why is it important to keep oil out of our waterways?

Proper recycling will ensure that used motor oil does not make its way into local surface and groundwater resources. Should oil get into the environment, it can quickly pollute large amounts of water. For instance, one gallon of motor oil can:

- Create an oil slick on surface water up to eight acres in size
- Contaminate one million gallons of freshwater. That is a year?s supply of water for 50 people!
- Render a four-acre area of soil unusable for planting for decades

In addition, used oil is insoluble, slow to degrade, and very sticky which poses a health threat to humans, plants, animals and the environment.

How do I know if I am improperly disposing of used motor oil?

If you are pouring used motor oil on the ground, into a storm drain or throwing it in your trash can (even in a sealed container), you are improperly disposing of your used motor oil. This used motor oil can work its way to local lakes, streams and water ways, polluting local water bodies and drinking water supplies, as well as damaging aquatic environments and wildlife. Used motor oil may contain potentially toxic substances, such as lead, benzene, zinc or magnesium.

You can drop off up to 5 gallons of clean (not contaminated with water, gasoline, or other substances) used motor oil and oil filters (drained) every third Saturday, 9 a.m. to 12:00 noon at the John Smith Road Landfill, 2650 John Smith Road, Hollister.

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How can you reduce the environmental impact of your water softener?

- If you don't own one already, consider not buying a water softener. The best way to protect our groundwater is to add as few additional minerals and salts as possible. But if you already own a water softener, there are ways to lessen their environmental impact?.
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Contact Water Conservation

The Water Resources Association is a non-profit corporation governed by representatives from the City of Hollister, the City of San Juan Bautista, Sunnyslope County Water District and the San Benito County Water District.

To speak with the Water Conservation Specialist, call (831) 637-4378.

The mailing address of the Water Resources Association:

WRA
PO Box 899
Hollister, CA 95024

You can send an email to: SNovack@sbcwd.com

Thanks for your interest!

Shawn Novack, Water Conservation Program Manager

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Appendix K

Water Fee Schedules

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City Government

Utility Billing Information

Water Services To start new water services in the City limits, we require a $35.00 deposit. This deposit will be refunded when the account is closed or at the end of three years.

Starting with the August 1, 2006 Billing, New Water Rates are in effect:

Meter Service Charge

Meter Size	Charge No HCF Allocation
Inside City	
5/8”	$ 7.82**
3/4”	$ 7.82
1”	$18.45
1 ½”	$35.96
2”	$54.72
3”	$109.44
4”	$164.16
6”	$328.32

Consumption Charge

Bi-Monthly Service

Single-Family Residential		
$	2.23	0 to 30 hcf
$	2.57	31 to 50 hcf
$	3.34	over 50 hcf
Multi-Family Residential		
$	2.26	0 to 100 hcf
$	2.59	101 to 150 hcf
$	3.37	over 150 hcf

+ Contact the City

Quick Links

Forms Online

SEARCH

8”	$508.11
Outside City	
5/8”	$ 8.44
3/4”	$ 8.44
1”	$19.92
1 ½”	$38.84
2”	$59.10
3”	$118.19
4”	$177.29
6”	$354.58

Commercial / Institutional

$	1.92	0 to 100 hcf
$	2.21	101 to 150 hcf
$	2.87	over 150 hcf

Industrial

$	1.99	0 to 400 hcf
$	2.29	over 400 hcf

Landscape Irrigation

$	1.97	0 to 250 hcf
$	2.26	over 250 hcf

**Most single family residential dwellings have 5/8" meters

Sewer Services Sewer services and street sweeping for customers in the City of Hollister receiving water service from Sunnyslope water department. No deposit is required for this service. (Sewer fee will change every July). This service includes:

Sewer	$62.60 Flat Fee
Street Sweeping	$ 4.80
TOTAL	$67.40 (every two months)

Online Utility Bill Payments

Utility Bill Pay

Click on the link above to pay your Utility Bill Online using Visa or MasterCard. (A $1.25 Processing Fee is charged by (ECH) Electronic Clearing House)

375 FIFTH STREET
HOLLISTER, CA 95023

PHONE: 831-636-4300
FAX: 831-636-4310

BUSINESS HOURS:
MON-FRI
8:00AM-12:00PM
1:00PM-5:00PM

CLOSED DAILY
12:00PM-1:00PM

Sunnyslope County Water District

WATER/SEWER RATES and CONNECTION FEES

Sunnyslope County Water District is committed to providing the best quality service for the least possible cost. Our District has not had fee increases for a number of years. Our water and sewer funds are no longer self supporting. Annual costs have outstripped annual revenues.
In addition, there are unfunded capital projects (wells, water tanks, treatment plants, etc.) that are necessary to maintain service to existing customers as well as accommodate growth.
The Board of Directors is sensitive to existing customers' concern that they not pay increases to subsidize new growth within the District. The District is committed to using connection fees from new customers to pay for the cost of projects due to growth.
An extensive financial audit and rate study was conducted by Parsons & Associates, at the request of the District, in order to fairly and equitably apply the rate and fee increases that are necessary.

NEW WATER RATES EFFECTIVE DECEMBER 21, 2005

Description	Monthly Service Charge	Monthly Quantity Rate per 100 cu ft
Inside District and SBCWD	$13.20	
First 2000 cu ft		$1.60
Next 4000 cu ft		$2.26
Over 6000 cu ft		$5.47
Inside District and Outside SBCWD -Zone 3	$13.95	
First 2000 cu ft		$1.79
Next 4000 cu ft		$2.45
Over 6000 cu ft		$5.55

Outside District	$15.17	
First 2000 cu ft		$1.98
Next 4000 cu ft		$2.64
Over 6000 cu ft		$5.85

The average single family customer in the District uses 2000 cubic feet of water per month.

The statewide average monthly residential water charge is $27.04, and the surrounding area average (Gilroy, Morgan Hill, Salinas, Soquel, Aromas) is $27.03 (without Aromas, it is $22.20).

There are 7.48 gallons in a cubic foot of water.
Therefore, 2000 cubic feet of water is 14,960 gallons.
*** 97% of our customer base of single family residential dwellings has 5/8" meters.**

EXAMPLES OF WATER CHARGES IN COMPARISON OF WATER USED based on Inside District Rates shown above:

CU FEET	DOLLARS		CU FEET	DOLLARS
1200	32.40		5000	113.00
1700	40.40		5500	124.30
2000	45.20		6000	135.60
2500	56.50		66500	162.95
3000	67.80		7000	190.30
3500	79.10		8000	245.00
4000	90.40		10000	354.40

4500	101.70		12000	463.80

MONTHLY SEWER RATES

Customer Classification	*Sewer Rates*
Single Family Dwelling	$28.71
Multiple Family Dwelling	$21.84 per unit
Commercial/Industry	$2.44 per HCF
Laundry/Cottages	$1.85 per HCF

*** HCF - hundreds of cubic feet (charge based upon water usage) Note: The statewide average sewer rate is $18.29, and the average in the surrounding area is $24.43.**

SEWER CONNECTION FEE

Customer Classification	*Inside Ridgemark*	*Outside Ridgemark*
Single Family	$760.00	$2000.00
Multiple Family	$1110.00	$3590.00
Commercial	$2112.40	$3352.40
Industry/Misc.	$1039.44 plus $3.86 gpd projected use	$2279.44 plus $3.86 gpd projected use

gpd = gallons per day
Note: The statewide average sewer connection fee is $2,796. In the surrounding area (Gilroy, Salinas, Morgan Hill), the average sewer connection fee is $3,337.

WATER CONNECTION FEE

Customer Classification	*Total Fee*
Single Family	$1550.00
Multiple Family	$2900.00 per unit
Commercial	$1550.00
Industry/Misc.	$1550.00

Note: The above water connection fee includes installation of a 5/8 inch water meter.

If you have questions regarding rates, please call the office at (831) 637-4670.

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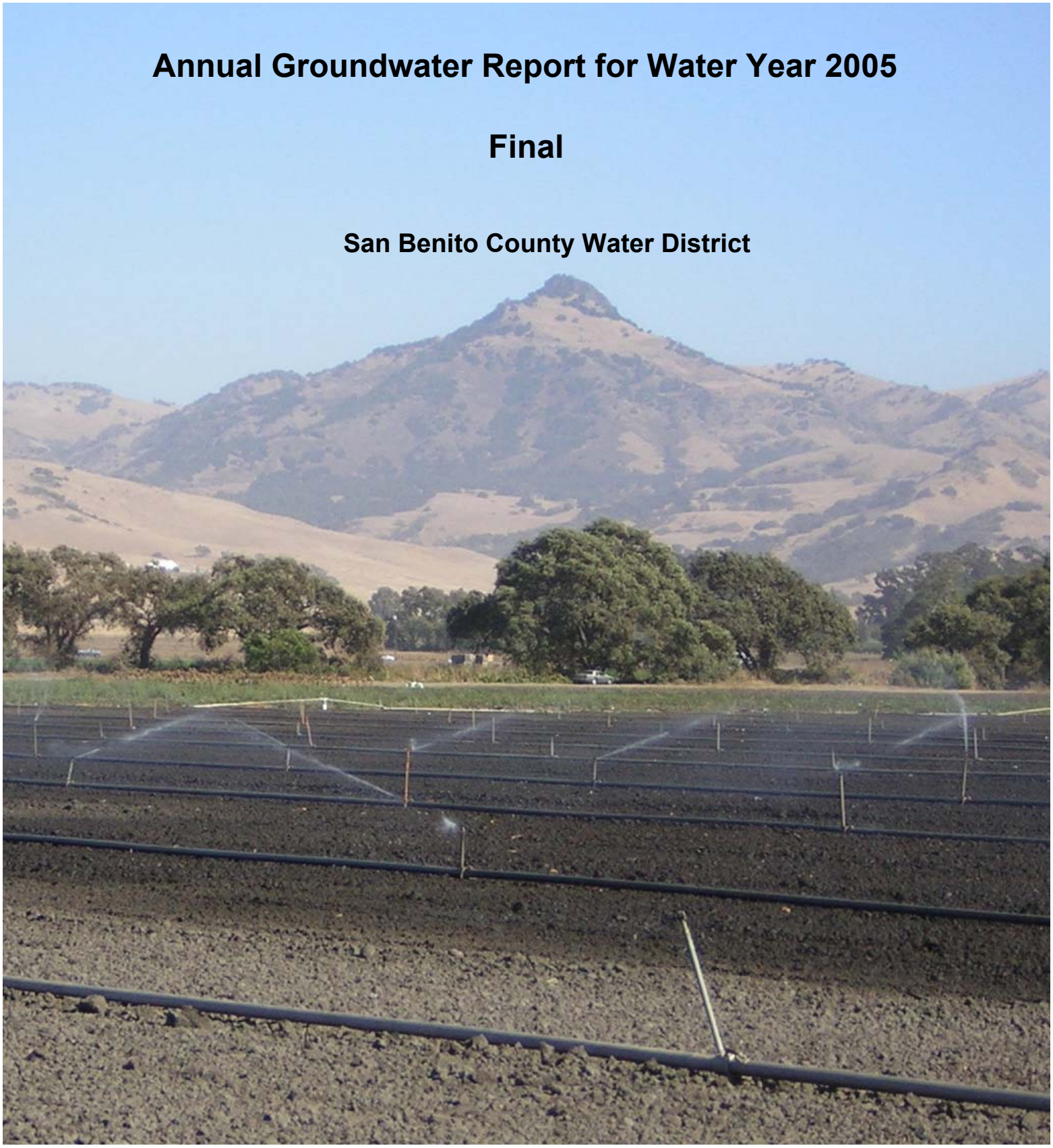
Annual Groundwater Report for Water Year 2005

Final

San Benito County Water District



Prepared by:

Gus Yates, Consulting Hydrologist
Berkeley, CA

December 19, 2005

Appendix E

Charges, Revenues and Expenditures

Table E-1. Revenue and Expenditures for San Benito County Water District Zones 3 and 6, Fiscal Year 2004 - 2005[1]

	Zone 3	Zone 6
Operating Revenue		
Water Sales	$ 4,529	$ 3,197,996
Water Service	-	141,594
Total Operating Revenue	4,529	3,339,590
Cost of Water		
Purchased Water	-	1,651,954
Purchased Water Restoration Fund	-	285,816
Exchanges and Transfers[2]	-	-
Total Cost of Water	-	1,937,770
Operating Expenses		
Wages	53,390	1,158,420
Employee Related Expenses	13,837	273,494
Contract Services	62,933	916,851
Material and Equipment	2,652	190,380
General and Administration	25,187	146,531
Utility Expenses	3,225	126,674
Depreciation and Amortization	50,134	670,162
Total Operating Expenses	211,358	3,482,512
Total Operating Income (Loss)	(206,829)	(2,080,692)
Non - Operating Income		
Rents and Leases	-	-
Interest and Investment Revenues	24,748	623,134
Investment Gain or Loss	(584)	(46,003)
Taxes and Assessments	149,360	4,661,498
Gain/Loss on Disposal of Assets	-	6,378
Other Non-Operating Revenues	409	208,450
Grants	-	-
FEMA	-	-
Total Non - Operating Income	173,933	5,453,457
Non - Operating Expenses		
Interest on Long Term Debt	-	-
Other Interest	-	-
Loss on Disposal of Fixed Assets	-	-
Other Non-Operating Expenses	-	-
Total Non - Operating Expenses	-	-
Total Non - Operating Income (Loss)	173,933	5,453,457
Net Income (Loss)	$ (32,896)	$ 3,372,765

Notes:

[1] Data are for the 12 months ending June 30, 2005

[2] Included in cost of purchased water

Table E-2. Historical and Current San Benito County Water District Water Charges

Year	Standby & Availability Charge (dollars/acre)	San Felipe Project (Blue Valve) Water Rates (dollars/af)							Groundwater Charge (dollars/af)	
		Water Charge		Power Charge						
			Municipal	Distribution Subsystem						Municipal
		Agricultural	& Industrial	2	6H	9H	9L	Others	Agricultural	& Industrial
1987	$8.00	$34.00	n.c.						$5.00 (2)	$25.00 (2)
1988	$2.00	$34.00	n.c.						$5.00 (2)	$25.00 (2)
1989	$2.00	$34.00	$90.00						$0.00	$0.00
1990	$4.00	$34.00	$90.00						$6.25	$22.00
1991	$4.00	$38.00	$113.00						$6.25	$22.00
1992	$4.00	$45.00	$120.00						$2.00	$10.00
1993	$4.50	$45.00	$120.00						$1.00	$15.00 (3)
		$55.00 (1)	$146.00 (1)						$1.00	$5.00
1994	$4.50	$77.61	$168.92						$1.00	$5.00
1995	$4.50	$77.61	$168.92						$1.00	$15.75 First 100 af
										$36.70 Next 500 af
										$54.60 Over 600 af
1996	$6.00	$75.00	$150.00						$1.50	$33.00
1997	$6.00	$75.00	$157.00						$1.50	$33.00
1998	$6.00	$75.00	$155.00						$1.50	$33.00
1999	$6.00	$75.00	$155.00						$1.50	$33.00
2000	$6.00	$75.00	$155.00						$1.50	$11.50
2001	$6.00	$75.00	$155.00						$1.50	$25.00
2002	$6.00	$75.00	$150.00		$40.00	$50.00	$30.00	$15.00 (4)	$1.50	$25.00
2003	$6.00	$75.00	$150.00	$19.00	$35.00	$46.80	$22.70	$9.40	$1.50	$20.00
2004	$6.00	$75.00	$150.00	$24.30	$46.75	$53.70	$25.05	$15.25	$1.50	$10.00
2005	$6.00	$80.00	$150.00	$26.15	$49.40	$66.90	$35.00	$17.10	$1.50	$21.50

Notes:

af = acre-feet.
n.c. = no classification.
All rates effective March 1 through following February.
(1) Revised August 1993.
(2) Never implemented.
(3) Amended, but never implemented.
(4) First implemented in 2002

Table E-3. U.S. Bureau of Reclamation Charges per Acre-Foot for San Felipe Water, 1996-2005

User Category and Cost Item	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Irrigation[1]										
Cost of service[2]	$65.63	$69.57	$61.58	$60.30	$64.24	$69.50	$68.71	$72.20	$74.52	$77.10
Restoration fund[3]	$6.53	$6.70	$6.88	$6.98	$7.10	$7.28	$7.54	$7.69	$7.82	$7.93
SLDMWA[4]	n.a.	n.a.	$5.00	$2.73	$6.43	$2.65	$6.61	$5.46	$6.61	$7.99
Total	$72.16	$76.27	$73.46	$70.01	$77.77	$79.43	$82.86	$85.35	$88.95	$93.02
Contract rate[5]	$27.46	$27.46	$27.46	$27.46	$27.46	$27.46	$24.30	$24.30	$24.30	$24.30
Municipal & Industrial										
Cost of service[2]	$127.40	$143.27	$130.88	$127.91	$129.59	$129.40	$130.32	$129.07	$134.86	$132.01
Restoration fund[3]	$13.06	$13.39	$13.76	$13.96	$14.20	$14.56	$15.08	$15.38	$15.64	$15.87
SLDMWA[4]	n.a.	n.a.	$5.00	$2.73	$6.43	$4.15	$6.61	$5.46	$6.61	$7.99
Total	$140.46	$156.66	$149.64	$144.60	$150.22	$148.11	$152.01	$149.91	$157.11	$155.87
Contract rate[5]	$85.86	$85.86	$85.86	$85.86	$85.86	$85.86	$79.13	$79.13	$79.13	$79.13

Notes:

[1] The irrigation rates shown here are for non-full cost users, which include almost all agricultural users in Zone 6.

[2] Cost-of-service for agricultural and municipal and industrial users includes a capital repayment rate and an operation and maintenance (O&M) rate. For municipal and industrial customers, cost-of-service also includes a deficit charge, which includes interest on unpaid O&M and interest on capital and on unpaid deficit. Cost-of-service rates apply March 1 through the end of the following February.

[3] Restoration fund charges apply October 1 through September 30.

[4] Beginning in 1998, the San Luis-Delta Mendota Water Authority instituted this charge to "self-fund" costs associated with maintaining the Delta-Mendota Canal and certain other facilities, which were formerly funded directly by the Bureau of Reclamation. SLDMWA issues preliminary rates in October for the upcoming contract year (March-February). These rates are used for rate-setting purposes; actual rates may vary.

[5] The contract rate is shown for comparison. It is the minimum rate CVP contractors are allowed to pay. To the extent that the contract rate does not cover interest plus actual operation and maintenance costs, a contractor deficit is accumulated that is charged interest at the current-year treasury borrowing rate.

Table E-4. Zone 6 Groundwater Percolation Revenue Requirements and Charges in 2005

Reclamation Charge Component	Revenue Requirements: Reclamation Charge Rate ($/af)	Percolated Amount[1] (af)	Reclamation Charge ($)	Revenue Sources: Groundwater Use[2] (af)	Rate Needed to Cover Costs[3] ($/af)
Agricultural					
Operation & maintenance	$11.95	700	$8,365	15,000	$0.56
Capital	$55.79	700	$39,053	15,000	$2.60
Deficit	$0.00	700	$0	15,000	$0.00
Interest	$0.00	700	$0	15,000	$0.00
Restoration	$7.93	700	$5,551	15,000	$0.37
SLDMWA O&M	$3.50	700	$2,450	15,000	$0.16
Power Charge[6]	$17.08	700	$11,956	15,000	$0.80
Total agricultural	$96.25	700	$67,375	15,000	$4.49
Groundwater charge for 2005-2006[4]					$1.50
Revenue generated					$22,500
Revenue required from other sources[5]					$44,875
Municipal and Industrial (M&I)					
Operation & maintenance	$10.55	1,200	$12,660	8,000	$1.58
Capital	$97.65	1,200	$117,180	8,000	$14.65
Deficit	$14.46	1,200	$17,352	8,000	$2.17
Interest	$129.24	1,200	$155,088	8,000	$19.39
Restoration	$15.87	1,200	$19,044	8,000	$2.38
SLDMWA O&M	$3.50	1,200	$4,200	8,000	$0.53
Power Charge[6]	$17.08	1,200	$20,496	8,000	$2.56
Total M&I	$288.35	1,200	$346,020	8,000	43.25
Groundwater charge for 2005-2006[4]					$21.50
Revenue generated					$172,000
Revenue required from other sources[5]					$174,020

Notes:

[1] Percolated amounts are estimates for March 2005 through Febrary 2006 developed in January 2005, with 63% of the percolation amount designated as municipal and industrial water.

[2] Groundwater use by agricultural and municipal and industrial users are estimates for March 2005 through February 2006 developed in January 2005.

[3] The rate needed to cover costs equals the total reclamation charge divided by the amount of groundwater use.

[4] The groundwater charge rate for agricultural users covers approximately one-third of the cost of the percolated water. The difference is funded by revenue from other sources, principally taxes.

[5] The amount of revenue required from other sources equals the total reclamation charge minus the amount of revenue raised by groundwater charges at the District's current groundwater charge rates.

[6] The USBR power charge is itemized separately here, rather than including it in O&M charges.

SUNNYSLOPE COUNTY WATER DISTRICT

ORDINANCE NO. 62

AN ORDINANCE OF SUNNYSLOPE COUNTY WATER DISTRICT
(AMENDING DISTRICT CODE §§ 3.40.150, 4.32.160, AND 4.36.060)
(CHANGING RATES, FEES AND CHARGES FOR WATER AND SEWER SERVICES)

Be it ordained by the Board of Directors of
Sunnyslope County Water District
as follows:

Section 1. Authority. This ordinance is enacted pursuant to Sections 30000 and following of the California Water Code.

Section 2. Findings.

A. This ordinance is considered for action by the Board of Directors at a regularly scheduled and noticed meeting. A summary of the ordinance prepared by the district's General Manager in consultation with the district's legal counsel was published and a certified copy of the full text of the proposed ordinance was posted in the office of the board at least five days prior to the Board meeting of December 11, 2003. At least 10 days prior to the meeting, the district made available to the public data indicating the amount of cost, or estimated cost, required to provide the service for which the rates, fees and charges are levied, and the revenue sources anticipated to provide the service, including General Fund revenues. Certificates of publication are on file with the district.

B. Rates for regular water service and for interruptible service are established by Section 3.40.150 and Table 3.40.150 of the District Code. Rates for sewer service are established by Section 4.36.060 and Table 4.36.060 of the District Code.

C. Rates, fees and charges were amended by Ordinance 61 on May 1, 2002. Amended rates, fees and charges were effective immediately upon adoption. Ordinance 61 provides that the water rates will increase by 16% on December 21, 2003, and the sewer rates will increase by 10% on December 21, 2003.

D. The district has received recommendations from its financial consultant, Parsons & Associates that certain rate amendments are necessary and appropriate to meet the district's obligations under the CSCDA Series 2002A Revenue Bond pooled financing. Specifically, scheduled rate increases for sewer services of 16% each in 2003-04 and 2004-5, and 10% each in 2005-06 and 2006-07, and scheduled rate increases for water services of 71% in 2003-04 and 5% each in 2004-05, 2005-06 and 2006-07, effective, respectively, on December 21 of 2003, 2004, 2005 and 2006, are recommended for authorization, subject to adjustment as more information becomes available about the district's actual financial condition and revenue sources for each year as the increases are scheduled to take effect.

E. The amended rates, fees and charges for water and wastewater services for the purpose of (1) meeting operating expenses, including employee wage rates and fringe benefits, (2) purchasing or leasing supplies, equipment, or materials, (3) meeting financial reserve needs and requirements, and (4) obtaining funds for capital projects necessary to maintain service within existing service areas, including repayment of the existing CSCDA pooled financing.

F. The district's legal counsel advises, and the Board finds, that adoption of this ordinance is exempt from the requirements of the California Environmental Quality Act ("CEQA") pursuant to Public Resources Code Section 21080(b)(8) and Section 15273 of the State CEQA Guidelines codified at 14 CCR §15273.

G. Monthly service fees or charges adopted by this Ordinance shall be imposed as a condition of service by the District to its customers. Monthly water quantity and sewer rates shall be imposed on the basis of the amount of water used or consumed by the customer. Any customer may avoid payment of the quantity rates and the service fees or charges by disconnecting from the facilities of the district. These rates, fees and charges are not imposed upon real property or upon persons as an incident of real property ownership.

H. The district's Legal Counsel advises that because there will be no increase in capital connection charges or fees, there is no question about needing to follow the procedures set forth in Article XIII D of the California Constitution, nor the procedures set forth in Government Code sections 60013 through 60018.

I. The rates, fees and charges adopted by this ordinance will not exceed the estimated reasonable costs of providing the services for which the rates, fees or charges are imposed. Connection charges imposed by this ordinance will not exceed the proportional cost of the service attributable to the customers on whom the charges are imposed.

J. The rates, fees and charges adopted by this ordinance have not been calculated nor developed on the basis of any parcel map, including an assessor's parcel map.

K. The district's financial needs require the provisions of this ordinance to become effective immediately upon adoption pursuant to Water Code Section 31027.

Section 3. Purpose Of Ordinance. This ordinance amends Sections 3.40.150 (Table 3.40.150) and 4.63.060 (Table 4.63.060) of the Sunnyslope County Water District Code.

Section 4. Effect Of Repeal On Past Actions And Obligations. This ordinance does not affect prosecutions for ordinance violations committed prior to the effective date of this ordinance, does not waive any fee or penalty due and unpaid on the effective date of this ordinance, and does not affect the validity of any bond or cash deposit posted, filed or deposited pursuant to the requirements of any ordinance.

Section 5. Water Rate Schedule Amended. Section 3.40.150 of the District Code is amended by amending the last sentence of Table 3.40.150, such that Table 3.40.150 reads in full as set forth in Exhibit "A" to this ordinance, incorporated by this reference.

Section 6. Sewer Rate Schedule Amended. Section 4.63.060 of the District Code is amended by amending the last sentence of Table 4.63.060, such that Table 4.63.060 reads in full as set forth in Exhibit "B" to this ordinance, incorporated by this reference.

Section 7. Requirements for Rates, Fees and Charges. The rates, fees and charges adopted by this ordinance shall not exceed the estimated reasonable costs of providing the services for which the rates, fees or charges are imposed. Revenues derived, respectively, from water and sewer connection charges shall not be used for any purpose other than for capital facilities to provide, respectively, water and sewer service. If the connection charges adopted by this ordinance create revenues in excess of actual cost, those revenues shall be used to reduce the connection charges creating the excess.

Section 8. Severability. If any section, subsection, sentence, clause, or phrase of this ordinance Is for any reason held to be unconstitutional or invalid, or superseded by some other provision of law, such provisions shall be severed from and shall not affect the validity of the remaining provisions of this ordinance. The Board hereby declares that it would have passed this ordinance and each section, subsection, sentence, clause, or phrase thereof irrespective of the fact that any other part thereof be unconstitutional or invalid, or superseded by some other provision of law. The parts of this ordinance which are not unconstitutional, invalid, or superseded shall remain in full force and effect and shall be enforced according to their terms.

Section 9. Interpretation. Words and Phrases used in this ordinance shall be read conjunctively with and shall have the same meaning as in prior district ordinances and the district Code, unless specifically changed by this ordinance or unless the context requires some other construction. If there is any inconsistency between this ordinance and prior provisions, this ordinance shall control.

Section 10. Effective Date. This ordinance shall take effect immediately on adoption.

Section 11. Publication and Posting. Within 10 days after adoption, the district shall publish, in a newspaper published in San Benito County and circulated within the district, either a summary or the full text of this ordinance, and shall post in the district office a certified copy of the full text of this ordinance as adopted along with the names of those directors voting for and against adoption.

Section 12. Notice of Exemption Notice of Determination. The Secretary is authorized and directed to give due notice of exemption of this ordinance from the provisions of CEQA, pursuant to Title 14, California Code of Regulations, section 15062.

On motion of Director R. Anderson, seconded by Director D. Anderson, the foregoing Ordinance is enacted and shall take effect on December 21, 2003, by the following roll call of the Board:

AYES: Directors Hailstone, R. Anderson, D. Anderson, and Rosskamp

NAYS: None

ABSENT: Director Nelson

By
Stephen Hailstone, President

ATTEST:

Bryan M. Yamaoka, Secretary

CERTIFICATE OF SECRETARY

The undersigned hereby certifies that the foregoing Ordinance was adopted and approved by the Board of Directors at their regular meeting on December 11, 2003.

Bryan M. Yamaoka, Secretary

EXHIBIT A

Table 3.40.150

RATE SCHEDULE:
REGULAR DOMESTIC SERVICE AND INTERRUPTIBLE SERVICE

Monthly Service Charges

Inside District, Improvement Dist. No. 1 and S.B.C.W.D.* Zone 3	Inside Imp. District No. 1 and Outside S.B.C.W.D. Zone 3	Outside District
$4.60	$4.95	$5.50

Monthly Quantity Rates
Regular Domestic Service and Interruptible Service

	Inside District, Imp. Dist. #1 and S.B.C.W.D. Zone 3	Inside Imp. Dist. #1 and Outside S.B.C.W.D. Zone 3	Outside District
1st 2000 cu. ft. per 100 cu. ft./unit	$0.73	$0.80	$0.90
Next 4000 cu. ft. per 100 cu. ft./unit	1.02	1.09	1.19
Over 6000 cu. ft. per 100 cu. ft./unit	2.47	2.54	2.64

Monthly Meter Maintenance and Replacement Charges for All Classes of Service

Size of Meter	Charge per Meter
5/8" x ¾"	$1.40
1"	2.18
1 ½"	2.53
2"	3.34
3"	13.57
4"	19.78
6"	30.51
8"	48.40

All the rates and charges set forth above shall be increased by sixteen percent (16%) on December 21, 2002, and by an additional seventy-one percent (71%) on December 21, 2003, and by an additional five percent (5%) annually on December 21 in 2004, 2005 and 2006 .

* San Benito County Water District

EXHIBIT B

Table 4.36.060

SEWER SERVICE CHARGES

	Facility Serviced	Charge per Month
1.	Single-family dwelling	$17.60
2.	Multiple-family dwellings, duplexes, flats and apartments	13.40/unit
3.	Cottages, auto courts, motels, trailer parks, laundries, launderettes and similar uses	1.14/HCF of metered water use
4.	Commercial and industrial (including office buildings, businesses, restaurants, bars, theaters, hotels, rooming houses, schools, churches, fabrication, processing, service stations, garages, chemical plants and similar uses)	1.50/HCF of metered water use

All the rates and charges set forth above shall be increased by ten percent (10%) on December 21, 2002, and by an additional sixteen percent (16%) annually on December 21 in 2003 and 2004, and by an additional ten percent (10%) annually on December 21 in 2005 and 2006.

EXHIBIT A

December 21, 2006

Table 3.40.150

RATE SCHEDULE:
REGULAR DOMESTIC SERVICE AND INTERRUPTIBLE SERVICE

Monthly Service Charges

Inside District, Improvement Dist. No. 1 and S.B.C.W.D.* Zone 3	Inside Imp. District No. 1 and Outside S.B.C.W.D. Zone 3	Outside District
$10.59	$11.38	$12.66

Monthly Quantity Rates
Regular Domestic Service and Interruptible Service

	Inside District, Imp. Dist. #1 and S.B.C.W.D. Zone 3	Inside Imp. Dist. #1 and Outside S.B.C.W.D. Zone 3	Outside District
1st 2000 cu. ft. per 100 cu. ft./unit	$1.68	$1.88	$2.08
Next 4000 cu. ft. per 100 cu. ft./unit	2.37	2.57	2.77
Over 6000 cu. ft. per 100 cu. ft./unit	5.74	5.83	6.14

Monthly Meter Maintenance and Replacement Charges for All Classes of Service

Size of Meter	Charge per Meter
5/8" x ¾"	$3.27
1"	5.05
1 ½"	5.83
2"	7.72
3"	31.17
4"	45.42
6"	70.08
8"	111.15

All the rates and charges set forth above shall be five percent (5%) on December 21, 2006

* San Benito County Water District

EXHIBIT B

December 21, 2006
Table 4.36.060

SEWER SERVICE CHARGES

	Facility Serviced	Charge per Month
1.	Single-family dwelling	$31.58
2.	Multiple-family dwellings, duplexes, flats and apartments	24.02/unit
3.	Cottages, auto courts, motels, trailer parks, laundries, launderettes and similar uses	2.04/HCF of metered water use
4.	Commercial and industrial (including office buildings, businesses, restaurants, bars, theaters, hotels, rooming houses, schools, churches, fabrication, processing, service stations, garages, chemical plants and similar uses)	2.68/HCF of metered water use

All the rates and charges set forth above shall be increased by ten percent (10%) on December 21, 2006

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SUNNYSLOPE COUNTY WATER DISTRICT

ORDINANCE NO. 64

AN ORDINANCE OF SUNNYSLOPE COUNTY WATER DISTRICT
(AMENDING DISTRICT CODE § 4.36.060)
(CHANGING RATES, FEES AND CHARGES FOR SEWER SERVICES)

Be it ordained by the Board of Directors of
Sunnyslope County Water District
as follows:

Section 1. Authority. This ordinance is enacted pursuant to Sections 30000 and following of the California Water Code, and Sections 50021, 50022.4, 50022.7, 66013 and 66016 of the California Government Code, and Section 6 of Article XIII D of the California Constitution.

Section 2. Findings.

A. This ordinance is considered for action by the Board of Directors at a regularly scheduled and noticed meeting. The agenda was posted and notice of a public hearing on the ordinance was published in accordance with law in the Hollister Freelance and the Pinnacle. A summary of the ordinance prepared by the district's General Manager in consultation with the district's legal counsel was published and a certified copy of the full text of the proposed ordinance was posted in the office of the board at least five days prior to the Board meeting of March 8, 2007. At least 10 days prior to the meeting, the district made available to the public data indicating the amount of cost, or estimated cost, required to provide the service for which the rates, fees and charges are levied, and the revenue sources anticipated to provide the service, including General Fund revenues. Certificates of publication will be filed with the minutes of this meeting.

B. Rates for sewer service are established by Section 4.36.060 and Table 4.36.060 of the District Code. These rates were last amended in 2003 by Ordinance No. 62.

C. General economic conditions, changed laws and regulations, and continuing development in the district's present service area since the rates and charges were last amended have increased substantially the district's costs of providing water and wastewater services, including the costs of human and capital resources, and have required the district to plan for and provide new water and wastewater facilities, all requiring increased revenue.

D. The District Engineer and the District's consulting engineers, RMC Engineering, have made recommendations concerning wastewater transport and treatment facilities needed to serve consumers of the district's wastewater services to maintain compliance with applicable laws and regulations and the lawful requirements of the Central Coast Regional Water Quality Control Board.

E. As part of its planning, the district engaged Bartle Wells Associates to review the district's finances and the financial needs identified based on the Urban Water Management Plan and the recommendations of the District Engineer and the consulting engineers. The Board received and accepted a report from Bartle Wells at duly noticed Board meetings. A written report from Bartle Wells on file in the district office, and the oral presentations of Bartle Wells and the District's engineering consultants, RMC Engineering, have been considered carefully by the Board.

F. Information presented to the Board after careful study by qualified experts shows that the district has a clear, present and immediate need to amend certain of its rates, fees and charges for water and wastewater services for the purpose of (1) meeting operating expenses, including employee wage rates and fringe benefits, (2) purchasing or

leasing supplies, equipment, or materials, (3) meeting financial reserve needs and requirements, and (4) obtaining funds for capital projects necessary to maintain service within existing service areas.

G. The district's financial needs require the provisions of this ordinance amending rates, fees and charges to become effective immediately upon adoption pursuant to Water Code Section 31027.

H. The district's legal counsel advises, and the Board finds, that adoption of this ordinance is exempt from the requirements of the California Environmental Quality Act ("CEQA") pursuant to Public Resources Code Section 21080(b)(8) and Section 15273 of the State CEQA Guidelines codified at 14 CCR §15273.

I. Service rates, fees or charges adopted by this Ordinance will be imposed as a condition of service by the District to its customers. Sewer rates will be imposed on the basis of the amount of wastewater produced by the customer. Any customer may avoid payment of the quantity rates and the service fees or charges by disconnecting from the facilities of the district.

J. The rates, fees and charges adopted by this ordinance will not exceed the estimated reasonable costs of providing the services for which the rates, fees or charges are imposed. Connection charges imposed by this ordinance will not exceed the proportional cost of the service attributable to the customers on whom the charges are imposed.

K. The rates, fees and charges adopted by this ordinance have not been calculated nor developed on the basis of any parcel map, including an assessor's parcel map.

L. No written requests are on file with the district for mailed notice of meetings on new or increased fees or service charges pursuant to Government Code Section 66016.

Section 3. Purpose Of Ordinance. This ordinance amends Section 4.63.060 (Table 4.63.060) of the Sunnyslope County Water District Code.

Section 4. Effect Of Repeal On Past Actions And Obligations. This ordinance does not affect prosecutions for ordinance violations committed prior to the effective date of this ordinance, does not waive any fee or penalty due and unpaid on the effective date of this ordinance, and does not affect the validity of any bond or cash deposit posted, filed or deposited pursuant to the requirements of any ordinance.

Section 5. Sewer Rate Schedule Amended. Section 4.63.060 of the District Code is amended by amending Table 4.63.060 to read in full as set forth in Exhibit "A" to this ordinance, incorporated by this reference.

Section 6. Requirements for Rates, Fees and Charges. The rates, fees and charges adopted by this ordinance shall not exceed the estimated reasonable costs of providing the services for which the rates, fees or charges are imposed.

Section 7. Severability. If any section, subsection, sentence, clause, or phrase of this ordinance Is for any reason held to be unconstitutional or invalid, or superseded by some other provision of law, such provisions shall be severed from and shall not affect the validity of the remaining provisions of this ordinance. The Board hereby declares that it would have passed this ordinance and each section, subsection, sentence, clause, or phrase thereof irrespective of the fact that any other part thereof be unconstitutional or invalid, or superseded by some other provision of law. The parts of this ordinance which are not unconstitutional, invalid, or superseded shall remain in full force and effect and shall be enforced according to their terms.

Section 8. Interpretation. Words and Phrases used in this ordinance shall be read conjunctively with and shall have the same meaning as in prior district ordinances and the district Code, unless specifically changed by this ordinance or unless the context requires some other construction. If there is any inconsistency between this ordinance and prior provisions, this ordinance shall control.

Section 9. Effective Date. This ordinance shall take effect immediately upon adoption.

Section 10. Publication and Posting. Within 15 days after adoption, the district shall publish, in a newspaper published in San Benito County and circulated within the district, a summary of this ordinance with the names of those directors voting for and against adoption, and shall post in the district office a certified copy of the full text of this ordinance as adopted along with the names of those directors voting for and against adoption.

Section 11. Notice of Exemption Notice of Determination. The Secretary is authorized and directed to give due notice of exemption of this ordinance from the provisions of CEQA, pursuant to Title 14, California Code of Regulations, section 15062.

On motion of Director Johnson, seconded by Director Hailstone, the foregoing Ordinance is enacted and shall take effect on March 8, 2007, by the following roll call of the Board:

AYES: Directors Anderson, Hailstone, Nelson, Johnson, & Keck
NAYS: None
ABSENT: None

By _____
Dawn V. Anderson, President

ATTEST:

_____
Bryan M. Yamaoka, Secretary

CERTIFICATE OF SECRETARY

The undersigned hereby certifies that the foregoing Ordinance was adopted and approved by the Board of Directors at their regular meeting on March 8, 2007.

_____
Bryan M. Yamaoka, Secretary

EXHIBIT A

Table 4.36.060

SEWER SERVICE CHARGES – Effective March 21, 2007

Facility Serviced	Charge per Month
1. Single-family dwelling	$31.58 plus $1.87/HCF based on average winter water usage for February and March
2. Multiple-family dwellings, duplexes, flats, and apartments	$24.02/unit plus $1.87/HCF based on average winter water usage for February and March
3. Cottages, auto courts, motels, trailer parks, laundries, launderettes and similar uses	$3.05/HCF of metered water use
4. Commercial and industrial (including office buildings, businesses, restaurants, bars, theaters, hotels, rooming houses, schools, churches, fabrication, processing, service stations, garages, chemical plants, and similar uses)	$4.03/HCF of metered water use

SEWER SERVICE CHARGES – Effective December 21, 2007

Facility Serviced	Charge per Month
5. Single-family dwelling	$50.53 plus $2.99/HCF based on average winter water usage for February and March
6. Multiple-family dwellings, duplexes, flats, and apartments	$38.44/unit plus $2.99/HCF based on average winter water usage for February and March
7. Cottages, auto courts, motels, trailer parks, laundries, launderettes and similar uses	$4.88/HCF of metered water use
8. Commercial and industrial (including office buildings, businesses, restaurants, bars, theaters, hotels, rooming houses, schools, churches, fabrication, processing, service stations, garages, chemical plants, and similar uses)	$6.44/HCF of metered water use

SEWER SERVICE CHARGES – Effective December 21, 2008

Facility Serviced	Charge per Month
9. Single-family dwelling	$55.58 plus $3.29/HCF based on average winter water usage for February and March
10. Multiple-family dwellings, duplexes, flats, and apartments	$42.28/unit plus $3.29/HCF based on average winter water usage for February and March
11. Cottages, auto courts, motels, trailer parks, laundries, launderettes and similar uses	$5.37/HCF of metered water use
12. Commercial and industrial (including office buildings, businesses, restaurants, bars, theaters, hotels, rooming houses, schools, churches, fabrication, processing, service stations, garages, chemical plants, and similar uses)	$7.09/HCF of metered water use

SEWER SERVICE CHARGES – Effective December 21, 2009

Facility Serviced	Charge per Month
13. Single-family dwelling	$61.14 plus $3.62/HCF based on average winter water usage for February and March
14. Multiple-family dwellings, duplexes, flats, and apartments	$46.51/unit plus $3.62/HCF based on average winter water usage for February and March
15. Cottages, auto courts, motels, trailer parks, laundries, launderettes and similar uses	$5.91/HCF of metered water use
16. Commercial and industrial (including office buildings, businesses, restaurants, bars, theaters, hotels, rooming houses, schools, churches, fabrication, processing, service stations, garages, chemical plants, and similar uses)	$7.79/HCF of metered water use

SEWER SERVICE CHARGES – Effective December 21, 2010

Facility Serviced	Charge per Month
17. Single-family dwelling	$67.25 plus $3.98/HCF based on average winter water usage for February and March
18. Multiple-family dwellings, duplexes, flats, and apartments	$51.16/unit plus $3.98/HCF based on average winter water usage for February and March
19. Cottages, auto courts, motels, trailer parks, laundries, launderettes and similar uses	$6.50/HCF of metered water use
20. Commercial and industrial (including office buildings, businesses, restaurants, bars, theaters, hotels, rooming houses, schools, churches, fabrication, processing, service stations, garages, chemical plants, and similar uses)	$8.57/HCF of metered water use

Appendix L

Mandatory Water Use Reduction Ordinances

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FILE: WATER CONSERVATION PLAN

DUPLICATE OF ORIGINAL
ON FILE IN THE
OFFICE OF THE CITY CLERK,
CITY OF HOLLISTER

ORDINANCE NO. 755

AN ORDINANCE OF THE CITY OF HOLLISTER PROBHIBITING WATER WASTE AND REPEALING ORDINANCE NO. 752 OF THE CITY OF HOLLISTER

The City Council of the City of Hollister does ordain as follows:

Section 1: Definitions.

"Non-essential water use" is the indiscriminate or excessive dissipation of potable water which is unproductive or does not reasonably sustain economic benefits or life forms.

"Water waste" is the indiscriminate, unreasonable or excessive running or dissipation of potable water.

Section 2: Regulations. All water users shall immediately cease and desist from non-essential and wasteful use of water within the City. Non-essential and wasteful use of water includes, but is not limited to, the following:

(a) Indiscriminate or excessive water use which allows excess water to run to waste.

(b) Individual washing of cars, buildings or exterior surfaces without the use of a quick acting, positive shut-off nozzle.

(c) Use of potable water to irrigate turf, lawns, gardens or ornamental landscaping between 9:00 o'clock A.M. and 5:00 o'clock P.M. by means of other than drip irrigation or hand watering without quick acting, positive shut off nozzle.

(d) Use of potable water to wash sidewalks or roadways when sweeping provides a reasonable alternative.

(e) Water waste caused by easily correctable leaks, breaks or malfunctions after a reasonable time. Exceptions may be made by the Director of Public Services of the City of Hollister for corrections which are not feasible or practical.

(f) Use of potable water for construction purposes, such as consolidation of backfill, unless no other source of water or method can be used.

(g) Restaurant water service unless upon request.

(h) Hydrant flushing except when required for public health and safety.

The regulations contained in this Section shall not apply to City water allocated to the Sunnyslope County Water District.

Section 3: Administration. The Director of Public Services of the City of Hollister shall be responsible for the implementation of this Ordinance. The Director shall report to the City Council all factors which affect the implementation of this Ordinance and shall maintain a separate file of any requests for variances from the regulations set forth in this Ordinance.

Section 4: Variances. The regulations set forth in this Ordinance may be modified in writing by the Director of Public Services on written request therefore without formal application or hearing when the modification is consistent with the City's water conservation goals and where the strict application of the regulations of this Ordinance would cause health or safety problems or extreme hardship. In the event an application for modification is denied, the applicant may seek review by the City Council by filing a request for modification with the Clerk of the City of Hollister within ten (10) days of the date of written denial by the Director of Public Services.

Section 5: Violations. The Director of Public Services shall provide any water user who fails or refuses to comply with the provisions of this Ordinance with written notice of violation and an opportunity to correct such noncompliance. The notice of violation shall:

(a) Be posted at the site of the noncompliance or delivered to the water user.

(b) State the time, date and place of violation.

(c) State the general description of the violation.

(d) State the means to correct the violation.

(e) State the date by which correction is required.

(f) A copy of the notice shall be mailed to the address of the user.

In the event any water user shall fail or refuse to correct a violation within the time specified in the Notice, such refusal shall be referred to an appropriate law enforcement agency for investigation and prosecution.

Any water user violating any of the provisions of this Ordinance shall be guilty of a misdemeanor and, upon conviction, shall be punished by a fine of not more than Five Hundred and 00/100 Dollars ($500.00) or by imprisonment for a term not exceeding six (6) months or by both such fine and imprisonment. A water user shall be deemed to be guilty of a separate offense for each and every day during any portion of which any violation of this Ordinance is committed, continued or permitted.

Section 6: Severability. If any provision of this Ordinance, or the application thereof to any person or circumstance, is held invalid or unconstitutional by a court of competent jurisdiction, such invalidity or unconstitutionality shall not affect any other provision or application, and to this end, the provisions of this Ordinance are declared to be severable. The City Council of the City of Hollister hereby declares that they would have adopted this Ordinance and each section, sub-section, sentence, clause, phrase, part or portions thereof, irrespective of the fact that any one or more sections, sub-sections, sentences, clauses, phrases, parts or portions thereof, be declared invalid or unconstitutional.

Section 7: Ordinance No. 752 of the City of Hollister is hereby repealed.

Section 8: This Ordinance shall take effect thirty (30) days from and after its final passage. Prior to the expiration of fifteen (15) days from the final passage hereof, the Clerk of the City of Hollister shall cause this Ordinance to be published once in the Free Lance, a newspaper of general circulation in the City of Hollister.

This Ordinance was read and introduced on the 16th day of July, 1990, and passed and adopted by the City Council of the City of Hollister on the 6th day of August, 1990, by the following vote:

AYES: Councilmembers Gonzalez, Hallberg, Escover, Kuckenbaker, and Mayor Light.

NOES: Councilmembers None.

ABSENT Councilmembers None.

ABSTAINING: Councilmembers None.

Mayor of the City of Hollister

ATTEST:

Clerk of the City of Hollister

SUNNYSLOPE COUNTY WATER DISTRICT
3416 AIRLINE HIGHWAY
HOLLISTER, CA 95023-9702

ORDINANCE NO. 45

AN ORDINANCE OF THE BOARD OF DIRECTORS OF THE SUNNYSLOPE COUNTY WATER DISTRICT DECLARING A WATER SUPPLY EMERGENCY PROHIBITING WATER WASTE AND ESTABLISHING WATER RATIONING RULES

NOW THEREFORE, BE IT ORDAINED by the Board of Directors of the Sunnyslope County Water District as follows:

SECTION I
PURPOSE, FINDINGS, AND AUTHORITY

A. Statement of Purpose and Findings: The Sunnyslope County Water District enacts this ordinance to restrict water waste and unnecessary use of water by reason of a present urgency situation caused by drought and threatened water supply shortage. The overall objective is to reduce water usage by 20% district wide.

B. Authority: This ordinance is enacted pursuant to the provisions of Section 31026, et seq. of the California Water Code, which authorizes county water districts to restrict the use of water during any emergency caused by drought or other threatened or existing water shortages and to prohibit the wastage of district water or the use of district water during such periods.

C. Findings:

(1) The lack of rain for the previous three years together with an abnormally low water table has created a water shortage in the Sunnyslope County Water District. A water table study has been performed by the district and is available at the district office.

(2) Greater per capita water consumption increases the entire district's vulnerability to a severe drought.

(3) Water hook-ups and water consumption has steadily increased over the previous three drought years and continues to increase into the present potential drought year. Water district records indicate that from July, 1985 to June, 1989, water connections have increased by 34%.

(4) Water conservation has proven to be a successful mechanism to reduce water consumption. Conservation efforts will provide an interim water supply, reduce drought vulnerability, reduce sewer flows, and ease the impact of the previous drought years, all of which is required to meet the health, safety, and welfare of the residents of the Sunnyslope County Water District.

SECTION II
DEFINITIONS

A. Definition of Water Waste: "Water waste" is deemed to be the indiscriminate, unreasonable, or excessive running or dissipation of potable water. Water waste is prohibited by the terms of this ordinance.

B. Definition of Non-essential Water Use: "Non-essential water use" is the indiscriminate or excessive dissipation of potable water which is unproductive or does not reasonably sustain economic benefits or life forms given the present shortage of potable water. Non-essential water use is prohibited by the terms of this ordinance.

SECTION III
RESTRICTIONS ON WATER WASTE

A. Prohibition: All residential and non-residential customers including individuals, commercial enterprises, and governmental entities receiving water from the Sunnyslope County Water District shall cease and desist from wasteful and non-essential uses of water within the district boundaries. The district shall impose and enforce mandatory prohibitions

against water waste. Water waste and non-essential uses shall include those uses defined in Section II-A and B above and shall further include the following:

(1) Indiscriminate or excessive water use which allows excess to run to waste.

(2) Individual washing of cars, buildings, or exterior surfaces without use of quick acting, positive shut-off nozzles.

(3) Use of potable water to irrigate turf, lawns, gardens, or ornamental landscaping between 9:00 a.m. and 5:00 p.m. by means other than drip irrigation or hand watering without quick acting, positive shut-off nozzles.

(4) Use of potable water to wash sidewalks or roadways where airblowers or sweeping provides a reasonable alternative.

(5) Water waste caused by easily correctable leaks, breaks, or malfunctions after a reasonable time within which to correct. Exceptions may be made by the Sunnyslope County Water District Manager for corrections which are not feasible or practical.

(6) Operation of decorative fountains even if they use a re-circulating system.

(7) Use of water for construction purposes, such as consolidation of backfill unless no other source of water or method can be used.

(8) Restaurant water service unless upon request.

(9) Hydrant flushing except where required for public health and safety.

(10) Refilling existing private pools except to maintain water levels.

B. The prohibitions contained herein shall not apply to the district water allocated to the City of Hollister.

SECTION IV
ADMINISTRATION

A. Implementation: The district's manager shall be charged with implementation of this ordinance. The manager shall report to the board all factors which affect the implementation of this ordinance and shall maintain a separate file of any requests for variances from the prohibition set forth in this ordinance.

B. Alternative If Purpose of Ordinance is Not Met: In the event that the rationing measures set forth in this ordinance are not sufficient to meet the district's overall intent of reducing water usage by 20%, the district shall consider the adoption of a mandatory water rationing ordinance. Such ordinance which shall impose a use/penalty fee upon the water user, calculated at the rate of ($.30 per gallon), and shall apply to all water users who use water in excess of the maximum ration set forth in said succeeding ordinance.

SECTION V
VIOLATIONS

A. Notice of Violation: Should any individual or entity fail or refuse to comply with the provisions of this ordinance, the district's manager or his agent shall provide that person or entity with written notice of the violation and an opportunity to correct the noncompliance. This notice shall be in writing and shall:

(1) Be posted at the site of the noncompliance.
(2) State the time, date, and place of violation.
(3) State a general description of the violation.
(4) State the means to correct the violation.

(5) State a date by which correction is required.
(6) A copy of the written notice shall further be mailed to the site of the violation.

B. Should an individual or entity fail or refuse to correct the violation within the time specified in the written notice, said refusal shall be referred to the appropriate law enforcement agency for prosecution as a misdemeanor, which shall be punished by being imprisoned in the county jail for not more than 30 days or by a fine of not more than $600.00 or by both such fine and imprisonment. The district shall be entitled to pursue any other remedy available at law or equity to abate the nuisance.

SECTION VI
RATIONING VARIANCE

The prohibition set forth in this ordinance may be modified in writing by the district manager upon written request without formal application or hearing when the modification is consistent with the district rationing and water conservation goals and where the strict application of the requirements of this ordinance would cause health or safety problems or cause extreme hardship. In the event that a variance applicant is not satisfied with the decision of the district manager, the applicant may seek further relief before the district board of directors by filing a request for a variance within ten days from the date of receiving the decision from the district's general manager.

SECTION VII
TERMINATION OF WATER USE RESTRICTIONS

The provisions of this ordinance declaring a water supply emergency and imposing present water use restrictions shall have no force and effect on or after February 14, 1991, except, however, that this date may be extended from time to time by resolution of the board of directors upon findings that the present water supply emergency has not ended.

SECTION VIII
INVALIDITY

Should any provision of this ordinance be found by a court of law to be unconstitutional, unlawful, or invalid, such court decision shall not affect the validity of the remaining provisions of this ordinance.

SECTION IX
PUBLICATION

This ordinance shall be published once in full in a newspaper of general circulation printed in the district within ten days after adoption.

SECTION X
URGENCY EFFECT

The provisions of this ordinance shall have urgency effect and shall become effective on 12:01 a.m. Feb. 14, 1990.

On motion of director Anderson, and seconded by director Hailstone, the foregoing ordinance is adopted this 13 day of February, 1990, by the following vote.

AYES: DIRECTORS: Nelson, Hailstone, Williams & Anderson

NOES: DIRECTORS:

ABSENT: DIRECTORS: Churchill

President

I, BRYAN YAMAOKA, Secretary to the Board of Directors of the Sunnyslope County Water District, hereby certify the foregoing is a full, true, and correct copy of an ordinance duly adopted this 13 day of February, 1990.

Witness my hand and seal of the Board of Directors this 13 day of February, 1990.

BRYAN YAMAOKA, Secretary

(SEAL)

Attest:

Secretary

San Benito County Resolution 92-82. Water Conservation Plan

- Provides guidelines to deal with water shortage conditions, including droughts.
- Prohibits certain water uses categorized as wasteful and establishes mandatory conservation measures for wastewater usage.
- Requires the use of water-saving plumbing fixtures for all new construction and for existing structures, where replacements, additions or relocations of plumbing fixtures are proposed.
- Encourages the installation of dual distribution systems for irrigation and the use of reclaimed water to the maximum extent feasible.
- Recommends water-conserving measures applicable to agriculture, including irrigation audits, prescribed irrigation schedules etc.
- Provides a detailed, water-efficient landscape plan applicable to all new and rehabilitated landscaping for public projects and private development, including golf courses. Developer-installed landscaping in residential projects is also subject to these provisions.

San Benito
California
County

FINAL

WATER CONSERVATION PLAN

Adopted by Board of Supervisors - July 7, 1992
Resolution 92-82

SAN BENITO COUNTY
PLANNING DEPARTMENT

BEFORE THE BOARD OF SUPERVISORS, COUNTY OF SAN BENITO

A RESOLUTION ADOPTING THE) FINAL SAN BENITO COUNTY) WATER CONSERVATION PLAN) _____)	RESOLUTION NO. 92-82

WHEREAS, On February 26, 1991, the Board passed and adopted Ordinance Number 594, "*An Urgency Ordinance Requiring the Development of a Water Conservation Plan and Requiring the Issuance of Building Permit to Conform to the Water Conservation Principles*";

WHEREAS, Section 3 of the ordinance provides for the preparation and adoption of a Preliminary Water Conservation Plan. The "*San Benito County Preliminary Water Conservation Plan*" was adopted by the Board on June 4, 1991;

WHEREAS, Section 5 of the ordinance states: "Upon the completion of the county-wide hydrologic study, the board shall hold a public hearing to consider all relevant evidence on creating a Final Water Conservation Plan";

WHEREAS, The San Benito County Ground-Water Investigation was completed by the consultant Luhdorff and Scalanini in October, 1991;

WHEREAS, California Government Code (Chapter 3 of Division 1 of Title 7 of Article 10.8) requires that a copy of the adopted Final Plan be sent to the State by January 31, 1993;

WHEREAS, on July 7, 1992, at a duly notice public hearing and considering the evidence presented at the hearing, the Board considered the content of the Final Water Conservation Plan.

NOW, THEREFORE BE IT RESOLVED by the Board of Supervisors of the County of San Benito hereby adopts the Final San Benito County Water Conservation Plan.

PASSED AND ADOPTED by the Board of Supervisors of the County of San Benito, State of California at the meeting of said board on the 7th day of July, 1992, by the following vote.

AYES:	**SUPERVISORS:**	M.Graves,Kesler,C.Graves,Bowling,Scagliotti
NOES:	**SUPERVISORS:**	None
ABSENT:	**SUPERVISORS:**	None

By: _____ 7/7/92
Chair
San Benito County Board of Supervisors

ATTEST

_____
JOHN R. HODGES, Clerk of the Board

By: _____
Denise R. Thome, Deputy Clerk

APPROVED AS TO LEGAL FORM
San Benito County Counsel

By: _____ 6/30/92
Date

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San Benito County
Final Water Conservation Plan

SECTION 1

PURPOSE AND SCOPE

This plan provides guidelines to deal with water shortage conditions which often exist within parts of California including the County of San Benito. This plan was adopted by the Board of Supervisors on July 7, 1992 (Resolution 82-82). This plan was adopted pursuant to Ordinance #594.

SECTION 2

FINDINGS

The Board of Supervisors finds, determines and declares as follows:

(a) San Benito County faces and has faced in recent years the tremendous pressure of residential growth.

(b) The demand for water service by water district and property owners is not expected to lessen.

(c) San Benito County relies extensively on groundwater for its water supply for all uses. Also, San Benito County received water from the federal water project known as the San Felipe Project. The San Felipe Project primarily supplies agriculture at the present time. It is the Board's intent that all runoff be used to the maximum extent feasible to recharge groundwater resources.

(d) The supply of water in California, particularly in the County of San Benito, is in jeopardy due to the present drought. The drought has not only affected the replenishment of the ground water but affects the supplies available to the San Felipe project as evidenced by recent cutbacks in the proposed supply.

(e) The County of San Benito is geographically in an area that is historically subject to periodic droughts of lengthy duration. Currently, we are in the fifth year of a devastating drought.

(f) For the foregoing reasons, the amount of water supply available to the County to serve the citizens is not and will not be adequate to meet the ordinary demands and requirements of water consumers without depleting the water supply of the County to the extent that there would be insufficient water for human consumption,

sanitation, fire protection and all other beneficial uses, and that these conditions are likely to continue to exist.

SECTION 3

DEFINITION OF PERSON

The following term is defined for the purpose of the plan:

(a) "Person" shall mean any individual person and any firm, partnership, corporation, business entity, district, agency, city, county and any other entity or organization.

SECTION 4

PROHIBITION OF CERTAIN USES

(a) No person shall waste water as used herein. The term "waste" means:

1. Use of potable water to irrigate grass, lawns, ground cover, shrubbery, crops, vegetation and trees between the hours of 10:00 a.m. and 6:00 p.m. in such a manner as to result in runoff for more than five (5) minutes.

2. Use of potable water to wash sidewalks, walkways, driveways, parking lots, open ground or other hard surfaced areas by direct application where sweeping will accomplish the same results.

3. Allowing potable water to escape from breaks within the persons' plumbing system for an unreasonable period of time after the break is discovered and reported.

4. Use of potable water for sewer system maintenance or fire protection training except as necessary.

5. Use of potable water for any purpose in excess of the amounts allocated below for each class of service.

SECTION 5

LIMITS ON CERTAIN USES

The following classes or uses are hereby created:

(a) "Single family residential" which consists of water service to land improved with structures designed to serve as a residence for a single family.

(b) "Multiple family residential" which consists of water service to land improved with structures designed to serve as or residence for more than a single family.

(C) "Non-residential" which consists of water service to land improved with structures designed to serve for other than residential uses. Commercial, recreational, charitable, agricultural and cultural uses are included within this class.

SECTION 6

WATER SAVING DEVICES

Any plumbing fixture in any existing structure which is replaced, added or moved must conform with the following criteria (all new construction shall adhere to these guidelines as well):

(a) Toilets must be ultra low flow toilets and use no more that 1.5 gallons of water per flush.

(b) Shower heads must use no more than 2.5 gallons of water per minute (ultra low flow shower heads).

(c) Kitchen and lavatory faucets must use no more than 2.0 gallons of water per minute.

(d) Flushometer type toilets and urinals shall be of a design that does not exceed 2.0 gallons per flush.

(e) All faucets in residential sinks and lavatories shall be equipped with faucet aerators and shall be of a design that limits the maximum flow to two gallons per minute. Water faucets for uses other than residential shall have aerators and limit the flow to a maximum of four gallons per minute and shall be equipped with automatic shut-off valves or be operated by front button or pedal valves.

(f) Fountains: No persons shall use water to operate or maintain levels in decorative fountains, unless such water is recycled in the fountain.

SECTION 7

MANDATORY CONSERVATION MEASURES ON WATER WASTE

(a) Repair of plumbing, sprinkler and irrigation systems. Any person who is the owner, manager, or person responsible for the day-to-day operation of any premises shall take action to initiate steps to repair any leaking, broken or defective water pipes, faucets, plumbing fixtures, other water service appliances, sprinklers, watering or irrigation systems, or distribution systems within a reasonable time after such person first learns of such leaks, breaks, or defects, and shall thereafter diligently and promptly pursue such repair work to completion.

(b) Washing of vehicles. No person shall use a water hose to wash any car, truck, boat, trailer, bus, recreational vehicle, camper, aircraft, tractor, or any other vehicle, or any portion thereof, unless the hose is equipped with an automatic shutoff nozzle.

(c) Cleaning of Structures. No person shall use potable water through a hose to clean the exterior of any building or structure unless such hose is equipped with a shutoff nozzle.

(d) Cleaning of Surfaces. No person shall use potable water through a hose to clean any sidewalk, driveway, roadway, parking lot, or any other outdoor paved or hard surfaced area, except where necessary to protect public health or safety. The use of a bucket is not prohibited at any time for cleaning food, grease, oil, or other stains or spillage from surfaces.

(e) Water Spillage. No person shall cause, suffer, or permit water to spill into streets, curbs, or gutters. No person shall use any water in any manner which results in runoff beyond the immediate area of use.

(f) Swimming Pools and Spas. No person shall empty and refill a swimming pool except to prevent or repair structural damage or to comply with public health regulations.

SECTION 8

RECLAIMED WATER

As appropriate, the installation of reclaimed water irrigation systems (dual distribution systems) may be required to allow for the current and future use of reclaimed water.

Irrigation systems shall make use of reclaimed water unless a written exception has been granted by the local water agency, stating that the reclaimed water meeting standards is not available and will not be available in the future. The reclaimed water irrigation systems shall be designed in accordance with the requirements of local and state regulatory agencies.

California Administrative Code Title 22, Division 4 provides the statutory requirements for wastewater reclamation and the California Department of Health Services has developed "Guidelines for Use of Reclaimed Water." This water conservation plan hereby encourages the use of reclaimed water to the maximum extent feasible.

Reclaimed water means water which, as a result of treatment of domestic wastewater, is suitable for a direct beneficial use or a controlled use that would not otherwise occur. Beneficial use of reclaimed water in San Benito County include, but are not limited to the following:

- Spray irrigation of crops, landscaping, and golf courses.
- Surface irrigation of crops.
- Recreational impoundment.
- Landscape impoundment.
- Groundwater recharge.
- Construction purposes such as soil compaction and dust control.
- Mining purposes such as dust control and mineral processing.

SECTION 9

AGRICULTURAL

In regards to a water conservation plan, we would look to the farm bureau and Agricultural Commissioner and the agricultural community to offer recommendations for this section.

Agricultural water use is an important element of water conservation planning. The following should be considered by the agricultural community:

1. Irrigation audits can be designed to take into account a variety of crop evapotranspiration needs.
2. Crop tolerances to mineral and chemical concentrations in the soil and soil texture and quality must be taken into account when designing a water conservation program for agriculture.
3. Current irrigation water losses to deep percolation, runoff, and spray evaporation can be minimized with prescribed irrigation schedules.

SECTION 10

WATER EFFICIENT LANDSCAPE PLAN

I. INTRODUCTION

Landscapes are essential to the quality of life in California. They provide areas-for recreation and can enhance the environment. In addition, landscapes offer people respite and psychological benefits as well as cultural and social framework and character. With careful planning and maintenance, our landscapes can be safe. attractive, useful, and environmentally sound.

It is the intent of this Plan to promote the values and benefits of our landscapes while recognizing the need to invest water, an increasingly limited resource, and our other resources as efficiently as possible.

This Water Efficient Landscape Plan has been prepared in response to the Water Conservation in Landscaping Act, Assembly Bill 325, Statutes of 1990, Chapter 1145.

The purpose of this Plan is to establish a structure for designing, installing, and maintaining water efficient landscapes in new projects. Provisions for water management practices and water waste preventions for established landscapes are also included.

Some of the features included in the Plan are:

* Calculation of a water budget and estimated water use.
* Appropriate plant selection and grouping in hydrozones.
* The use of reclaimed water.
* Landscape meters, automatic controllers, and rain switches.
* Design plans for landscape, irrigation, and grading including a water conservation concept statement.
* Monthly irrigation schedules.
* Schedules for ongoing maintenance.
* Water management practices and waste water prevention for existing landscapes.
* Soil tests.
* Education about water efficient landscapes provided.

II. APPLICABILITY

This Plan applies to all new and rehabilitated landscaping for public projects and private development projects including golf courses. Developer-installed landscaping in single-family residence, duplex, and triplex projects is subject to the Plan.

Homeowner-provided landscaping at single family residence, duplex. and triplex lots is excluded.

III. PROVISIONS FOR NEW OR REHABILITATED LANDSCAPES

All new and rehabilitated landscaping for projects listed above shall be subject to the following provisions.

A. Maximum Allowable Water Budget

For design purposes, a maximum allowable water budget is the upper limit of annual water use for the established landscaped area. It is based upon the area's average year climate and the size of the landscaped area. While this figure represents the maximum amount of water to be used on the landscaped area, designing a project to use less water is encouraged whenever possible.

The basic formula for calculating a project's maximum allowable water budget is:

MAWB = (ETo) (0.8) (LA) (0.62)

MAWB	=	Maximum Allowable Water Budget (gallons per year).
Eto	=	Reference Evapotranspiration (inches per year).
0.8	=	Allowable Percentage.
LA	=	Landscaped Area (square feet).
0.62	=	conversion factor (to gallons per square feet).

THE VARIABLES

Reference Evapotranspiration (Eto)
Evapotranspiration (ET) is the amount of water that evaporates from the soil and transpires from the plants. Reference evapotranspiration (Eto) is a standard measurement of a large field of four- to seven-inch tall, cool season grass that is well watered. The historical average (normal) Eto of Hollister can be found in Appendix F

0-8: The Allowable Percentage (AP)
The allowable percentage for this calculation is 0.8. it is a factor based on an average plant mix and an average irrigation efficiency. The allowable percentage adjusts the standard measurement of Reference Evapotranspiration to produce the maximum amount of water budgeted annually for the landscape. For more information about the derivation of the allowable percentage, see Appendix E.

Landscaped Area (LA)
The landscaped area is the entire parcel less the building pad, driveways, non-irrigated portions of parking lots, hardscapes- such as decks and patios, and other non-porous areas.

Conversion Factor (0.62)
To calculate the maximum allowable water budget in gallons per year, the conversion factor is 0.62.

To convert gallons per year to 100-cubic-feet per year, another common billing unit for water, divide gallons per year by 748. (748 gallons = 100 cubic feet.)

EXAMPLE CALCULATIONS OF A MAXIMUM ALLOWABLE WATER BUDGET

SITE: Landscaped area of 50,000 square feet in Oakland, California.

MAWB = (ETo) (0.8) (LA) (0.62)
MAWB = (41 inches) (0-8) (50,000 square feet) (0.62)
Maximum Allowable Water Budget = 1,016,800 gallons per year

Portions of landscaped areas in public and private sites such as parks, golf courses, or school yards where turf provides a playing surface or serves other recreational purposes may require additional water. A statement to that effect shall be included with the landscape design plan, designating areas to be used for such purposes and the amount of water required.

B. Estimated Water Use

The estimated water use of a project is the amount of water for the year to be used for the established landscape based upon the area's average year climate, the size of the landscaped area, the mix of plants selected, and the efficiency of the irrigation system.

The estimated water use for a landscaped area is composed of the sum of the estimated water use of all hydrozones in that landscaped area. A hydrozone is a subarea of the landscaped area having similar water use that is served by one valve or set of valves with the same settings. Here is a formula that can be used to estimate water use of a project:

EWU	=	(ETo) (KI/IE) (LA) (.62)
EWU	=	Estimated Water Use (gallons per year)
ETo	=	Reference Evapotranspiration (inches per year)
KI	=	Landscape coefficient
IE	=	Irrigation Efficiency
LA	=	Landscaped Area (square feet)
0.62	=	conversion factor

THE VARIABLES

The Landscape Coefficient (KI)

A landscape coefficient or aggregate plant factor is a factor used to modify ETo, based upon the estimated water use of a plant or group of plants. For purposes of this Plan, the landscape coefficient of low water using plants is 0.3, for average water using plants Is 0.5, and for high water using plants is 0.8. The landscape coefficient for cool season turf grass such as Kentucky bluegrass is 0.8. For warm season grasses such as bermuda, the landscape coefficient is 0.6.

Irrigation Efficiency (IE)

Irrigation efficiency is derived from estimates of equipment and design efficiency and management efficiency using the following formula:

IE = design efficiency x management efficiency

The minimum irrigation efficiency for purposes of this Plan is 0.65. Greater irrigation efficiency can be expected for large, flat, simply designed irrigation systems such as athletic fields.

The other variables, ETo, LA, and 0.62 are the same as in the Maximum Allowable Water Budget calculation.

The formula for the estimated water use of the project is the same as the maximum allowable water budget formula, except the allowable percentage of 0.8 is replaced by the landscape coefficient and irrigation efficiency factors. Thus, the maximum allowable water budget represents the upper limit of annual water use for the landscaped area based on average plant mix and average irrigation efficiency. The estimated water use represents an estimate of how much water that landscaped area will need for the year based upon the specific mix of plants and the estimated efficiency of irrigation system used for that project.

C. Plant Selection and Grouping

Plants shall be selected appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the site.

Plants having similar water use shall be grouped together in distinct hydrozones.

As long as the above criteria are met, any plants can be used in the landscape, providing the estimated water use of the project does not exceed the maximum allowable water budget.

D. Fire Resistive Plants

The selection of fire resistive plants (low fuel volume plants) is especially important in fire prone areas of California. These are plants with less flammable parts: more leaf than wood and less woody undergrowth.

For more information, contact your local fire department or the nearest California Department of Forestry office listed in your telephone directory under State of California.

E. Soils

Soils shall be amended for improving water holding properties as noted in the soils report. An organic mulch at least three inches deep shall be applied to all planting areas, except in turf or groundcover plantings.

F. Reclaimed Water

As appropriate, the installation of reclaimed water irrigation systems (dual distribution systems) shall be required to allow for the current and future use of reclaimed water.

Irrigation systems shall make use of reclaimed water unless a written exemption has been granted by the local water agency, stating that reclaimed water meeting all health standards is not available and will not be available in the foreseeable future. The reclaimed water irrigation systems shall be designed in accordance with the requirements of local and state regulatory agencies.

G. Irrigation Systems

When creating the irrigation design, the following criteria shall be followed:

1) Runoff and Overspray. Soil types and infiltration rate shall be considered when designing irrigation systems on slopes and level terrains. All irrigation systems shall be designed to avoid runoff, seepage, low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, or structures. Proper irrigation equipment and schedules, including features such as repeat cycles, shall be used to closely match application rates to infiltration rates therefore minimizing runoff.

   Special attention shall be given to avoid runoff on slopes greater than 10 percent and to avoid overspray in planting areas with a width less than ten feet, or in median strips.

   No overhead spray irrigation systems that are subject to wind drift shall be installed in median strips less than ten feet wide.

2) Water Coverage and Uniformity. For the purpose of determining the maximum allowable water budget, irrigation efficiency shall be assumed to be 0.65. Some projects will exceed this level of efficiency. When calculating the estimated water use of the project, irrigation efficiency shall be at least 0.65.

3) Equipment.

Meters. Separate landscape meters shall be installed for the irrigation system, except for single family homes.

Controllers. Automatic control systems are required for all projects and must be able to accommodate all aspects of the design.

Valves. Plants which require different amounts of water shall be irrigated by separate valves. If one valve is used for a given area, only plants with similar water use shall be used in that area. Anti-drain (check) valves shall be installed in strategic points to minimize or prevent low-spot drainage, runoff, and subsequent erosion from low elevation sprinkler heads.

Sprinkler heads. Heads and emitters shall have consistent precipitation rates within each control valve circuit. Sprinkler heads shall be selected for proper area coverage, precipitation rate, operating pressure, adjustment capability, and ease of maintenance.

Miscellaneous Devices. All systems shall conform to local backflow and cross connection codes. Rain sensing override devices are required on all irrigation systems. Moisture sensing devices are encouraged where appropriate.

H. Water Features

Recirculating or reclaimed water shall be used for decorative water features. Functional water features (such as swimming pools) and decorative water features shall be shall be included in the landscaped area calculation and considered as a high water using hydrozone. Pool and spa covers are encouraged when appropriate.

I. Maintenance

Landscapes shall be carefully and competently maintained to ensure water efficiency and high quality appearance. A regular maintenance schedule shall include but not be limited to checking, adjusting, and repairing the irrigation equipment; resetting the automatic controller; aerating and dethatching turf areas: replenishing mulch; fertilizing; pruning, weeding, and removing litter in all landscaped areas.

J. Water Management

Water management practices at a minimum shall be in accordance with the State of California Landscape Water Management Program (Landscape Irrigation Audits.) Whenever possible, irrigation scheduling shall incorporate evapotranspiration data such as that from the California Irrigation Management Information System (CIMIS) weather stations to apply the appropriate levels of water for different climates. Landscape irrigation audits shall be conducted by certified landscape irrigation auditors at least once every five years.

Whenever possible, landscape irrigation shall be scheduled between 8:00 pm and 8:00 am to avoid irrigating during times of high wind or high temperature.

K. Public Education

1) Publications. Information shall be provided to all new, single family residential home owners regarding the design and installation of water efficient landscapes. Information about the efficient use of water shall be provided to water users throughout the community.

2) Model Homes. At least one model home in each project subject to this Plan shall be used as a demonstration of the principles of water efficient landscapes described in this Plan. Signs shall be used to identify the model as an example of a water efficient landscape and featuring elements such as plant zones, irrigation equipment and others which contribute to the overall water efficient theme.

IV. PROVISIONS FOR EXISTING LANDSCAPES

These provisions apply to unincorporated San Benito County area water purveyors.

A. Water Management

All existing large, landscaped areas (one acre or more), including golf courses, green belts, common areas, multi-family housing, schools, businesses, parks, cemeteries, parks, and publicly owned landscapes shall be audited at least every five years. If the project's water bills indicate that they are using less than or equal to the maximum allowable water budget for that project site, an audit shall not be not required.

B. Water Waste Prevention

Wasteful runoff, seepage, low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, or structures shall be prohibited.

V. PROJECT SUBMITTAL/DOCUMENTATION PROCEDURES

Each project submittal requires the following elements:

A. Water conservation concept statement.
B. Maximum allowable water budget calculation.
C. Landscape design plan, Including estimated water use calculation.
D. Irrigation design plan.
E. Irrigation schedules.
F. Maintenance schedules.
G. Landscape irrigation audit schedule.
H. Grading design plan.
I. Soil test

A. Water Conservation Concept Statement

A Water Conservation Concept Statement is a one-paged checklist and narrative summary of the entire project submittal package. See Appendix B for a suggested format for a water conservation concept statement. A copy of the Water Conservation Concept Statement shall be sent to the local water agency along with the Certificate of Substantial Completion.

B. Maximum Allowable Water Budget

For design purposes, the maximum allowable water budget is the upper limit of annual water use for the established landscaped area. See Provisions Section IIIA for more information.

C. Landscape Design Plan

The landscape design plan shall be drawn on project base sheets at a scale that shall accurately and clearly identify:

* Landscape materials, trees, shrubs, groundcover, turf, etc. Planting symbols shall be clearly drawn and plants labeled by botanical name, common name, container size, spacing, and quantities of each group of plants indicated.
* Property lines and street names.
* Streets, driveways, walkways, and other paved areas.
* Pools, ponds, water features, fences, and retaining walls.
* Existing and proposed buildings and structures including elevation if applicable.
* Natural features including rock outcroppings, existing trees, shrubs, etc. that will remain.
* Tree staking, soil preparation details, and any other applicable planting and installation details.

* A calculation of the total landscaped area: including the entire parcel less the building pad, driveways, the non-irrigated portions of parking lots, hardscapes- such as decks and patios, and other non-porous areas.
* Designation of hydrozones: a subarea of the landscaped area having similar water use that is served by one valve or set of valves with the same settings. A hydrozone may be non-irrigated, for example a naturalized area.
* A calculation of the estimated water use of the landscaped area. The estimated water use shall not exceed the maximum allowable water budget. See Provisions Section IIIB for more information.

D. Irrigation Design Plan

The Irrigation design plan shall be drawn on project base Sheets. It should be separate from, but use the same format as, the landscape design plan.

1) The scale shall be the same as that used for the landscape design plan.
2) The irrigation design plan shall accurately and clearly identify:
   Location of separate landscape meters.
   * Location, type, and size of all components of the irrigation system, including automatic controllers, main and lateral lines, valves, sprinkler heads, moisture sensing devices, rain switches, quick couplers, and backflow prevention devices.
   * Static water pressure at the point of connection.
   * Flow rate (gallons per minute), precipitation rates (inches per hour), and design operating pressure (psi) for each station.
   * Reclaimed water irrigation systems as described in the Provisions Section IIIF.
3) Irrigation systems shall be designed to be consistent with hydrozones.

E. Irrigation Schedules

An annual irrigation program with monthly irrigation schedules shall be required for the plant establishment period, for the established landscape, and for any temporarily irrigated areas.

The irrigation schedule shall include run time (in minutes per cycle) and frequency of irrigation for each station. The irrigation schedule shall provide the amount of irrigation water (in hundred cubic feet, gallons, or in whatever billing units the local water supplier uses) recommended on a monthly basis. The total amount of irrigation water recommended in the irrigation schedule for the established landscape shall not exceed the project's maximum allowable water budget.

F. Maintenance Schedule

A schedule for ongoing maintenance shall be prepared, reflecting maintenance tasks including those listed in Provisions Section III 1.

G. Landscape Irrigation Audit Schedules

Landscape irrigation audits, described in Provisions Section III J, shall be scheduled and conducted at least every five years.

H. Grading Design Plan

The grading design plan shall be drawn on project base sheets. It should be separate from but use the same format as the landscape design plan. The grading design plan shall indicate finished configurations and elevations of the landscaped area, including the height of graded slopes, pad elevations, and finish grade.

I. Soil Test

A soils report shall be prepared and submitted with the plans. As a minimum, the following shall be included:

1) Determine soil texture, indicating the percentage of organic matter.
2) Approximate soil infiltration rate (either measured or derived from soil texture/infiltration rate tables.) A range of infiltration rates should be noted where appropriate.
3) Measure of Ph, and total soluble salts.
4) Recommendations for improving soil conditions to maximize water use efficiency.

A copy of the entire project submittal package shall be delivered to the owners site manager along with the record drawings and any other information normally forwarded to the owner/site manager. A copy of the water conservation concept statement shall be sent to the local water district.

VI. CERTIFICATION

Upon completion of the installation of the landscaping and the irrigation system, an irrigation audit shall be conducted prior to the final field observation. A licensed landscape architect, designer, or contractor shall conduct a final field observation and shall provide a certificate of substantial completion which shall specifically include reference to the landscaping, automatic irrigation system and the irrigation audit, along with a punch list of any observed deficiencies to the Owner of Record. Certification shall be accomplished by completing the Certificate of Substantial Completion form in Appendix E and delivering it to the county and to the local water supplier.

SECTION 11

MANDATORY ENFORCEMENT

(a) The provisions of this plan shall be enforced by the Planning Director and Building Official or his or her designee. Building permits shall only be issued in compliance with this plan.

APPENDIX A: DEFINITIONS

"allowable percentage": The allowable percentage for determining the maximum allowable water budget is 0.8. This represents a factor including consideration of an average landscape coefficient and irrigation efficiency. See page 10 for a more complete discussion.

"amendment": Additions to the soil, such as compost, leaf mold, peat moss, ground bark, which improve aeration and drainage of clay soils and help hold water in sandy soils.

"anti-drain valve": A valve located under a sprinkler head to hold water in the system so it does' not drain out of the lower elevation sprinkler heads.

"application rate": The depth of water applied to a given area in one hour, usually measured in inches per hour.

"automatic controller": A mechanical or solid state timer, capable of operating valve stations to set the days and length of time of a water application.

"backflow prevention device": A safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.

"distribution uniformity": A measure of how evenly water is applied over an area. (scientific: The ratio of the average low quarter depth of irrigation water infiltrated to the average depth of irrigation water infiltrated, expressed as a percent.)

"emitter": Fittings that deliver water slowly through small openings from the lateral line to the plant.

"established landscape": The point at which plants in the landscape have established themselves into the adjacent soil.

"establishment period": For purposes of this Plan, the first year after installing the plant in the landscape. The actual establishment period varies depending upon the plant species, the development of the plant's root system, soil conditions, and other environmental factors.

"estimated water use": The amount of water the designer estimates that the project will need on an annual basis. The estimated water use cannot exceed the maximum allowable water budget. See Provisions Section III B for a suggested formula and more information.

"evapotranspiration": The quantity of water evaporated from adjacent soil surfaces, transpired by plants, and retained in plant tissue during a specific time.

"flow rate": The rate at which water flows through pipe fittings and valves.

"fire resistive plants (low volume fuel plants)": Those with less flammable parts: more leaf than wood and less woody undergrowth.

"hydrozone": A portion of the landscaped area having plants with similar water needs that are served by a valve or set of valves with the same setting. A hydrozone may be non-irrigated, for example, a naturalized area.

"infiltration rate": The rate of water entry into the soil expressed as a depth of water per unit of time in inches per hour. The infiltration rate changes with time during an irrigation.

"irrigation efficiency": The measurement of the amount of water beneficially used divided by the amount of water applied.

"landscape coefficient": The functional equivalent of a crop coefficient in agriculture. When multiplied lames Eto, it estimates the amount of water required to maintain landscape plants in good condition.

"landscape irrigation audit": A process to perform site inspections, evaluate irrigation systems. and develop efficient irrigation schedules.

"landscaped area": The entire parcel less the building pad, driveways, non-irrigated portions of parking lots, hardscapes such as decks and patios, and other non-porous areas.

"lateral line": The water delivery pipeline that supplies water to the emitters or sprinklers from the main line.

"main line": The pipeline that delivers water from the water source to the lateral lines.

"mature landscape": See "established landscape".

"maximum allowable water budget": For design purposes, the upper limit of annual water use for the established landscaped area. It is based upon the area's average year climate and the size of the landscaped area.

"moisture sensing device": A device that measures the moisture condition of the soil in a variety of ways.

"mulch": Any material such as leaves, bark, or straw left loose and applied to the soil surface to prevent evaporation.

"operating pressure": The pressure at which a system of sprinklers operates. (Static pressure minus pressure losses.) This is usually indicated at the base or nozzle of a sprinkler.

"overspray": When sprinklers deliver water beyond the landscaped area, wetting pavements, walks, structures, or other non-landscaped areas.

"percolation": The movement of water through the soil.

"potable water": Water which is meant for human consumption.

"precipitation rate": The rate at which water is applied, usually expressed in inches per hour.

"pressure compensating bubbler": A sprinkler head useful for watering trees and shrubs with water basins: produces a reduced flow of water that bubbles on the soil.

"quick coupling system": A sprinkler system which uses permanently installed valves and sprinklers that can be moved from valve to valve.

"rain switch or rain shut off valve": Measures rainfall and automatically shuts off the irrigation system when water reaches a certain level.

"reclaimed water": Treated or recycled water of a quality suitable for non-potable uses such as landscape irrigation; not intended for drinking.

"record drawing": A set of reproducible drawings which show significant changes in the work made during construction and which are usually based on drawings marked up in the field and other data furnished by the contractor.

"reference evapotranspiration (Eto)": A standard measurement of evapotranspiration for a large field of 4- to 7 inch tall, cool season grass that is well watered.

"run off": Water which is not absorbed by the soil or landscape to which it is applied. Run Off occurs when water is applied at too great a rate or when there is a severe slope.

"soil texture": The classification of soil based on the percentage of sand, silt, and clay in the soil.

"sprinkler head": A device which discharges water through a nozzle.

"static water pressure": The pipeline or municipal water supply pressure when water Is not flowing.

"station": An area served by one valve or set of valves that operate simultaneously.

"turf": A surface layer of earth containing grass with its roots.

"valve": A device used to control the flow of water in the irrigation system.

"water conservation concept statement": A one-paged checklist and narrative summary of the project. See Appendix D for a sample statement.

APPENDIX B: SAMPLE WATER CONSERVATION CONCEPT STATEMENT

Project Site:
Project Number:
Project Location:

Landscape Architect/Designer/Contractor:

Included in this project submittal package are:
(Check indicating completion)

A. A Maximum Allowable Water Budget
   Reference ET (inches per year)
   Landscaped Area (square feet)
   Water Budget (gallons or cubic feet per year)
B. A Landscape Design Plan
   Estimated Water Use (gallons or cubic feet per year)
C. An Irrigation Design Plan
D. Irrigation Schedules
E. A Maintenance Schedule
F. A Landscape Irrigation Audit Schedule
G. A Grading Design Plan
H. A Soil Test

Description of Project:

APPENDIX C: SAMPLE CERTIFICATE OF SUBSTANTIAL COMPLETION

Project Site: Project Number:

Project Location:

Preliminary Project Documentation Submitted: (check indicating submittal)

A. Maximum Allowable Water Budget
   reference ET (inches per year)
   landscaped area (square feet)
   water budget (gallons or cubic feet per year)
B. Landscape Design Plan estimated water use (gallons or cubic feet per year)
C. Irrigation Design Plan
D. Irrigation Schedules
E. Maintenance Schedule
F. Landscape Irrigation Audit Schedule
G. Grading Design Plan
H. Soil Test

Post-installation Inspection: (Check indicating substantial compliance)

A. Plants installed as specified
B. Soils amended as noted in soils report
C. Irrigation system installed as designed
   dual distribution system for reclaimed water
   minimal run off or overspray

Project submittal package and a copy of this certification has been provided to owner/manager and local water agency

I/we certify that work has been installed in accordance with the contract documents.

Contractor Signature Date State License Number

I/we certify that based upon periodic site observations, the work has been substantially completed in accordance with the Water Efficient Landscape Plan and that the landscape planting and irrigation installation conform with the approved plans and specifications.

Landscape Architect Signature Date State License Number

(Certificate of Substantial Completion, continued)
I/we certify that I/we have received all of the contract documents and that it is our responsibility to see that the project is maintained in accordance with the contract documents.

_____

Owner Signature Date

APPENDIX D: EXAMPLE CALCULATIONS FOR MAXIMUM ALLOWABLE WATER BUDGET AND ESTIMATED WATER USE

These two examples are for the same project in Fresno, California. While the total amount oil water will vary from one place in the state to another, the proportions of high, average, and low water using plants, will remain the same. These examples demonstrate that the following plant combinations are allowed within the water budget.

20% high water using plants; 40% average; 40% low

30% high water using plants; 20% average; 50% low
MAWB=(Eto) (0.8) (LA) (0.62)
EWU=(Eto) (KI/IE) (LA) (0.62)

MAWB=Maximum Allowable Water Budget (gallons per year)
Eto= Reference Evapotranspiration (inches per year)
0.8= Allowable Percentage
LA= Landscaped Area (square feet)
0.62=Conversion Factor (to gallons per square feet)

EWU=Estimated Water Use (gallons per year)
KI=Landscape Coefficient
IE=Irrigation Efficiency

PROJECT SITE ONE: Landscaped area of 50,000 square feet in Fresno California

MAWB = (Eto) (.8) (LA) (.62)
= (51 inches) (.8) (50,000 square feet) (.62)
Maximum Allowable Water Budget=1,264,800 gallons per year

EWU = (Eto) (KI/IE) (LA) (.62)

Hydrozone 1 (H1) is 20% of LA with KI .8(high water using plants)
Hydrozone 2 (H2) is 40% of LA with KI .5(average water using plants)
Hydrozone 3 (H3) is 50% of LA with KI .3(low water using plants)

(H1) = (51 inches) (.8/.65) (10,000 square feet) (.62) = 389,169 gal.
(H2) = (51 inches) (.5/.65) (20,000 square feet) (.62) = 486,461 gal.
(H3) = (51 inches) (.3/.65) (20,000 square feet) (.62) = 291,876 gal.

Estimated Water Use = (H1)+(H2)+(H3) =1,167,506 gallons per year

EWU of 1,167,506 is less than MAWB of 1,264,800

PROJECT SITE TWO: Landscaped area of 50,000 square feet in Fresno, California

MAWB = (ETo) (.08) (LA) (.62)
= (51 inches) (.8) (50,000 square feet) (.62)

Maximum Allowable Water Budget = 1,264,800 gallons per year

EWU = (ETo) (KI/IE) (LA) (.62)
Hydrozone 1 (H1) is 30% of LA with KI .8(high water using plants)
Hydrozone 2 (H2) is 20% of LA with KI .5(average water using plants)
Hydrozone 3 (H3) is 50% of LA with Ki .3(low water using plants)

(H1)= (51 inches) (.8/.65) (15,000 square feet) (.62) = 583,753 gal.
(H2)= (51 inches) (.5/.65) (10,000 square feet) (.62) = 243,230 gal.
(H3)= (51 inches) (.3/.65) (25,000 square feet) (.62) = 364,846 gal.

Estimated Water Use = (H1)+(H2)+(H3) = 1,191,829 gallons per year

EWU of 1,191,829 is less than MAWB of 1,264,800

APPENDIX E: DERIVATION OF THE ALLOWABLE PERCENTAGE

This allowable percentage is derived from the following formula:

$$AP\ (0.8) = \frac{\text{average KI (0-5)}}{\text{average IE (0-65)}}$$

The average landscape coefficient (average KJ) is a functional equivalent of a crop coefficient for landscapes. When multiplied times Eto, ft estimates the amount of water required to maintain landscape plants in good condition. Since species and site conditions vary at a project location, a range of KI values will occur, representing high (0-8), average (0.5), and low (0.3) water requiring conditions.

When water requirements are averaged across a project, an average landscape coefficient results. For purposes of this formula, the value for the average 10 is 0.5. This represents a balance between high, moderate, and low. water use conditions.

Average Irrigation Efficiency (average IE) is derived from estimates of equipment and design efficiency (0-8 to 0.85) and management efficiency (0.8 to 0.85) using the following formula:

IE = design efficiency x management efficiency

The average irrigation efficiency for purposes of this formula is 0.65.

Therefore, 0.5 (KI)/ 0.65 (IE) = 0.8 (AP)

APPENDIX F: REFERENCE EVAPOTRANSPIRATION

In inches (Historical data extrapolated from 12-month normal year Eto maps and U.C. Publication 21426)

County: **San Benito**
City: **Hollister**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann. Eto
1.5	1.8	3.1	4.3	5.5	5.7	6.4	5.9	5.0	3.5	1.7	1.1	45.1

County: **Monterey**
City: **King City**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann. Eto
1.7	2.0	3.4	4.4	4.4	5.6	6.1	6.7	6.5	5.2	2.2	1.3	49.6

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