

**City of Santa Barbara**  
**Urban Water Management Plan**  
Updated December 2005



***Final Draft - November 1, 2005***

***Comments are due by 12:00 Noon on Monday, November 14, 2005. Comments should be sent to the attention of Bill Ferguson, Water Resources Supervisor at:***

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Prepared by the City of Santa Barbara Public Works Department pursuant  
to California Water Code, Section 10631

Adopted by City Council on December \_\_\_\_, 2005  
as Agenda Item No. \_\_\_\_

**City of Santa Barbara**  
**Urban Water Management Plan**  
**December 2005**

**Introduction**

This Urban Water Management Plan (UWMP) has been prepared pursuant to the requirements of the California Water Code, Section 10631. Preparation was by staff of the Public Works Department in consultation with the City's Board of Water Commissioners and staff of the Community Development Department. The UWMP updates the previous plan prepared by the City in December 2000. The methodology used was to prepare a concise summary of the City's existing water supply system, updated to reflect changes since 2000, and to conform to the reporting requirements of State law. As with the previous UWMP, much of the updated plan is based on the analysis contained in the 1991 Long-Term Water Supply Alternatives Analysis (LTWSAA), which resulted in the Long-Term Water Supply Program (LTWSP) adopted in 1994. The analysis in the LTWSAA continues to be valid and has been updated as necessary to reflect a new twenty-year planning period through the year 2025. The City's next UWMP update will reflect decisions made as a part of a General Plan Update that has recently been initiated.

The plan was reviewed by the Board of Water Commissioners on November \_\_\_\_, 2005, at which time the Commission voted to \_\_\_\_\_. A public hearing, with public notice pursuant to California Government Code Section 6066, was held before the City Council as Agenda Item No. \_\_\_\_\_ on \_\_\_\_\_, 2005 at which time the Council voted to \_\_\_\_\_. Documentation of public noticing and City Council action is included as Appendix A.

## Background

The City of Santa Barbara operates the water supply system that serves properties within the City limits (except for the City airport, which is served by the Goleta Water District), and selected areas located outside the City limits. The following information gives a general description of the service area and water system:

Service Area Population:

	Current	Projected			
	2005	2010	2015	2020	2025
In-City <sup>1</sup> :	90,500	92,700	94,900	97,200	99,400
Out-of-City <sup>2</sup> :	3,800	3,900	4,000	4,100	4,200
Total Service Area <sup>3</sup> :	94,300	96,600	98,900	101,300	103,600

<sup>1</sup> In-City data from "Regional Growth Forecast 2000-2030", SBCAG

<sup>2</sup> Assumed out-of-City growth rate of .5% for 2000 through 2020

<sup>3</sup> Projections rounded to nearest hundred

Number of Water Service Accounts: 25,802

2004 Gross Per Capita Consumption: 127 gpd (per DWR definition, calendar year 2004)

Elevation of Service Area: 0' - 1,400'

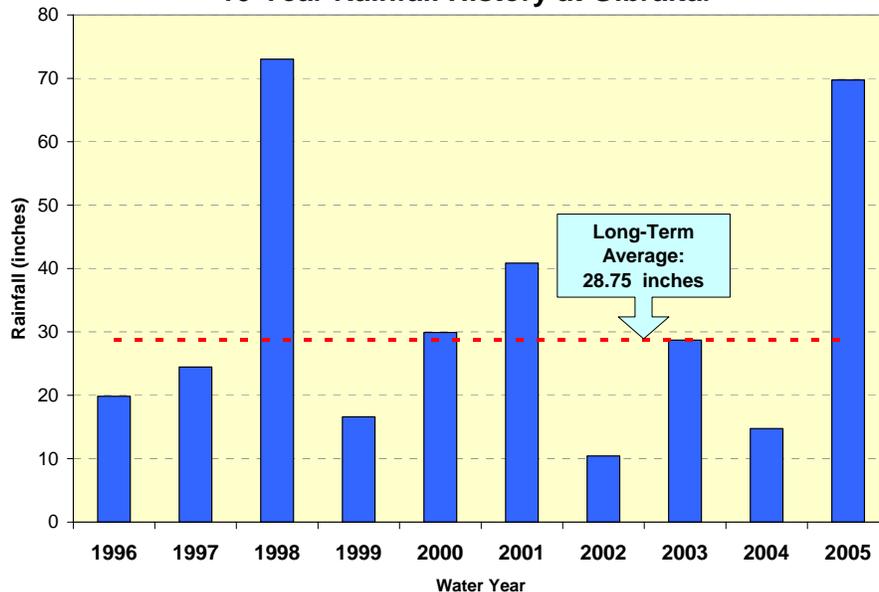
Average Annual Rainfall (see Figure 1 for data for past 10 years):

Santa Barbara (1960-2000): 19.0"

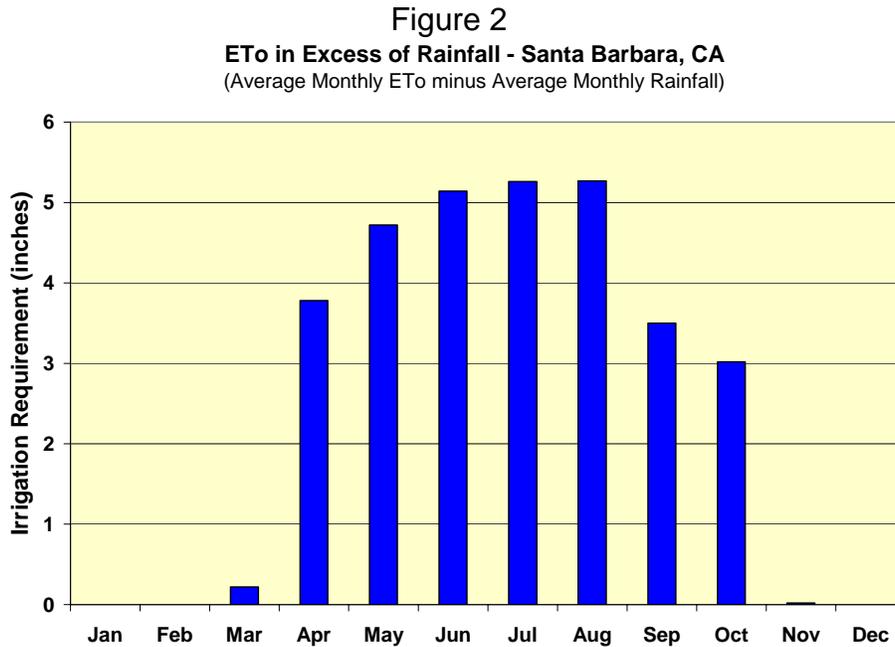
Gibraltar Reservoir (1960-2000): 28.8"

Figure 1

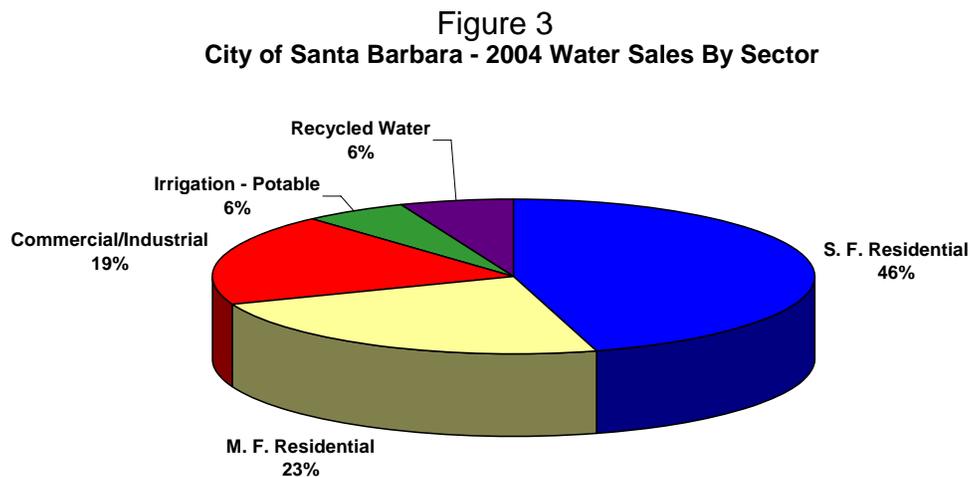
**10-Year Rainfall History at Gibraltar**



Average Annual Evapo-transpiration Rate: 44.6”  
 Average Annual ETo in Excess of Rainfall: 30.9” (See Figure 2 for monthly breakdown.)



Demographic Characterization: Figure 3 uses 2004 water sales by sector to give an overview of the demographic makeup of the City’s water service area. Residential use is predominant. The City is largely built-out, though it should be assumed that infill and redevelopment will continue at roughly the same rate as in the recent past, resulting in a small amount of new demand in the residential and commercial sectors. The relative distribution of demand by sector is expected to remain very similar to current conditions. The City has initiated a General Plan Update process that will result in an update of the City’s Long-Term Water Supply Program to reflect planning decisions made as a part of that process.



Water System Facilities:

	<u>Potable Water System</u>	<u>Recycled Water System</u>
Miles of Distribution Main:	309	13.4
Balancing Reservoirs:	13	2
Pumping Stations:	12	2
Production Wells:	9	NA
Water System Employees:	58	

Wastewater System Description:

Collection system: 248 miles of sewer pipe  
13 lift stations

Wastewater Treatment Plant:

Design Capacity: 11 MGD  
Average 2005 Flow: 8.8 MGD  
Treatment Level: Secondary, with tertiary treatment of recycled water  
Disposal Method: Recycled to landscape irrigation, with balance discharged to Pacific Ocean (see Recycled Water section for more details on use of recycled water)

Wastewater System Employees: 53

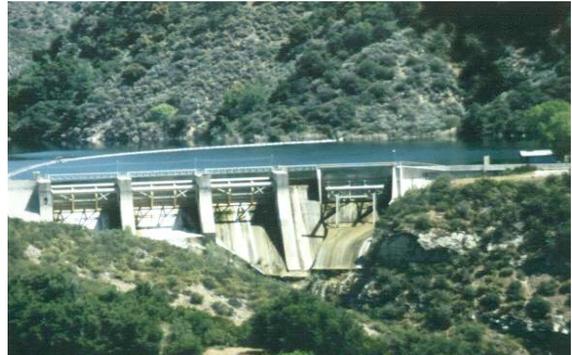
The water and wastewater systems are administered by the Water Resources Division of the City's Public Works Department. The water demand projection was coordinated with the City's Community Development Department.

## Description of City Water Supply Sources

The City's water supply is diverse, probably as diverse as any municipal water supply in California, and perhaps in the nation. The various sources of supply are described below. The following descriptions are intended as a brief summary and shall not be construed as exhaustive or as a waiver of any right or interest in water.

### Gibraltar Reservoir

Description: Constant radius, concrete arch dam located on the Santa Ynez River, 8 miles north of Santa Barbara; owned by City of Santa Barbara; constructed 1913-22, with an original capacity of 14,500 AF; raised to current elevation in 1949; strengthened in 1990-91; water delivered through the Santa Ynez Mountains to Santa Barbara via Mission Tunnel



Current Capacity: 7,087 Acre Feet (per 2004 Bathymetric Study)

Drainage Area: 216 square miles

Max. Normal Pool: El. 1,400

Annual Yield: Average of approximately 4,600 AFY, as modeled for LTWSAA

Operating Criteria: Diversions are limited by the 1930 *Gin Chow* judgment and the 1989 Upper Santa Ynez River Operations Agreement (USYROA, aka the "Pass Through Agreement") which incorporates a compromise regarding the interpretation of *Gin Chow*. The agreement requires the City to track the difference between spills under actual operating conditions and under a "Base" scenario (a hypothetical reservoir equal to the 1986 area/capacity profile). A basic goal of the agreement is to allow the City to maximize yield from Gibraltar while keeping the Cachuma Project and other downstream interests whole.

Two modes of operation ("mitigation" and "pass through") are defined in the agreement. "Mitigation" mode requires the City to declare a maximum annual Gibraltar diversion level of up to 8,000 AFY and mitigate the reduction in the average long-term annual yield of the downstream Cachuma Project (if any) that is estimated to result from that level of diversion. Diversions must conform to a monthly schedule. The City is currently in the mitigation mode with a declared diversion level of 5,000 AFY requiring mitigation of 67 AFY.

The "pass through" mode allows the City to pass Gibraltar yield through to Cachuma. The amount of pass through is equal to the amount by which actual spills exceed spills under the "Base" condition, adjusted for conveyance losses between Gibraltar and Cachuma. The "pass through" mode is intended to be useful as the capacity of Gibraltar is reduced by siltation.

**Cost Information:** Costs for this source of supply are primarily "sunk" costs, including the original cost of construction, plus a cost of \$9 million for strengthening in 1990-91, plus the cost of Mission Tunnel. Variable costs for Gibraltar water consist of the marginal cost of treatment at Cater Treatment Plant, which is approximately \$50/AF.

### **Devil's Canyon Creek**

**Description:** The City maintains a small diversion works on Devil's Canyon Creek below Gibraltar Dam which diverts water from Devil's Canyon Creek into Mission Tunnel.

**Annual Yield:** Average: 115 AFY  
Range: 24 AFY - 557 AFY

**Operating Criteria:** Water is diverted as available to help improve the quality of water going into Mission Tunnel. Diverted water is counted as a part of allowable diversions under the Pass Through Agreement.

**Cost Information:** Variable costs are the same as Gibraltar water or approximately \$50/AF.

### **Cachuma Project**

**Description:** Earth filled dam (Bradbury Dam) located on the Santa Ynez River 25 miles northwest of Santa Barbara; owned and operated by U.S. Bureau of Reclamation; constructed early 1950's; interim seismic retrofit completed 1996, permanent repairs were deemed Substantially Complete in 2001; water is delivered through the Santa Ynez Mountains to the South Coast via 6.4 mile Tecolote Tunnel, 24.3 mile South Coast Conduit, and four regulating reservoirs, completed in 1956;



**Drainage Area:** 417 square miles (including Gibraltar drainage area)

- Current Capacity: 188,030 AF (197,302 AF with modifications to all fish account surcharge)
- Max. Normal Pool: El. 750 (El. 753 with modifications to allow fish account surcharge)
- Annual Yield: The current total project operational yield equals 25,714 AFY, based on acceptable shortage of up to 20% during dry years. The City's share is 32.19% or 8,277 AFY.
- Operating Criteria: The project operates under a permit granted by the State Water Resources Control Board (SWRCB). The current Water Right Order 94-5 continued earlier requirements for releases to protect downstream interests and required a hearing in the year 2000 to address outstanding issues related to potential project impacts on vegetation, fish, and downstream users. The hearing has been completed and a decision by the SWRCB is awaiting completion of an EIR . Project water is accumulated to the extent that inflow is not needed to satisfy the release requirements. It is delivered to the member units in accordance with a Master Contract between U.S. Bureau of Reclamation, and the Santa Barbara County Water Agency and the Cachuma Project member units. The contract was renewed in 1996 for a twenty five-year term.
- Cost Information: The water supply contract with the U.S. Bureau of Reclamation sets the unit cost of the City's share of project yield at approximately \$120/AF for a total annual cost of approximately \$993,000. Since this cost is treated as a payback of capital cost, it is not considered a variable cost. Variable costs are the same as for Gibraltar (\$50/AF) since the water is treated at Cater Treatment Plant. Seismic reinforcement of the dam and rehabilitation of the dam's gates have been completed. Upcoming capital costs focus on upgrade and rehabilitation of the South Coast Conduit portion of the project.

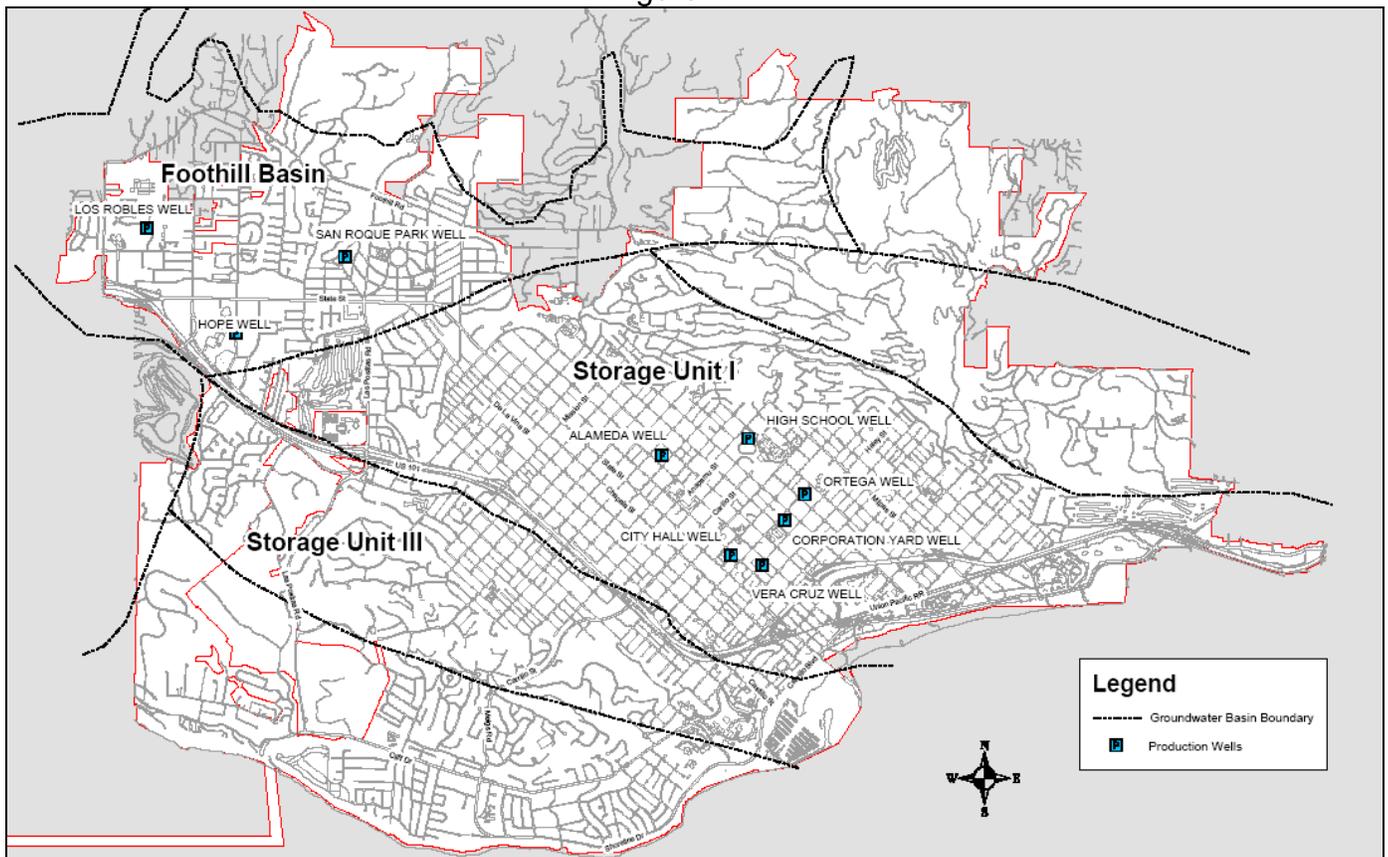
### **Mission Tunnel**

- Description: A 3.7 mile tunnel through the Santa Ynez Mountains running from the North Portal, located approximately 1,700 feet downstream of Gibraltar Dam to the South Portal, located on Mission Creek approximately 3 miles north of downtown Santa Barbara; constructed 1904-1911; rehabilitation work completed December 1994.
- Annual Infiltration: For the period of 1976 through 2005, infiltration ranged from 520 AFY to 2,172 AFY, with an average of 1,353 AFY
- Operating Criteria: Tunnel infiltration augments water conveyed from Gibraltar Reservoir, normally flowing to Cater Treatment Plant via the penstock, hydroelectric facility, and Lauro Reservoir; a portion of this combined flow is sometimes diverted to Mission Creek for groundwater recharge purposes.
- Cost Information: Variable costs are the same as Gibraltar water or approximately \$50/AF.

## **Groundwater**

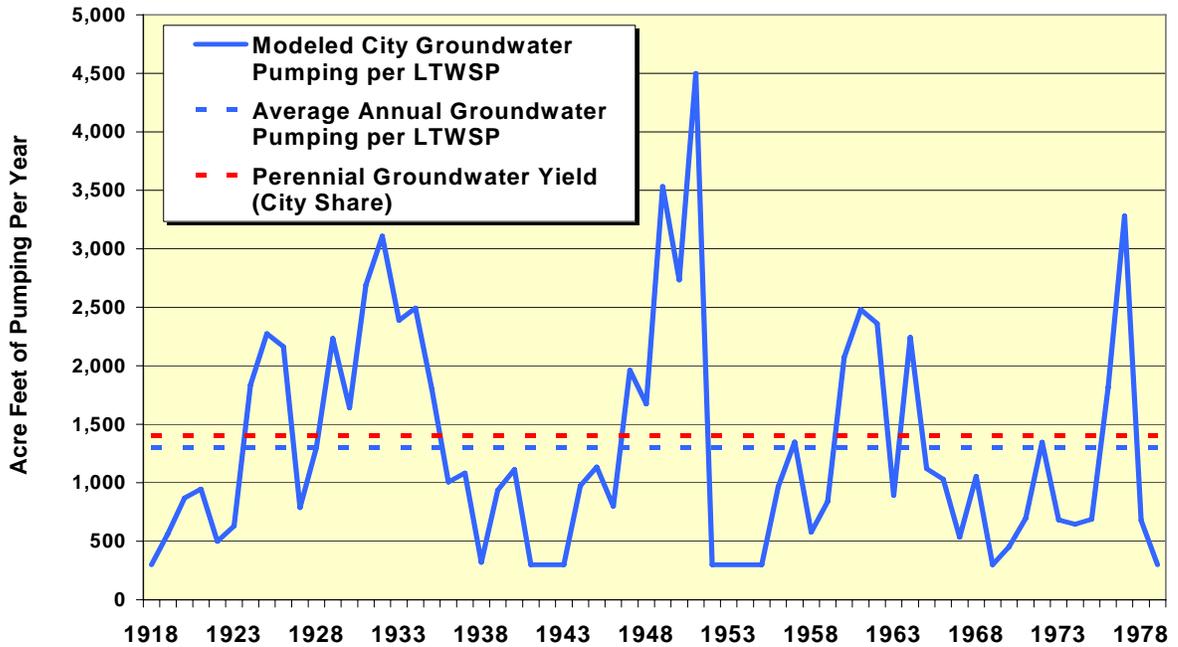
**Description:** Groundwater is produced primarily from two hydrogeologic units: Storage Unit 1 (in the vicinity of downtown) and the Foothill Basin (upper State Street area). A third unit, Storage Unit 3 (located generally in the Westside area), is available for City use, but is generally of poor quality and limited quantities. Figure 4 shows boundaries of storage units and well locations. The current rough estimate of usable storage volume is approximately 16,000 AF. Groundwater recharge is augmented through release to Mission Creek and through injection capability at three production wells. Groundwater modeling capabilities have been substantially improved as a part of the Multiple Objective Optimization Model (MOOM) developed by USGS. MOOM is a computer model that evaluates the City's water supply system for optimal operating scenarios, including control of seawater intrusion.

Figure 4



**Perennial Yield:** The portion of the perennial yield available to the City is approximately 1,400 AFY. As shown in Figure 5, long-term average annual City pumping has been estimated at 1,304 AFY under the LTWSP.

**Figure 5**  
**Conjunctive Groundwater Use under the Long-Term Water Supply Program**  
 Modeled Pumping versus Perennial Yield



**Operating Criteria:** Groundwater is pumped to replace surface supplies lost to drought. During periods of ample surface supplies, groundwater is allowed to recharge naturally and by means of artificial recharge when space is available in the basins. Production capacity is approximately 4,500 AFY, though poor water quality and threat of seawater intrusion limits this capacity somewhat. A production capacity of 4,500 AFY is the target for meeting long-term supply requirements.

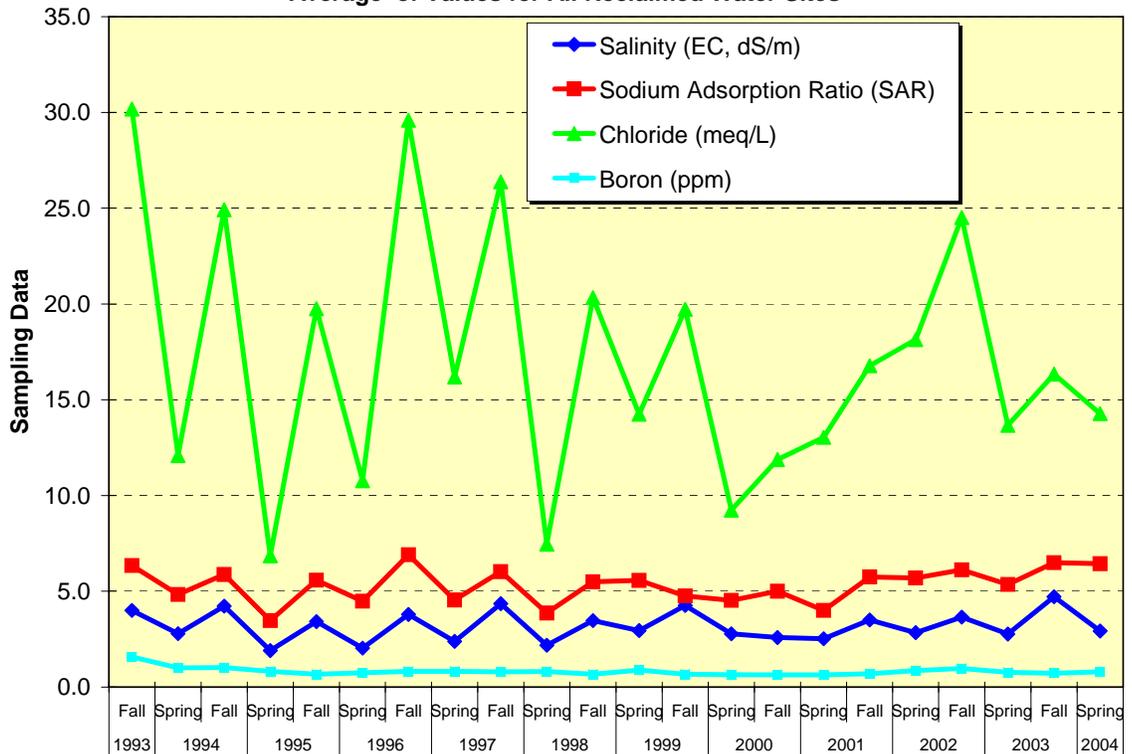
**Cost Information:** Variable costs for groundwater production are approximately \$150/AF. Two new municipal production wells have been drilled and above-ground facilities are being designed. Total anticipated cost is approximately \$1.4 million each.

**Recycled Water**

**Description:** The City initiated planning for a water reclamation project in the early 1980's. Phase I was completed in 1989. It included addition of tertiary treatment with carbon filtration and disinfection at El Estero Wastewater Treatment Plant, a 600,000 gallon distribution reservoir and pumping station, and 5.1 miles of distribution main. Phase II was completed in 1992, adding an additional pumping station, a 1.5 million gallon reservoir and 8.3 miles of distribution main. The system now provides recycled water to 78 accounts that serve 440 acres of landscaped area at parks, schools, golf courses, and other large landscaped areas. Several park restrooms have been retrofitted to use recycled water for toilet flushing.



**Figure 6**  
**Water Reclamation Project - Summary of Soil Sampling Data**  
**Average of Values for All Reclaimed Water Sites**



**Operating Criteria:** Recycled water is a non-variable supply in that it can only be supplied to those customers that are connected to the recycled water system. Usage is relatively constant regardless of drought conditions. Some potable water is blended with recycled water as a means of maintaining acceptable recycled water quality.

**Cost Information:** The variable cost for producing recycled water is approximately equal to the \$50/AF treatment cost at Cater Treatment Plant, since it involves essentially the same process. Distribution pumping costs add approximately \$40/AF. The capital cost for the construction of Phases I and II was approximately \$15.2 million. The unit cost, including amortized capital costs and variable costs, is approximately \$1,450/AF.

**State Water Project**

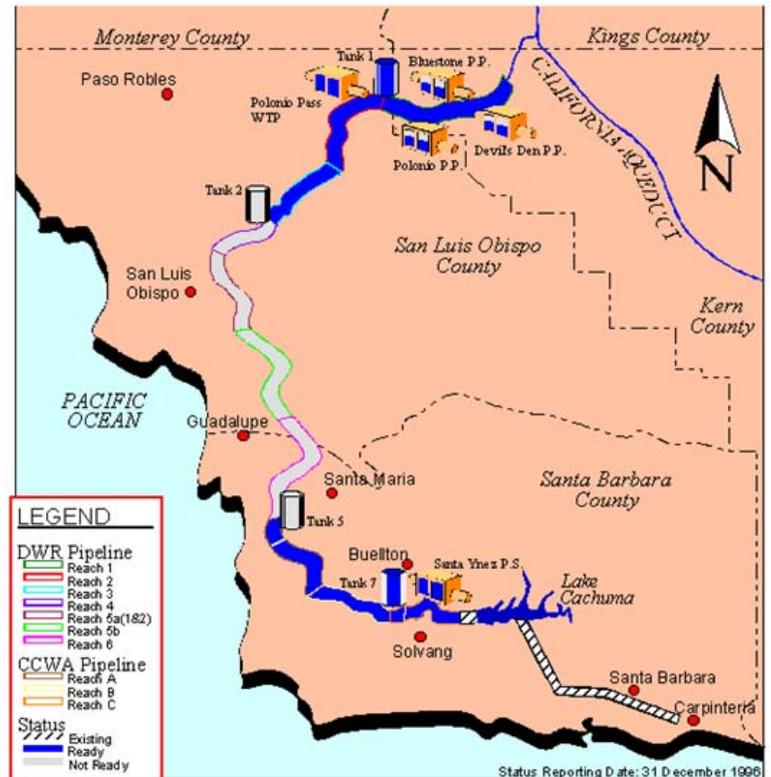
**Description:** The City is a participant in the State Water Project and is eligible to receive State Project water via the 102 mile Coastal Branch of the State Aqueduct and the 42-mile Santa Ynez Extension ending at Lake Cachuma. Construction was completed in 1997. When ordered by project participants, water is delivered from Cachuma through Tecolote Tunnel along with Cachuma Project water. The City first took delivery of State Water in 2002.

Annual Yield:

The City's entitlement is 3,000 AFY, subject to availability. Average long-term deliveries have been estimated at 2,566 AFY, assuming requests for full deliveries each year. Annual deliveries were projected in the LTWSAA to range from 870 AFY to 3,000 AFY.

The City's "critical drought year" approach to water supply planning insures that supply targets can be met in

the worst case, not just the average case. Supplies from the State Water Project were modeled using conservative assumptions from the California Department of Water Resources. Despite the fact that the critical periods for local water supplies did not coincide with the critical period for State Water Project deliveries, State Water deliveries were discounted to 50% of entitlement during the local critical year to account for the potential for simultaneous north-south droughts. For added conservatism, the modeling assumptions made no use of the 10% of additional "drought buffer" entitlement available to all Santa Barbara County participants and assumed no purchase of non-project water (e.g. from the State's Dry Weather Purchase Program) to make up for deficiencies in State Water Project deliveries. Finally, the LTWSP as a whole includes a safety margin of 10% to account for unplanned shortages in supply or increases in demand. Given the above, the City has planned adequately for shortages from the State Water Project.



Operating Criteria: State Project water orders range from a minimum of about 600 AF during normal supply conditions, up to the full 3,000 AF project share when dry weather reduces Cachuma storage below 100,000 AF. Besides delivering project water, the pipeline will be utilized to take advantage of available non-project water on a year-to-year basis to firm up deliveries during drought.

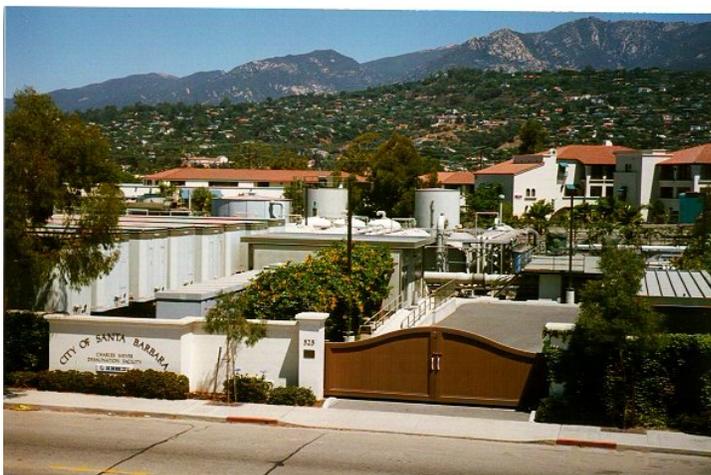
Cost Information: The variable costs for State Water are approximately \$200/AF, plus the treatment cost of \$50/AF at Cater Treatment Plant. For deliveries of supplemental non-project water, an additional acquisition cost of approximately \$150 is expected. The total project capital costs include

costs for the State portion and the local (CCWA) portion of the project. The State portion capital cost is approximately \$461 million. The City's share is 7%, or approximately \$32.3 million. The local portion has a capital cost of approximately \$119 million, with a City share of 13%, or approximately \$16 million. The unit cost, including amortized capital costs and variable costs, is approximately \$1,500/AF.

## **Desalination**

### **Description:**

The City constructed a reverse osmosis seawater desalination facility as an emergency water supply during the drought of 1990. The facility has since been incorporated into the City's long-term supply plan as a way of reducing shortages due to depleted surface supplies during drought. Two neighboring water purveyors participated in the temporary project, but have since dropped out of the project. A portion of the reverse osmosis filtration capacity was subsequently sold, leaving current capacity of 3,125 AFY.



### **Annual Capacity:**

With the departure of the co-participants and sale of a portion of the capacity, the desalination facility now has a production capacity of up to 3,125 AFY.

### **Operating Criteria:**

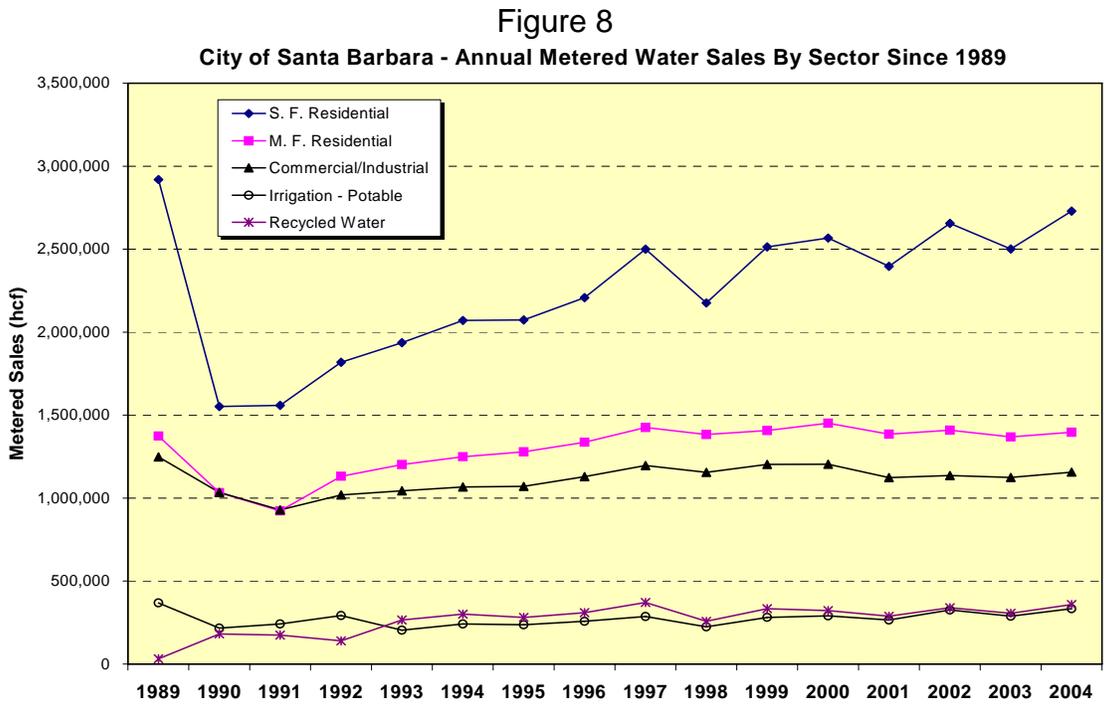
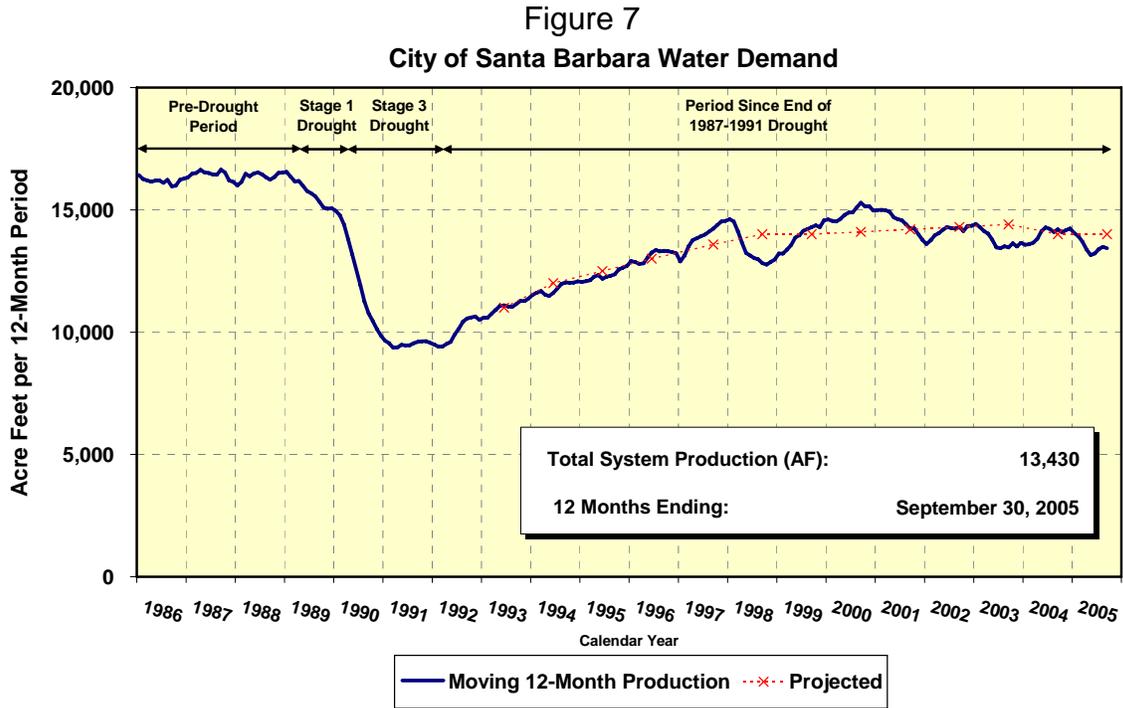
Relatively high variable costs for desalination make this supply the last to be utilized during periods of shortage. The facility is normally in long-term storage mode and is expected to be recommissioned when the demand (less a maximum acceptable shortage of 10%) cannot be met using all of the other available supplies. As an alternative operating mode, desalted water could be produced during non-drought periods for exchange with other water purveyors throughout the State via the State Water Project.

### **Cost Information:**

Variable costs for desalination are estimated at \$1,100/AF based on the water supply contract between the City and Ionics, Inc. The capital cost for construction of the facility was \$34 million. The unit cost at full production, including capital costs (amortized over a 20-year period) and variable costs, is approximately \$1,500/AF. Savings of variable costs accrue during periods that desalination is not needed.

## Demand

The history of the City's water demand is shown in Figure 7. With the construction of Phase I of the Water Reclamation Project in 1989, the City began tracking water demand for potable water and recycled water. The combined total is referred to as "system" demand. Demand is measured in terms of produced water, since water is produced to meet the demand. Figure 8 shows the water usage by sector since 1989.

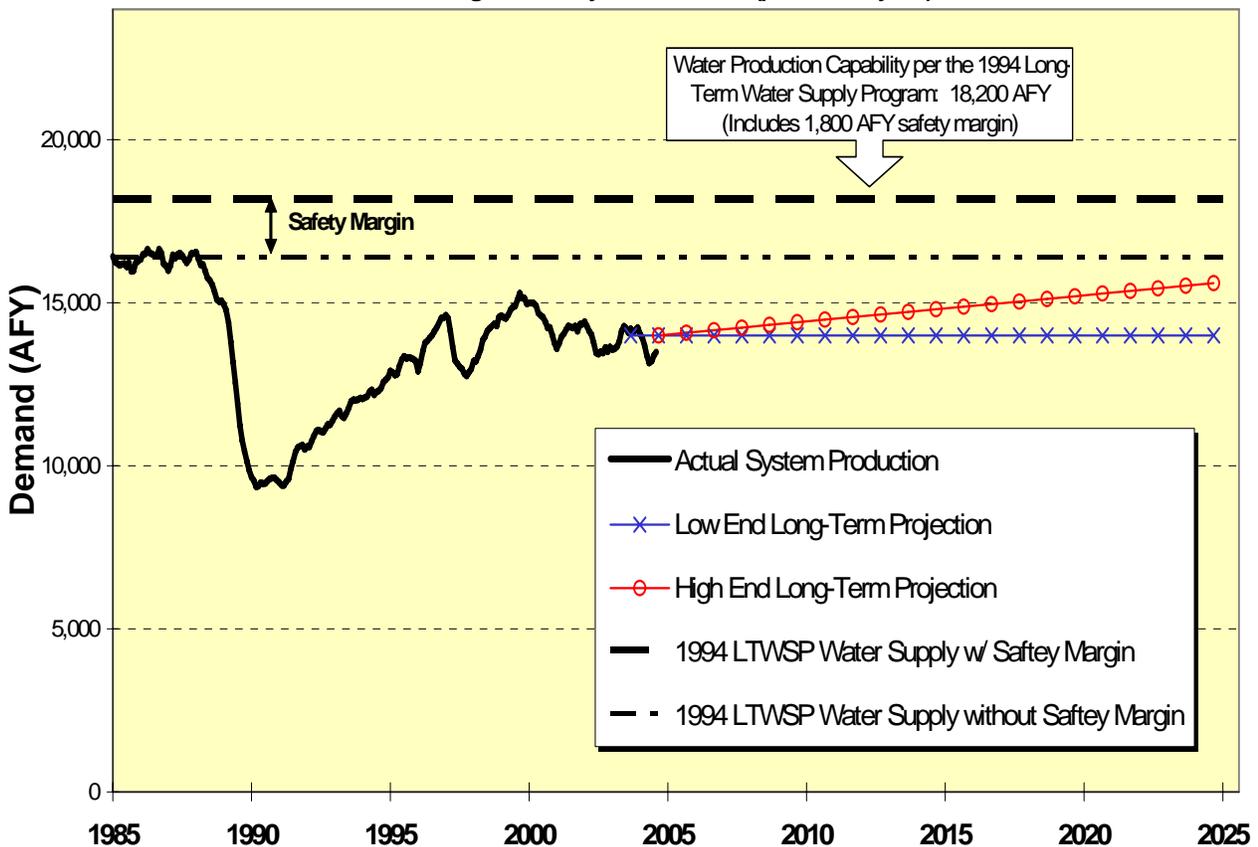


The 1991 LTWSAA included a comprehensive analysis of demand and supply issues. In summary, that analysis projected a 2009 demand of 17,900 AFY, minus projected conservation savings of 1,500 AFY for a net projected demand of 16,400. A safety margin equal to 1,800 AFY (10% of the 17,900 AFY) was added to account for unexpected increases in demand or unexpected shortfalls in deliveries. The result was a projected production requirement of 18,200 AFY in the year 2009. The LTWSP includes water supplies adequate to meet this projected demand, less an acceptable shortage of 10% during a critical drought period.

To update the demand analysis to the year 2025, “high” and “low” projections were made. The two projections reflect different assumptions about how future conservation efforts will offset added demand from new development. Both projections begin from the 14,000 AFY level now assumed to be the current “normal” year demand. The “high end “ projection assumes that future conservation efforts will only be sufficient to maintain demand from existing development at 2005 levels, rather than achieving further reductions. Growth in demand would therefore occur from new development. The result is a projected 2025 “high end” demand of 15,600 AFY. The “low end” projection” assumes that future conservation efforts will generate enough savings to offset the demand associated with new development, yielding flat demand for the duration of the planning period. This results in a 2025 demand of 14,000 AFY.

Figure 9

**City of Santa Barbara Long-Term Water Demand Projections**  
**Urban Water Management Plan - December 2005**  
**Moving 12-Month System Production (potable + recycled)**



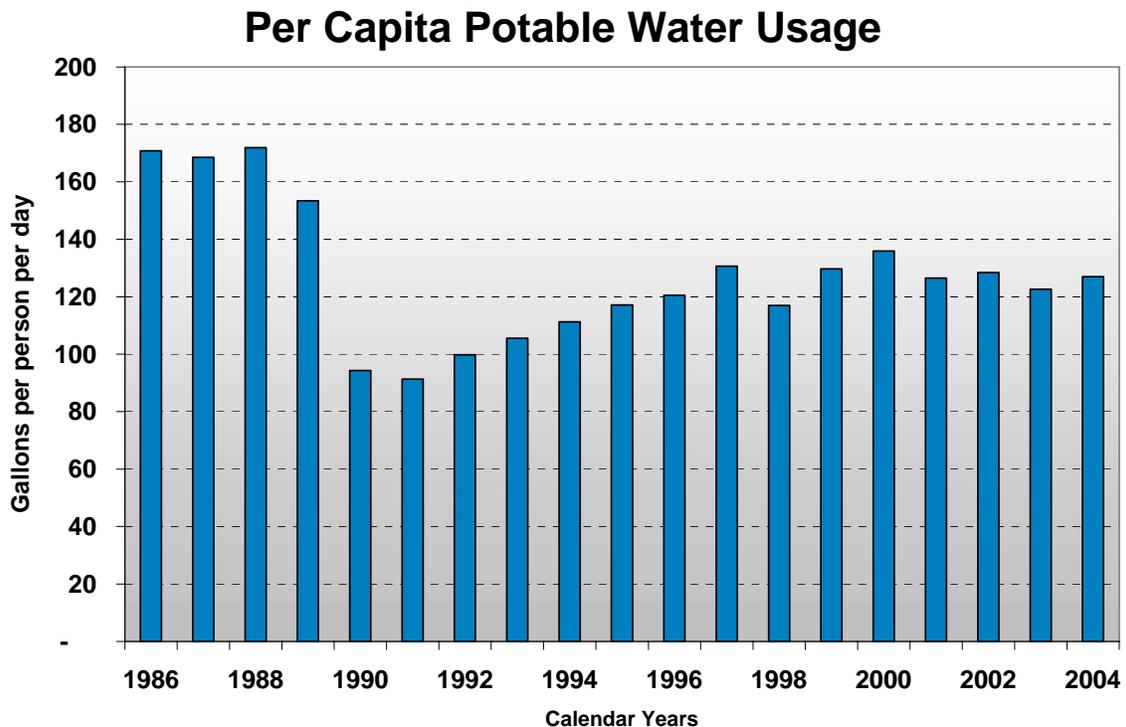
The two demand projections are shown Figure 9. The City's 2000 UWMP projected a 2005 demand ranging from 14,550 AFY to 16,560, compared to the current "normal year" demand of 14,000 AFY. The reduced amount can be attributed to a combination of relatively high marginal water rates and a comprehensive water conservation program serving City water customers. The figure demonstrates that the City's water supply is adequate for the foreseeable future. It should be noted also that a comprehensive update of the City's water supply program is planned next year, concurrent with the City's General Plan Update.

## Water Conservation

The City continues to maintain an active and progressive water conservation program, including implementation of the fourteen Best Management Practices under the Memorandum of Understanding Regarding Urban Water Conservation in California (MOU). The City became a signatory to the MOU in 1992. The conservation program activities are detailed in the City's "Best Management Practices Report - 2004" attached as Appendix B.

In 1991, a comprehensive supply and demand analysis (the LTWSAA) determined the need for additional supply in the amount of 5,300 AFY in order to meet the maximum acceptable shortage standard of 10%. Analysis of available conservation measures led the City to commit to providing 1,500 AFY of this new demand through efficiency improvements as described in the LTWSAA. This commitment remains in place as a part of the Long-Term Water Supply Program. Progress toward the goal was accelerated during the drought as customers took a number of permanent as well as temporary steps to reduce water demand. As water usage rebounded from the period of severe drought restrictions, the conservation program has aimed to steer this usage in the direction of increased efficiency. Relatively high marginal water rates and an effective water conservation program have combined to yield results in excess of the LTWSP goal. Based on 13 years of experience since the end of the drought, it is apparent that normal year demand has now leveled off at approximately 14,000 AFY, fluctuating somewhat above or below that level in response to significantly wet or dry years. When compared to the original 2009 demand projection of 16,400 AFY, this indicates a demand reduction of about 2,400 AFY rather than the 1,500 AFY targeted. The water savings are illustrated in terms of per capita usage in Figure 10. The City intends to continue existing programs and is investigating further efforts to achieve conservation savings.

Figure 10  
City of Santa Barbara



## **Water Shortage Contingency Plan**

### **Background**

On November 1, 1988 the City Council adopted a Drought Contingency Plan in anticipation of the worsening of the then current drought. While the plan provided useful guidance during the drought, the City's experience during the drought has suggested that a revised plan should have more flexibility. This is especially important with the increased diversity of the City's current water supply. Accordingly, the original Drought Contingency Plan has been updated as included herein. The revised title reflects the fact that water shortage may be induced by factors other than climatic drought.

The plan is intended to provide guidance, rather than absolute direction, for City action in response to water shortage. The stages are defined in relation to maximum acceptable shortage of 10% as approved in the Long-Term Water Supply Program. A moving 12-month total of production is used to monitor water usage during periods of normal supply and during water shortages, with actual consumption compared to the target on a monthly basis.

### **Potential Water Use Restrictions**

Chapter 14.20 of the Santa Barbara Municipal Code (applicable portions attached as Appendix C) defines specific water use restrictions that apply during water shortage conditions, subject to Council direction. These include the following:

1. Prohibition on water waste (prohibited at all times regardless of stage);
2. Prohibition on hosing of hard surfaces;
3. Restaurant notices required; no water service without request;
4. Operation of ornamental fountains prohibited;
5. Water shortage notices required in hotel/motel rooms;
6. Runoff prohibited;
7. Use of potable water prohibited when recycled water is available and deemed feasible;
8. Restrictions on irrigation (degree of restriction may vary from night-time irrigation only to complete prohibition on irrigation, except by hand-held bucket);
9. Shut-off nozzle required for boat and vehicle washing;
10. Introduction of water to swimming pools restricted;
11. Potential interruption of service to irrigation meters.

Action under each shortage stage includes a determination as to which, if any, of the above measures are necessary.

### **Rates and Revenue Issues**

Since 1989 the City has used an inverted block rate billing system providing standardized allotments for residential customers based on the type of building and number of dwelling units. Current rates are shown in Appendix D. Historical usage has not been used as the basis for allotments since it tends to penalize customers who practice efficient water use. Commercial and industrial allotments are based on historical off-peak usage since

standardized allotments are infeasible for such customers. The system worked well during the last drought when allotments and block prices were modified as necessary to shape demand and insure adequate revenue. The system proved to be workable even for the 50% shortages experienced. The City's experience has been that block prices and allotments are best determined based on actual circumstances rather than trying to determine appropriate values in advance based on hypothetical situations. In addition to revenue stability and demand management provided by the block rate billing system, a rate stabilization fund is maintained as a part of the Water Fund to dampen the impact that reduced sales would otherwise have on water rates.

### **Normal Supply Stage**

**Definition:** Supplies are considered normal as long as the projected water supply availability is sufficient to equal or exceed the projected normal demand for the next three years.

**Actions:**

- ⇒ Continue efforts to preserve water supply sources, such as management of watersheds to minimize siltation, banking of water as feasible to firm up deliveries through the State Water Project, and development of optimal groundwater pumping capacity;
- ⇒ Continue promotion of long-term water conservation practices designed to improve efficiency without impacting lifestyles, including high efficiency plumbing retrofits, low water using landscaping, efficient irrigation practices, public information regarding water awareness, and inverted block rate pricing;
- ⇒ Extend the use of recycled water where feasible and cost effective;
- ⇒ Monitor demand in terms of actual consumption and cumulative commitments to serve;
- ⇒ Water use restrictions are limited to prohibition of water waste.

### **Stage I Water Shortage Condition -- "Water Shortage Watch"**

**Definition:** A short-term water shortage condition declared by Resolution of the City Council upon being advised that projected supply availability during the next three years may be approximately 10% less than projected normal demand.

**Actions:**

- ⇒ Staff prepares a report to the Water Commission and City Council addressing:
  - Status of surface water supplies;
  - Status of City's groundwater resources and pumping capability;
  - Availability of desalination facility and related cost issues;
  - Projected deliveries of State Water Project entitlement;
  - Anticipated availability of surplus water through the State Water Bank or other temporary transfers of water;
  - Possible reduction in Cachuma deliveries to City in excess of reductions agreed to by member units to allow build-up of City carryover at Cachuma.
  - A range of water supply scenarios based on various levels of assumed rainfall;

- ⇒ Water Commission and City Council consider Staff recommendation regarding adoption of a resolution declaring a Stage I Water Shortage Condition.
- ⇒ Cachuma Project deliveries reduced by up to 20% as agreed by member units when Project storage drops below 100,000 AF;
- ⇒ Public advised of the City's water supply situation; reductions in water use are not anticipated to be necessary at this stage.
- ⇒ Water use restrictions are limited to prohibition of water waste.

### **Stage II Water Shortage Condition -- "Water Shortage Alert"**

Definition: A short-term water shortage condition declared by Resolution of Council upon being advised that projected supply availability during the current or impending water year is anticipated to be approximately 10% less than projected normal demand.

#### Actions:

- ⇒ Staff prepares a report to the Water Commission and City Council addressing:
  - Updated water supply scenarios based on various levels of assumed rainfall;
  - Need for:
    - ✓ Demand reduction by the public;
    - ✓ Water use restrictions;
    - ✓ Design and permitting work associated with temporary water supply augmentations;
    - ✓ Activation of the desalination facility;
  - Revenue projections and appropriate changes in water rates;
- ⇒ City Council considers staff and Water Commission recommendation regarding adoption of a resolution declaring a Stage II Water Shortage Condition.
- ⇒ Public advised of need for 10% demand reduction.
- ⇒ City Council gives direction regarding activation of the desalination facility.
- ⇒ Suspension of development approvals is considered.
- ⇒ Determine the need for water use restrictions pursuant to SBMC Section 14.20.215 and incorporate appropriate exemptions into the water shortage resolution.
- ⇒ Public information effort is aimed at advising the public regarding:
  - The City's water supply situation;
  - Efforts being made by the City to minimize impacts of the water shortage; and
  - The public's role in achieving demand reductions, if necessary.
  - Staff enforces water use restrictions, if any, pursuant to Council direction.
  - Staff implements rate changes, if any, pursuant to Council direction.

### **Stage III Water Shortage Condition -- "Water Shortage Emergency"**

Definition: A short-term water shortage condition declared by Resolution of Council upon being advised that there is a projected supply shortage of substantially greater than 10% as compared to the projected normal demand.

## Actions:

- ⇒ Staff prepares a report to the Water Commission and City Council addressing:
  - Updated water supply scenarios based on various levels of assumed rainfall;
  - Need for:
    - ✓ Further demand reduction by the public;
    - ✓ Increased water use restrictions, including potential prohibition on all uses other than drinking water and sanitation;
    - ✓ Accelerated design, permitting, and construction work associated with temporary water supply augmentations;
  - Review of revenue projections and appropriate changes in water rates;
  - Maximizing supply availability from desalination facility;
- ⇒ City Council considers staff and Water Commission recommendation regarding adoption of a resolution declaring a Stage III Water Shortage Emergency Condition pursuant to California Water Code, Chapter 3.
- ⇒ Revised demand reduction target is announced to public, accompanied by information about how to achieve required reductions and efforts being made by the City to resolve the water shortage condition.
- ⇒ Water use restrictions adjusted as necessary pursuant to Santa Barbara Municipal Code Section 14.20.215.B.
- ⇒ Consider need for expanding production capacity from desalination facility.
- ⇒ Evaluate revenues and the need for further rate changes; staff implements changes pursuant to Council direction.
- ⇒ Consider further action regarding suspension of development approvals.
- ⇒ Water use restrictions enforced by staff pursuant to Council direction.

While the City's long-term supply planning is based on a maximum acceptable shortage of 10%, unforeseen circumstances may dictate a need to respond to drought shortages of up to 50%. Based on the City's experience with the 1988-1992 drought, the measures identified above are expected to be sufficient to allow short-term demand reductions of up to 50%. Flexible application of block rates and allotments, water use restrictions, and public information will be used to meet the required demand reduction target.

### **Mechanism for Measuring Actual Reductions**

Water is produced into the distribution system to meet the demand. Therefore measurement of water production is a simple mechanism for monthly, weekly, or even daily monitoring of water demand to determine the effectiveness of demand reduction measures. Such monitoring proved feasible and useful during previous severe drought.

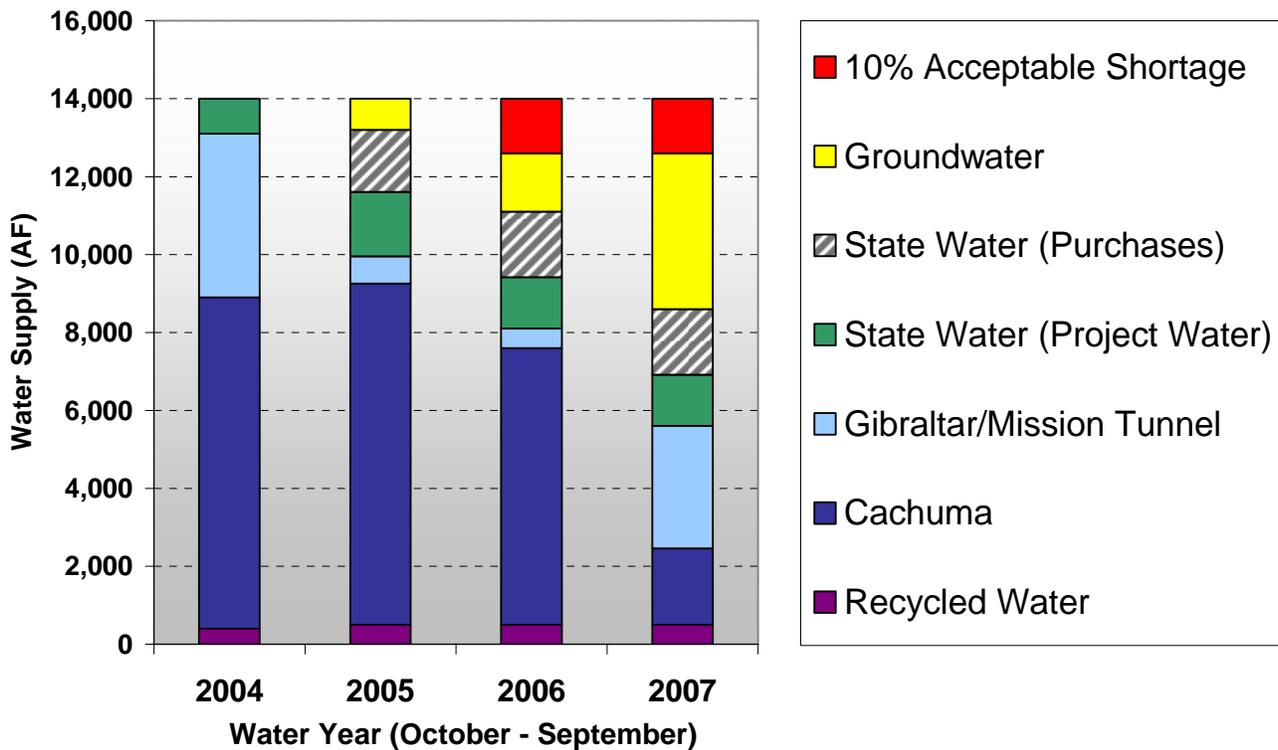
### **Minimum Supply Estimate Three Year Dry Spell**

A large regional reservoir at Lake Cachuma provides more than three years of storage and has recently filled as a result of record rainfall during the past winter. Therefore, a look at 2006 through 2008 is not instructive for a three-year drought response. Instead, a projection

used during actual drought response planning during the most recent dry spell is used to illustrate a three year supply plan under conditions worse than any on record. In this plan, 2004 was the base year and the three years of projected minimum supply were 2005, 2006, and 2007. Figure 11 illustrates the declining availability of water from the primary reservoir at Lake Cachuma, holding water at Gibraltar Reservoir in reserve for use in year three, activation of groundwater wells to replace depleted surface water supplies, ordering of non-project water for delivery through State Water Project facilities under the Dry Year Water Purchase Program, and demand reduction of 10%, consistent with the adopted LTWSP.

Figure 11  
**Projected Water Supply: "Worst Case Scenario"**

Assumes very dry weather for 2005-2007; negligible runoff to Cachuma; drought more severe than any on record.



**Catastrophic Supply Interruption**

Besides drought, the City may experience a catastrophic interruption of the water supply as a result of natural disasters such as earthquake or tsunami, a regional power outage, terrorism, or sabotage. Emergency administrative procedures are detailed and kept updated in the City’s Emergency Operations Center Manual. Noted below are planning and response measures particularly associated with the City’s water supply.

**Preparations for responding to such catastrophic events:**

- A diverse portfolio of supplies provides redundancy that increases the likelihood of being able to meet emergency needs even under catastrophic conditions.

- Primary water supply sources and the main treatment plant have been planned to flow to the City by gravity to reduce normal operating costs and minimize disruption during disasters.
- A groundwater production system has been developed and maintained to augment supplies to the distribution system or provide emergency drinking water supplies should the distribution system be put out of service. In the event of prolonged power outage, power would be provided by portable generators.
- Back-up power supplies with automatic transfer switching and SCADA control capability have been installed at the primary water treatment plant and critical distribution pump stations.
- The potentially unstable and uncovered Sheffield Reservoir has been demolished and replaced with underground tanks designed and built to current seismic standards.
- Computerized telemetry system (SCADA) is being provided throughout the distribution system to monitor system problems, whether minor day-to-day problems or major disruptions.
- Ongoing program of water main replacement targets sections of the distribution system with highest history of breaks, which are vulnerable during earthquakes.
- Upgraded security, including more secure fencing, video monitoring, and alarms, is being provided at all water supply facilities.
- Public access to water supply facilities has been limited for security reasons.
- City distribution system crews are trained in pipe repair and replacement as a part of their normal duties and are continually ready to perform such work on an emergency basis as needed.
- All City employees are designated as emergency service workers and would be activated to do damage assessment and repairs, and to fill gaps left by staff that live out of town and may be unable to get to Santa Barbara due to disaster.
- The City's emergency response program includes emergency communications procedures that would be used for notifying the public about emergency water use restrictions, potential need to boil tap water prior to drinking, and locations where drinking water is available in the event of widespread distribution system failure.

Actions to be implemented during catastrophic conditions:

- Mobilization:
  - Supervisors assemble at Public Works Yard, 630 Garden Street
  - Determine which staff are present and which need to be contacted
  - Contact absent staff and direct them to report once families are safe
  - Check status of all equipment, refuel, and restock supplies on vehicles
  - Water Resources Laboratory staff mobilize at City lab and prepare for anticipated water quality test requests
- Dispatch crews to inspect, patrol, and report on condition of facilities and distribution piping in designated areas of the system:

Group A:

Vic Trace Reservoir & La Coronilla Pump Station  
 La Mesa Reservoir  
 Escondido Reservoir & Pump Station  
 Hope (Calle Las Caleras) Pump Station,

Hope Reservoir  
Campanil Hills Pump Station

Group B:

Reservoir No. 1  
East Reservoir & Bothin Pump Station  
El Cielito Reservoir and Skofield Pump Station  
Skofield Reservoir  
La Vista Reservoir  
Northridge Pump Station

Group C:

Reservoir No. 2  
Sheffield Reservoirs No. 1 and No. 2 and El Cielito Pump Station  
South Portal of Mission Tunnel  
Rocky Nook Pump Station  
Sheffield Pump Station  
Tunnel Road Reservoir & Pump Station  
Cater Cross-Tie Pump Station

Group D:

Wastewater Lift Stations at:  
Campanil  
Braemar  
Cliff Drive  
Linda Lane  
El Camino De la Luz

Group E:

Wastewater Lift Stations at:  
Skofield  
La Colina  
Via Lucero  
Tallant Road  
Miradero Lane  
Andante  
Vista Elevada

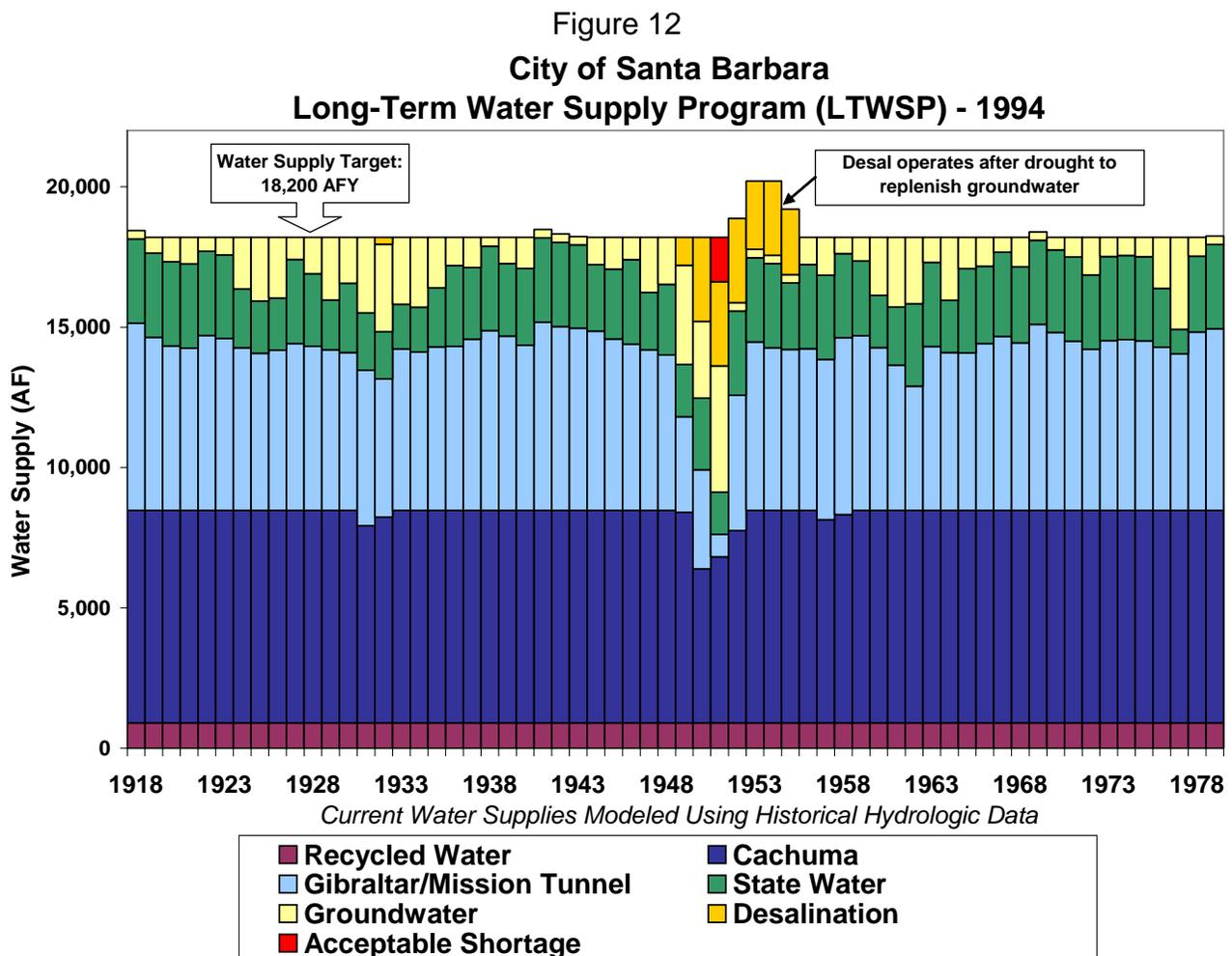
- Assign qualified staff to use SCADA telemetry system, to the extent it is still functional, to determine the extent of system damage and the most critical isolation points on the distribution system.
- Conduct a complete inspection of the Cater Water Treatment Plant and Ortega Groundwater Treatment Plant to determine status and extent of damage.
- Contact Cachuma Project operators (U.S.B.R. and C.O.M.B.) to determine condition of Bradbury Dam and related facilities.
- Contact the City's dam caretaker at Gibraltar Reservoir to determine condition of Gibraltar Dam and related facilities.
- Assess condition of City groundwater wells by measuring water levels and well depth, and taking water samples for analysis of water quality.
- Assess the condition of two tunnels (Tecolote Tunnel from Lake Cachuma and Mission Tunnel from Gibraltar Reservoir) by measuring flow from the tunnels. While earthquake may result in tunnel collapse, it is likely that some residual flow from tunnel infiltration will be available and will flow to the City's treatment plant by gravity.

- Assign qualified staff to utilize the City's hydraulic computer model to simulate identified field deficiencies and run scenarios to identify the most efficient repair, isolation, or reconstruction recommendations.
- Prioritize distribution system repairs to best meet critical needs, including fire fighting, drinking water, and sanitation.
- Develop materials list for treatment plant and distribution system repairs and communicate with potential suppliers.
- Allocate available portable generators and pumps according to highest need for groundwater wells, flood remediation, sanitation, firefighting, or powering emergency facilities.
- Develop a clear message for dissemination to the public regarding water use prohibitions, allowable water uses, potential need to boil drinking water prior to consumption, and availability of emergency drinking water in the event of distribution system failure.

## Reliability of Supply: Historical and Projected Supply Deficiencies

In developing the LTWSAA, the City paid particular attention to the effects of water shortage caused by drought. A comprehensive model of the Santa Ynez River (developed by the Santa Barbara County Water Agency) was used to predict water availability using current water supply facilities and assuming a repeat of hydrologic conditions during the 62-year period of 1918 through 1979. It is assumed that the past, adjusted for the effect of current facilities, is the best prediction of system yield during future droughts. The model was the basis for determining additional water supply requirements as a part of the LTWSP, which judges the performance of the water supply on the basis of how well it meets the City's needs during the critical drought period. In the Santa Barbara area, the critical drought period was the drought of 1948-1952. Results of the 62-year period are shown in Figure 12, which shows the contribution of various water supplies in each year of the model run. Also shown is the maximum acceptable shortage of 10%, which was deemed an acceptable sacrifice to request of customers in lieu of incurring additional expenses necessary to provide 100% deliveries in every year.

The City has integrated weather and hydrologic data through 1992 into the model and updated the modeled water supplies to keep the analysis as up to date as possible. Results of the new 75-year model run indicate that, for the Santa Barbara area, the 1948-52 drought remains the critical drought period.



**Single Dry Year:** A single dry year is illustrated by the year 1977 in Figure 12 above. The supply from Lake Cachuma is managed to prevent shortages until approximately the fourth year following a spill. Therefore, a single dry year does not affect deliveries from Cachuma. The primary effect is a reduction of State Water deliveries to 870 AF, or 29% of Table A project share, which is made up by an increase in pumping of local groundwater. Due to the stable development environment in Santa Barbara, a single dry year has the same effect at any point in the 20-year planning period.

**5-Year Dry Period:** A 5-year dry period is illustrated in Figure 12 by the years of 1947-1951. Cachuma deliveries are reduced toward the end of the period to stretch the supplies. Gibraltar deliveries are reduced to the point where only contribution is the infiltration to Mission Tunnel. State Water deliveries are reduced to as little as 1,500 AFY, or 45% of the City's Table A amount. Maximum use of groundwater capacity, activation of the desalination facility, and imposition of the acceptable 10% demand reduction allow the supply target of 18,200 AFY to be met. This 5-year dry period will affect the City's water supply similarly regardless of when during the 20-year planning period it occurs. In fact, the 1987-1992 drought was quite similar to 1947-1952, though not quite as severe overall.

**Updated State Water Project Reliability Analysis:** The latest information on State Water Project reliability comes from a draft of the 2005 State Water Project Reliability Report being prepared by the California Department of Water Resources. Table 6-4 of the document indicates a single year worst case delivery of 4% of Table A amounts. Minimum deliveries for a 5-year dry spell can be conservatively estimated using the 32% average annual delivery value associated with the 4-year dry period of 1931-1934, which is lower than the 2-year drought period and both of the 6-year drought periods.

The single dry year supply is reduced by 738 AF as a result of the updated reliability analysis. The 5-year dry period supply is reduced by an average of 1,038 AFY. Both amounts are within the 1,800 AFY safety margin that is a part of the LTWSP supply target, which was included for the specific purpose of allowing for unforeseen reductions in supply or increases in demand. Furthermore, the discounting of State Water deliveries in this manner does not include the potential to order non-project water for delivery through State Water Project facilities, as was provided for by DWR's Dry Year Water Purchase Program in 2004. The conclusion is that reduced reliability of State Water Project deliveries has an effect on City supplies, but the effect is within the safety margin built into the plan.

**Water Quality Impacts on Reliability:** Water quality has potential impacts on the City's water supply in three areas:

- **Reaction of Dissolved Organic Material to Produce Disinfectant Byproducts:** More stringent drinking water standards for disinfection byproducts have been implemented, causing the potential for violations due to relatively high levels of dissolved organics in water coming to Cater Treatment Plant from surface water supplies. The City has recently finished a complete rehabilitation of the plant and is in the pilot stage of a study to determine the best manner to insure the Cater water can continue to meet applicable standards for disinfection byproducts. Several feasible options have been identified and it is expected that facilities can be constructed to successfully address

the problem.

- Groundwater Quality: Much of the City's groundwater supply exceeds secondary standards for taste and odor, as well as iron and manganese. In the Foothill Basin, the levels are low enough that they can be successfully treated at the wellhead. In Storage Unit No. 1, water has traditionally been pumped to the Ortega Groundwater Treatment Plant before being put into the distribution system. A complete overhaul of the plant is planned. It has just completed the pilot phase and is being designed. The completed project will allow full use of the City's groundwater resources and may play a part in complying with new standards for disinfection byproducts mentioned above.
- Recycled Water: Due to extreme hardness of local water supplies, many customers use the ion exchange process to soften water at their homes and businesses. The result is added salt, particularly sodium chloride, in the City's recycled water. This has been addressed by monitoring salt levels in the soil over a ten-year period and by blending potable water with recycled supplies to meet water quality standards for irrigation.

## **Community Involvement in Water Management Planning**

Community involvement is present at each step in the City's water management planning. The City Charter establishes a Board of Water Commissioners comprised of citizen appointees charged with overseeing the management of the water supply system and advising the City Council on water related issues. The Commission meets at least monthly in open session and encourages public comment on water issues. During the development of the LTWSAA, a series of public hearings were held to review the analysis and take public input. Water supply status reports are presented periodically to the City Council as a part of its public meetings. Finally, ballot initiatives led to the City's participation in the State Water Project and the use of desalination as a permanent part of the City's water supply. The City coordinates with neighboring water purveyors through a number of joint powers agencies that operate various facilities serving multiple water purveyors. These agencies conduct their business in public sessions. This plan was made available in draft form to local water purveyors, Santa Barbara County officials, and interested members of the public prior to adoption by the City Council.

## **Alternative Water Management Practices**

This plan demonstrates that current water supply sources are expected to be adequate through the year 2025. Accordingly, new supply sources are not anticipated within the time frame of the plan. Still, alternative water management practices play a role in the City's water supply planning and management as noted below.

**Recycled Water:** As described above, facilities are now in place from one end of the City to the other, providing recycled water in place of potable water. Up to 1,200 AFY of potable water can be displaced with the current system.

**Exchanges & Transfers:** With the connection to the State Water Project, the City's potential use of water exchanges is greatly enhanced. It is possible that this exchange capability will be as important as the delivery of State Water Project water, particularly during droughts. The City's desalination facility provides an innovative variation on the exchange scenario since it can be used to produce water that is used by the City in exchange for State Project entitlement made available to other water purveyors throughout the State. At current capacity, this would provide for approximately 3,000 AFY of exchange water. While the current economics are not particularly attractive, this may change in the future, providing a net increase in the State's water supply. During drought, the economics may be secondary to the need for auxiliary water supplies.

**Management of Water System Pressures and Peak Demands:** System pressure is not considered a significant issue related to water demand due to Uniform Plumbing Code requirement for a pressure regulator on each structure and due to significant variation in distribution system elevation. Peak demands are considered to be caused by "discretionary" usage, primarily associated with landscape irrigation. Peak demand is targeted through inclining block rates, including peak period surcharge for commercial and industrial accounts, and promotion of water efficient landscaping.

Meter Retrofitting: Retail metering has been standard practice in the City for years and applies to all development. Each new dwelling unit is individually metered except where physically infeasible, such as where common water heating systems are used. In many cases property owners choose to install new meters on existing multifamily buildings to provide separate meters to each dwelling unit. The effect is increased conservation as tenants begin receiving a monthly bill for water usage.

Incentives, Pricing, and Rate Structures: The current cost of water is considered the most significant incentive for efficient water use. At an average cost of approximately \$3.70 per hundred cubic feet customers are expected to continue efforts to conserve water. In addition, as described above, the block rate billing system is easily modified as necessary to influence demand during periods of water shortage.

Public Information/Education: The position of Water Conservation Coordinator is dedicated to managing a program of public information and assistance about efficient water use. This occurs on an individual customer basis during water audits and on a community-wide basis through school education programs, seminars on low water using landscapes, production of educational brochures, and assistance with the use of recycled water.

Desalination: As noted above, the City has included desalination in its mix of water supplies. Since this is a water source that has relatively high operating costs and low capital costs (compared to other new supply sources), more substantial cost savings are possible during periods of ample surface supplies. Since desalination is required in relatively few years, its annualized cost is reduced to a point that is comparable with other new supply sources.

Watershed Management: The City continues to cooperate with the U.S. Forest Service on watershed management programs which conduct controlled burns of the local watersheds as a way of minimizing silt accumulation in local reservoirs, thereby maintaining the yield from surface water reservoirs.

Lower Santa Ynez River Fish Management Plan: Since 1993, the City has worked as a member of the Cachuma Conservation Release Board (CCRB) to support a collaborative effort of research and restoration projects to improve habitat and migration corridors for endangered steelhead on the Lower Santa Ynez River below Bradbury Dam. This work led to the Lower Santa Ynez River Fish Management Plan adopted in 2000 and has provided a framework for addressing water supply and public trust issues on the river. The Fish Management Plan was accepted by NOAA Fisheries' National Marine Fisheries Service as the basis for a Biological Opinion on Cachuma Project operations to address the endangered listing for steelhead. CCRB, in partnership with the Santa Ynez River Water Conservation District, I.D. No. 1, has completed five projects for enhancing steelhead habitat, improving fish passage, and providing flow augmentations for steelhead. These projects include fish passage projects on Salsipuedes Creek at the Highway 1 and Jalama Road Bridges, streambed stabilization on El Jaro Creek, a permanent watering system to provide year-round flows in Hilton Creek, including a pump and intake system, and modifications at Lake Cachuma to allow a 3-foot surcharge in spill years to provide additional water for fish releases from the reservoir. To date, tributary enhancement projects and an extensive fisheries monitoring program on the lower Santa Ynez River have totaled more than \$5 million. Additional projects are planned or underway on El Jaro Creek, Nojoqui Creek, Hilton Creek and Quiota Creek.

**Critical Period Supply Planning:** Some water supply plans are based on average yield analysis. This can lead to unplanned shortages since it does not acknowledge the combined effect of coincident shortages from a number of different sources. In contrast, the City uses critical period planning to insure that the water supply performs acceptably during the worst anticipated drought.

**Consensus Based Water Management:** The City strives to work cooperatively with other interested parties to maximize water resources. As an example, the City and downstream interests have worked out a compromise in the USYROA (Pass Through Agreement) that allows yield from the river to be maximized while keeping all parties whole and saving the cost of litigation. The City has also entered into a comprehensive consensus-based settlement agreement to resolve outstanding issues among numerous parties on the Santa Ynez River.

### **Implementation Schedule**

The following table identifies implementation items related to the UWMP and the time frame for completion:

Description of Item	Implementation Schedule
Water Conservation Program	Ongoing pursuant to MOU Regarding Urban Water Conservation and Long-Term Water Supply Program
Maintenance of yield from surface reservoirs	USYROA (Pass Through Agreement) in place to preserve the effective yield of Gibraltar Reservoir
Optimized water system management	Multiple Objective Optimization Model (MOOM) has been completed USGS and is available for use in testing water supply scenarios.
Promotion of recycled water use and management of recycled water quality issues	Ongoing requirements for use of recycled water where available. Developed an inventory of plants appropriate for use with recycled water.
Implementation of the Lower Santa Ynez River Fish Management Plan	Ongoing in conjunction with local interested parties and State and Federal officials.
State Water Project connection	Completed in 1997; pipeline available for delivering State Water entitlement and purchased non-project water.
Enhancement of yield from State Water Project facilities	Firming of deliveries through groundwater banking and deliveries on non-project water being investigated by Central Coast Water Authority on behalf of member agencies
Permanent desalination facility	All permitting for permanent desalination is complete; the facility has been placed in long-term storage mode and will be recommissioned when needed.
Demand/Revenue Tracking	Ongoing with monthly water production reports and semi-annual revenue reports to Water Commission and City Council
Groundwater development	Analysis using MOOM to determine optimal locations for wells to replace existing wells subject to seawater intrusion has been completed. Construction of two new extraction/injection wells underway.

**Appendix A:**

**Documentation of Public Noticing**

**and**

**City Council Action**

**(Insert documentation of public noticing)**

**Appendix B:**

**California Urban Water Conservation Council**

**Best Management Practices Report**

Reported as of 10/26/05

**Water Supply & Reuse**Reporting Unit:  
**City of Santa Barbara, PWD**Year:  
**2004****Water Supply Source Information**

<b>Supply Source Name</b>	<b>Quantity (AF) Supplied</b>	<b>Supply Type</b>
Cachuma Project	8490	Local Watershed
Gibraltar Reservoir	3434	Local Watershed
Mission Tunnel	1256	Local Watershed
Groundwater	0	Groundwater
State Water Project	890	Imported
Net Other Potable	-592	
Recycled Water	803	Recycled

**Total AF: 14281**

Reported as of 10/26/05

**Accounts & Water Use**Reporting Unit Name:  
**City of Santa Barbara, PWD**Submitted to  
CUWCC  
**02/23/2005**Year:  
**2004****A. Service Area Population Information:**

1. Total service area population 94325

**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	16832	6197	0	0
2. Multi-Family	5661	3221	0	0
3. Commercial	2366	2311	0	0
4. Industrial	53	352	0	0
5. Institutional	0	0	0	0
6. Dedicated Irrigation	667	750	0	0
7. Recycled Water	74	832	0	0
8. Other	0	0	0	0
9. Unaccounted	NA	616	NA	0
<b>Total</b>	<b>25653</b>	<b>14279</b>	<b>0</b>	<b>0</b>

**Metered****Unmetered**

Reported as of 10/26/05

Reported as of 10/26/05

## BMP 01: Water Survey Programs for Single-Family and Multi-Family Residential Customers

Reporting Unit: **City of Santa Barbara, PWD**      BMP Form Status: **100% Complete**      Year: **2004**

### A. Implementation

- |  |            |
|--|------------|
| 1. Based on your signed MOU date, 01/28/1992, your Agency STRATEGY DUE DATE is:  | 01/27/1994 |
| 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?  | 01/01/1991 |
| 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?  | 01/01/1991 |

### B. Water Survey Data

Survey Counts:	Single Family Accounts	Multi-Family Units
1. Number of surveys offered:	269	63
2. Number of surveys completed:	269	63

### 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 necessary; 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?   |     | database |
| b. Describe how your agency tracks this information.   |     |          |

Each month the results of surveys are entered in the City's water billing database and tracked by water account number.

**C. Water Survey Program Expenditures**

	<b>This Year</b>	<b>Next Year</b>
1. Budgeted Expenditures	5000	3000
2. Actual Expenditures	3000	

**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**

Reported as of 10/26/05

**BMP 02: Residential Plumbing Retrofit**

Reporting Unit: **City of Santa Barbara, PWD**      BMP Form Status: **100% Complete**      Year: **2004**

**A. Implementation**

1. Is there an enforceable ordinance in effect in your service area requiring replacement of high-flow showerheads and other water use fixtures with their low-flow counterparts? no
- a. If YES, list local jurisdictions in your service area and code or ordinance in each:
2. Has your agency satisfied the 75% saturation requirement for single-family housing units? no
3. Estimated percent of single-family households with low-flow showerheads: 75%
4. Has your agency satisfied the 75% saturation requirement for multi-family housing units? no
5. Estimated percent of multi-family households with low-flow showerheads: 75%
6. If YES to 2 OR 4 above, please describe how saturation was determined, including the dates and results of any survey research.

**B. Low-Flow Device Distribution Information**

1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices? yes
- a. If YES, when did your agency begin implementing this strategy? 08/01/1988
- b. Describe your targeting/ marketing strategy.

Low-flow devices are offered to customer during residential survey. A display in main lobby promotes distribution program and customers can pick up devices at the Public Works Department counter in lobby. Availability of devices is promoted thru PSAs and a message on the water bill.

<b>Low-Flow Devices Distributed/ Installed</b>	<b>SF Accounts</b>	<b>MF Units</b>
2. Number of low-flow showerheads distributed:	61	139
3. Number of toilet-displacement devices distributed:	5	7
4. Number of toilet flappers distributed:	0	0
5. Number of faucet aerators distributed:	0	0
6. Does your agency track the distribution and cost of low-flow devices?		yes
a. If YES, in what format are low-flow devices tracked?		Database
b. If yes, describe your tracking and distribution system :		

Each month the number of distributed devices is entered into a field in the City's water billing database and is tracked by water account number.

**C. Low-Flow Device Distribution Expenditures**

	<b>This Year</b>	<b>Next Year</b>
1. Budgeted Expenditures	2750	1000

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**

Reported as of 10/26/05

**BMP 03: System Water Audits, Leak Detection and Repair**

Reporting Unit: **City of Santa Barbara, PWD**      BMP Form Status: **100% Complete**      Year: **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) 12832
  - b. Determine other system verifiable uses (AF) 451
  - c. Determine total supply into the system (AF) 13478
  - d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required. 0.99
3. Does your agency keep necessary data on file to verify the values used to calculate verifiable uses as a percent of total production? yes
4. Did your agency complete a full-scale audit during this report year? no
5. Does your agency maintain in-house records of audit results or the completed AWWA audit worksheets for the completed audit? yes
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. 275
2. Number of miles of distribution system line surveyed. 0

**C. System Audit / Leak Detection Program Expenditures**

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

**D. "At Least As Effective As"**

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? yes
  - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

City implements an annual water main replacement program at a cost of approximately \$2.4 million per year. 3 miles of water main per year are replaced.

**E. Comments**

Reported as of 10/26/05

## BMP 04: Metering with Commodity Rates for all New Connections and Retrofit of Existing

Reporting Unit: **City of Santa Barbara, PWD**      BMP Form Status: **100% Complete**      Year: **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?  |     |
| 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?<br>(mm/dd/yy)   |      |
| b. Describe the feasibility study:   |      |
| 2. Number of CII accounts with mixed-use meters.   | 2304 |
| 3. Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting period.  | 0    |

### C. Meter Retrofit Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	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

Reported as of 10/26/05

## BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit:

**City of Santa Barbara,  
PWD**

BMP Form Status:

**100% Complete**

Year:

**2004**

### A. Water Use Budgets

- |  |      |
|--|------|
| 1. Number of Dedicated Irrigation Meter Accounts:  | 697  |
| 2. Number of Dedicated Irrigation Meter Accounts with Water Budgets:                       | 271  |
| 3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF):                     | 1418 |
| 4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF):                       | 433  |
| 5. Does your agency provide water use notices to accounts with budgets each billing cycle? | yes  |

### 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?   | 01/01/1991 |
| b. Description of marketing / targeting strategy:   |            |
| <p>Notices of free landscape survey are printed on customers water bill. Additionally, targeted large landscape customers receive a direct mailing and are followed up with by phone.</p> |            |
| 2. Number of Surveys Offered.   | 50         |
| 3. Number of Surveys Completed.   | 0          |
| 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?   | no         |
| a. If YES, describe below:  |            |

### C. Other BMP 5 Actions

- |  |     |
|--|-----|
| 1. An agency can provide mixed-use accounts with ETo-based landscape budgets in lieu of a large landscape survey program.<br>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?   | yes |
| 4. Does your agency offer financial incentives to improve landscape water use efficiency?  | yes |

Type of Financial Incentive:	Budget (Dollars/Year)	Number Awarded to Customers	Total Amount Awarded
a. Rebates	19200	64	19200
b. Loans	0	0	0
c. Grants	0	0	0

5. Do you provide landscape water use efficiency information to new customers and customers changing services?

yes

a. If YES, describe below:

A landscape water use efficiency packet is mailed to new dedicated landscape meter accounts. Information in packet is tailored to the type of account.

6. Do you have irrigated landscaping at your facilities?

yes

a. If yes, is it water-efficient?

yes

b. If yes, does it have dedicated irrigation metering?

no

7. Do you provide customer notices at the start of the irrigation season?

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	20000	20000
2. Actual Expenditures	24200	

#### 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

Reported as of 10/26/05

## BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit: **City of Santa Barbara, PWD**      BMP Form Status: **100% Complete**      Year: **2004**

### A. Implementation

1. Do any energy service providers or waste water utilities in your service area offer rebates for high-efficiency washers? no
  - a. If YES, describe the offerings and incentives as well as who the energy/waste water utility provider is.
  
2. Does your agency offer rebates for high-efficiency washers? no
3. What is the level of the rebate? 0
4. Number of rebates awarded. 0

### B. Rebate Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

### C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no
  - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

### D. Comments

Reported as of 10/26/05

**BMP 07: Public Information Programs**

Reporting Unit: **City of Santa Barbara, PWD**      BMP Form Status: **100% Complete**      Year: **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.

A comprehensive program covering all activities listed below is carried out on an ongoing basis. It is organized by public information requirements of each BMP. Materials are developed to educate customers according to goals of BMPs. Over 20 different brochures and handouts are available to our customers on all areas of water efficiency including indoor and outdoor water use. Materials are distributed by mailing upon request, during residential and commercial water surveys, at a display in our lobby, and at public events. The City organizes special events throughout the year including involvement in Earth Day activities, Water Awareness Month and the Sustainable Landscape Fair. The City operates two demonstration gardens on City property and coordinates with other local agencies to promote five other demonstration gardens in the region.

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	30
b. Public Service Announcement	yes	20
c. Bill Inserts / Newsletters / Brochures	yes	20
d. Bill showing water usage in comparison to previous year's usage	yes	
e. Demonstration Gardens	yes	2
f. Special Events, Media Events	yes	3
g. Speaker's Bureau	no	
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	19800	24000
2. Actual Expenditures	19336	

**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 of the public information and outreach events are developed regionally with the Santa Barbara County Water Agency taking the lead on these events and publications.



Reported as of 10/26/05

**BMP 08: School Education Programs**Reporting Unit:  
**City of Santa Barbara, PWD**BMP Form Status:  
**100% Complete**Year:  
**2004****A. Implementation**1. Has your agency implemented a school information program to promote water conservation? yes

2. Please provide information on your school programs (by grade level):

Grade	Are grade-appropriate materials distributed?	No. of class presentations	No. of students reached	No. of teachers' workshops
Grades K-3rd	yes	56	1101	1
Grades 4th-6th	yes	31	902	1
Grades 7th-8th	yes	0	270	1
High School	yes	0	120	1

3. Did your Agency's materials meet state education framework requirements? yes4. When did your Agency begin implementing this program? 01/01/1990**B. School Education Program Expenditures**

	This Year	Next Year
1. Budgeted Expenditures	4000	4000
2. Actual Expenditures	3000	

**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 10/26/05

**BMP 09: Conservation Programs for CII Accounts**

Reporting Unit:

**City of Santa Barbara,  
PWD**BMP Form Status:  
**100% Complete**Year:  
**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 |
|---|-----|

<b>CII Surveys</b>	<b>Commercial Accounts</b>	<b>Industrial Accounts</b>	<b>Institutional Accounts</b>
a. Number of New Surveys Offered	43	1	0
b. Number of New Surveys Completed	43	1	0
c. Number of Site Follow-ups of Previous Surveys (within 1 yr)	0	0	0
d. Number of Phone Follow-ups of Previous Surveys (within 1 yr)	39	0	0
<b>CII Survey Components</b>	<b>Commercial Accounts</b>	<b>Industrial Accounts</b>	<b>Institutional Accounts</b>
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
<b>Agency CII Customer Incentives</b>	<b>Budget (\$/Year)</b>	<b>No. Awarded to Customers</b>	<b>Total \$ Amount Awarded</b>
h. Rebates	0	0	0
i. Loans	0	0	0
j. Grants	0	0	0
k. Others	5000	96	4800

**Option B: CII Conservation Program Targets**

- |   |    |
|---|----|
| 5. Does your agency track CII program interventions and water | no |
|---|----|

savings for the purpose of complying with BMP 9 under this option?

- |   |    |
|---|----|
| 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**

	<b>This Year</b>	<b>Next Year</b>
1. Budgeted Expenditures	10000	10000
2. Actual Expenditures	4800	

### **C. "At Least As Effective As"**

- |   |    |
|---|----|
| 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?   | No |
| <p>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."</p> |    |

### **D. Comments**

In the City's water billing system and in tracking surveys, Institutional accounts are combined into Commerical accounts.

Reported as of 10/26/05

**BMP 09a: CII ULFT Water Savings**

Reporting Unit: **City of Santa Barbara, PWD**      BMP Form Status: **100% Complete**      Year: **2004**

1. Did your agency implement a CII ULFT replacement program in the reporting year? No  
If No, please explain why on Line B. 10.

**A. Targeting and Marketing**

1. What basis does your agency use to target customers for participation in this program?

Check all that apply.

- a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

2. How does your agency advertise this program? Check all that apply.

- a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

**B. Implementation**

1. Does your agency keep and maintain customer participant information? (Read the Help information for a complete list of all the information for this BMP.) Yes
2. Would your agency be willing to share this information if the CUWCC did a study to evaluate the program on behalf of your agency? Yes
3. What is the total number of customer accounts participating in the program during the last year ? 0

4.	Number of Toilets Replaced			
	Standard Gravity Tank	Air Assisted	Valve Floor Mount	Valve Wall Mount
a. Offices				
b. Retail / Wholesale				
c. Hotels				
d. Health				
e. Industrial				
f. Schools: K to 12				
g. Eating				
h. Government				
i. Churches				
j. Other				

5. Program design.

6. Does your agency use outside services to implement this program? No

a. If yes, check all that apply.

7. Participant tracking and follow-up.

8. Based on your program experience, please rank on a scale of 1 to 5, with 1 being the least frequent cause and 5 being the most frequent cause, the following reasons why customers refused to participate in the program.

a. Disruption to business

b. Inadequate payback

c. Inadequate ULFT performance

d. Lack of funding

e. American's with Disabilities Act

f. Permitting

g. Other. Please describe in B. 9.

9. Please describe general program acceptance/resistance by customers, obstacles to implementation, and other issues affecting program implementation or effectiveness.

10. Please provide a general assessment of the program for this reporting year. Did your program achieve its objectives? Were your targeting and marketing approaches effective? Were program costs in line with expectations and budgeting?

City of Santa Barbara's Ultra Low-Flush Toilet (ULFT) Rebate Program ran from August 1988 to June 1995. 2,995 CII toilets were retrofitted. The City received Proposition 13 water conservation grant for funding for a CII ULFT rebate program which started in July 2004.

### C. Conservation Program Expenditures for CII ULFT

1. CII ULFT Program: Annual Budget & Expenditure Data

	<b>Budgeted</b>	<b>Actual Expenditure</b>
a. Labor	0	0
b. Materials	0	0
c. Marketing & Advertising	0	0
d. Administration & Overhead	0	0
e. Outside Services	0	0
f. Total	0	0

2. CII ULFT Program: Annual Cost Sharing

a. Wholesale agency contribution	0
b. State agency contribution	0
c. Federal agency contribution	0
d. Other contribution	0
e. Total	0

### D. Comments

Reported as of 10/26/05

**BMP 11: Conservation Pricing**Reporting Unit:  
**City of Santa Barbara, PWD**BMP Form  
Status:  
**100% Complete**Year:  
**2004****A. Implementation****Rate Structure Data Volumetric Rates for Water Service by Customer Class****1. Residential**

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	\$13527073
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$2331343

**2. Commercial**

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	\$4882262
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$519873

**3. Industrial**

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	\$256690
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$36297

**4. Institutional / Government**

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	\$0
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$0

**5. Irrigation**

a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$797958
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$185353

**6. Other**

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$531813
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue	\$58236

Sources

**B. Conservation Pricing Program Expenditures**

	<b>This Year</b>	<b>Next Year</b>
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**

Reported as of 10/26/05

**BMP 12: Conservation Coordinator**Reporting Unit:  
**City of Santa Barbara, PWD**BMP Form Status:  
**100% Complete**Year:  
**2004****A. Implementation**

1. Does your Agency have a conservation coordinator? yes
2. Is this a full-time position? yes
3. If no, is the coordinator supplied by another agency with which you cooperate in a regional conservation program ? no
4. Partner agency's name:
5. If your agency supplies the conservation coordinator:
  - a. What percent is this conservation coordinator's position? 50%
  - b. Coordinator's Name Alison Jordan
  - c. Coordinator's Title Water Resources Specialist
  - d. Coordinator's Experience and Number of Years 14 years in water conservation/water resources field
  - e. Date Coordinator's position was created (mm/dd/yyyy) 5/1/1990
6. Number of conservation staff, including Conservation Coordinator. 3

**B. Conservation Staff Program Expenditures**

	<b>This Year</b>	<b>Next Year</b>
1. Budgeted Expenditures	90000	100000
2. Actual Expenditures	104923	

**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 10/26/05

**BMP 13: Water Waste Prohibition**

Reporting Unit: **City of Santa Barbara, PWD**      BMP Form Status: **100% Complete**      Year: **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:

Chapter 14.20.007 of the City of Santa Barbara Municipal Code adopted by Ordinance 4558 states that it shall be a violation of this Chapter for any consumer or account holder to waste any water obtained from or through the distribution facilities of the City. "Waste" is defined in Chapter 14.04.080 as any excessive, unnecessary or unwarranted use of water, including but not limited to any use which causes unnecessary runoff beyond the boundaries of any property served by its meter and any failure to repair as soon as reasonably possible any leak or rupture in any water pipes, faucets, valves, plumbing fixtures or other water service appliances.

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 Santa Barbara      no citations, just warnings

**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	yes
c. Non-recirculating systems in all new conveyor or car wash systems	yes
d. Non-recirculating systems in all new commercial laundry systems	no
e. Non-recirculating systems in all new decorative fountains	yes
f. Other, please name	no

2. Describe measures that prohibit water uses listed above:

City Municipal Code

**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.	yes
b. Develop minimum appliance efficiency standards that:	
i.) Increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used.	no
ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced.	no
c. Allow local agencies, including municipalities and special districts, to set more stringent standards and/or to	

ban on-site regeneration of water softeners if it is demonstrated and found by the agency governing board that there is an adverse effect on the reclaimed water or groundwater supply. yes

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**

	<b>This Year</b>	<b>Next Year</b>
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**

Reported as of 10/26/05

**BMP 14: Residential ULFT Replacement Programs**

Reporting Unit: **City of Santa Barbara, PWD**      BMP Form Status: **100% Complete**      Year: **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?	no	no

**Number of Toilets Replaced by Agency Program During Report Year**

Replacement Method	SF Accounts	MF Units
2. Rebate		
3. Direct Install		
4. CBO Distribution		
5. Other		

**Total**

6. Describe your agency's ULFT program for single-family residences.

7. Describe your agency's ULFT program for multi-family residences.

8. Is a toilet retrofit on resale ordinance in effect for your service area? no

9. List local jurisdictions in your service area in the left box and ordinance citations in each jurisdiction in the right box:

**B. Residential ULFT Program Expenditures**

	This Year	Next Year
1. Budgeted Expenditures	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**

The City's Ultra Low-Flush Toilet (ULFT) Rebate Program was implemented from August 1988 to June 1995. 51% of multi-family dwelling units and 32% of single-family homes have been retrofitted to ULFTs in the City. A total of 18,842 residential toilets were replaced at residential sites. A \$80 rebate was issued for the replacement of the higher water using toilets with an ULFT from August 1989 to June 1994, and then dropped to \$40 per toilet from July 1994 to June 1995. Using the estimates developed by the MWD study, the City has achieved 407 AFY savings from multi-family units retrofitted and 250 AFY savings from single-family homes for a total of 657 AFY.

**Total Water Savings (AF) Report**

Reporting Unit:

**City of Santa Barbara, PWD****Estimated Water Savings from BMP Annual Report Data**

<b>BMP01:</b> Water Survey Programs for Single-Family and Multi-Family Residential Customers	<b>623</b>
<b>BMP02:</b> Residential Plumbing Retrofit	<b>2,108</b>
<b>BMP04:</b> Metering with Commodity Rates for all New Connections and Retrofit of Existing	<b>0</b>
<b>BMP05:</b> Large Landscape Conservation Programs and Incentives	<b>1,695</b>
<b>BMP06:</b> High-Efficiency Washing Machine Rebate Programs	<b>0</b>
<b>BMP09:</b> Conservation Programs for CII Accounts	<b>6,581</b>
<b>BMP09a:</b> CII ULFT Water Savings	<b>866</b>
<b>BMP14:</b> Residential ULFT Replacement Programs	<b>10,212</b>
<b>Total:</b>	<b>22,086</b>

**Appendix C:**

**Excerpts from Santa Barbara Municipal Code,  
Chapter 14.20, Regarding Water Use Regulations  
During Drought Conditions**

**Excerpts from Santa Barbara Municipal Code, Chapter 14.20,  
Regarding Water Use Regulations During Drought Conditions**

**14.20.215 Water Use Regulations During Drought Conditions.**

A. STAGE TWO DROUGHT CONDITION. Upon adoption by the City Council of a resolution declaring a Stage Two Drought Condition and for as long as that condition exists, the following water use regulations, and such other regulations as may be adopted by resolution of the City Council, shall apply to all use of water, other than reclaimed wastewater, that is provided by the City water supply system.

1. The use of running water from a hose, pipe, or faucet for the purpose of cleaning buildings and paved, tile, wood, plastic or other surfaces shall be prohibited, except in the event the Director determines that such use is the only feasible means of correcting a potential threat to health and safety.

2. All restaurants that provide table service shall post, in a conspicuous place, a Notice of Drought Condition as approved by the Director and shall refrain from serving water except upon specific request by a customer.

3. The operation of and introduction of water into ornamental fountains and bodies of water shall be prohibited.

4. Operators of hotels, motels, and other commercial establishments offering lodgings shall post in each room a Notice of Drought Condition as approved by the Director.

5. Any use of water that causes runoff to occur beyond the immediate vicinity of use shall be prohibited.

6. The use of potable water for cleaning, irrigation and construction purposes, including but not limited to dust control, settling of backfill, flushing of plumbing lines, and washing of equipment, buildings and vehicles, shall be prohibited in all cases where the Director has determined that use of reclaimed wastewater is a feasible alternative.

7. Irrigation at any time from 8:00 a.m. to 6:00 p.m. of any yard, orchard, park, recreational area, or other area containing vegetation shall be prohibited.

8. Boats and vehicles shall be washed only at commercial car washing facilities equipped with water recycling equipment or by use of a bucket and hose equipped with a self-closing valve that requires operator pressure to activate the flow of water.

B. STAGE THREE DROUGHT CONDITION. Upon adoption by the City Council of a resolution declaring a Stage Three Drought Condition and for as long as that condition exists, the following water use regulations, and such other regulations as may be adopted by resolution of the City Council, shall apply to all use of water, other than reclaimed wastewater, that is provided by the City water supply system.

1. Each of the Stage Two water use regulations set forth in Subsections A.1 through A.6 of this Section shall be applicable.

2. The introduction of water into swimming pools and spas shall be prohibited.

3. The use of water through a meter that is restricted to irrigation uses shall be prohibited, and the City shall have the right to shut off water service to any such meter without notice to the account holder or any other person.

4. Irrigation of any yard, orchard, park, recreational area, or other area containing vegetation shall be prohibited, except by means of a hand-held bucket.

5. Boats and vehicles shall be washed only by use of a hand-held bucket or at commercial car washing facilities equipped with water recycling equipment.

C. EXEMPTIONS. Exemptions to the water use regulations set forth in this Section may be granted by the Director for specific uses of water, on the basis of hardship and in accordance with such guidelines for exemptions as the City Council may adopt. A denial of a request for an exemption may be appealed to a review committee consisting of the Director, the Parks Director or his designated representative, one member of the Board of Water Commissioners appointed by the Board, and such other persons, if any, as the City Council may appoint. The decision of the review committee shall be final.

D. Upon the declaration of and during a Stage Three Drought Condition, the failure of a mobilehome park owner to introduce water into a swimming pool or spa located in a mobilehome park, in accordance with the requirement of Paragraph B.7 of this Section, shall not be considered an increase in "rent" for purposes of Municipal Code Section 26.08.030.N. (Ord. 4558, 1989.)

**14.20.225 Violations.**

A. Any failure to comply with a provision of this Chapter shall constitute a violation, regardless of whether the failure to comply is caused by an account holder, a consumer or any other person or entity.

B. Where the failure to comply is continuing and intentional, each successive hour of such failure to

comply shall be a separate and distinct violation. (Ord. 4558, 1989.)

#### **14.20.226 Penalties and Charges.**

- A. The following penalties shall apply to any violation of any provision of this Chapter:
1. For the first violation within the preceding twelve (12) calendar months, the Director shall issue a written notice of the fact of such violation.
  2. For a second violation within the preceding twelve (12) calendar months, the Director shall impose a surcharge against the account holder for the property where the violation occurred or is occurring, in an amount not to exceed two-hundred and fifty dollars (\$250.00).
  3. For a third violation within the preceding twelve (12) calendar months, the Director:
    - a. Shall impose a surcharge against the account holder for the property where the violation occurred or is occurring, in an amount not to exceed two-hundred and fifty dollars (\$250.00); and
    - b. May install a flow restricter on the service where the violation occurred or is occurring, for a period to be determined by the Director.
  4. For a fourth and any subsequent violation within the preceding twelve (12) calendar months, the Director:
    - a. Shall impose a surcharge against the account holder for the property where the violation occurred or is occurring, in an amount not to exceed two-hundred and fifty dollars (\$250.00); and
    - b. May install a flow restricter on or shut off water service to the property where the violation occurred or is occurring, for a period to be determined by the Director.
- B. If a flow restricter is installed or water service shut off pursuant to Subsection A of this Section, prior to restoration of normal water service the account holder whose service is affected shall be required to reimburse the City for whatever cost it has incurred and will incur in installing and removing a flow restricter and in shutting off and turning on water service.
- C. Any surcharge imposed pursuant to this Section shall be added to the account of the account holder for the property where the violation occurred or is occurring and shall be due and payable on the same terms and subject to the same conditions as any other charge for regular water service. The maximum amount of surcharges which an account holder may be required to pay during any twelve-month period shall be one thousand dollars (\$1,000.00).
- D. Nothing in this Chapter shall limit or be construed to limit the right of an account holder to seek reimbursement of a surcharge from a tenant or other consumer. (Ord. 4558, 1989.)

#### **14.20.227 Notice of Violation - Hearing.**

- A. For each violation of this Chapter, the Director shall give notice as follows:
1. By sending written notice through the U.S. mail to the account holder for the property where the violation occurred or is occurring, at the current billing address shown in the City's water billing records; and
  2. By personally giving written notice thereof to the person who committed the violation or by leaving written notice with some person of suitable age and discretion at the property where the violation occurred or is occurring; or
  3. If neither the person who committed the violation nor a person of suitable age and discretion can be found, then by affixing written notice in a conspicuous place on the property where the violation occurred or is occurring.
- B. Any written notice given under this Section shall contain a statement of:
1. The time, place and nature of the violation;
  2. The person(s) committing the violation, if known;
  3. The provision(s) of this Chapter violated;
  4. The possible penalties for each violation;
  5. The account holder's right to request a hearing on the violation and the time within which such a request must be made; and
  6. The account holder's loss of the right to a hearing in the event the account holder fails to request a hearing within the time required.
- C. Any account holder provided a notice of violation in accordance with the provisions of this Chapter shall have the right to request a hearing. The request must be made in writing and must be received by the Director within ten (10) calendar days of the date of the notice of violation. The Director shall conduct the hearing, at which both written and oral evidence may be presented, and shall decide whether a violation occurred and the appropriate penalty. In determining the appropriate penalty, the Director shall consider whether the account holder knew of the violation at the time it occurred and whether he or she took reasonable action to correct the violation upon notification of it. In addition, the Director shall exercise his discretion in accordance with such guidelines as the City Council may adopt by resolution.
1. For a first or second violation within a twelve (12) month period, the decision of the Director shall be final.

2. For a third or subsequent violation within a twelve (12) month period, the account holder shall have the right to appeal the decision of the Director by requesting a hearing before the Board of Water Commissioners ("Board"). The request for hearing before the Board shall be in writing and shall be delivered to the Director not later than seven (7) calendar days after the date of the decision of the Director. At the hearing, the Board may receive and hear both written and oral evidence and shall have the authority to affirm, reverse, or modify the decision of the Director. The decision of the Board shall be final.

D. If an account holder fails to request a hearing before the Director or the Board within the period(s) provided in this Section, the action of the Department shall be deemed final.

E. There shall be no installation of a flow restricter or shut off of water service until a notice of violation has become final or there is a final decision of the Director or the Board ordering installation of a flow restricter or shut-off of water service. (Ord. 4558, 1989.)

**Appendix D:**

**City of Santa Barbara**

**Water and Sewer Service Rates**

**Fiscal Year 2006**

City of Santa Barbara - Public Works Department  
**Monthly Rates for Water and Sewer Service**  
 Resolution No. 05-060 (for Fiscal Year 2006)  
 1 hcf = 100 cubic feet = 748 gallons

Customer Class	Water Service Rates <sup>1</sup>	Sewer Service Rates
Single Family Residential	First 4 hcf @ \$2.47 Next 16 hcf @ \$4.14 All other @ \$4.37	\$9.89 per month; plus \$1.71 per hcf, up to 10 hcf per month
Multi-Family Residential, 1-4 dwelling units	First 4 hcf per dwelling unit @ \$2.47 Next 8 hcf per dwelling unit @ \$4.14 All other @ \$4.37	\$9.89 per month per dwelling unit; plus \$1.71 per hcf, up to 8 hcf per dwelling, per month
Multi-Family Residential, 5+ dwelling units	First 4 hcf per dwelling unit @ \$2.47 Next 8 hcf per dwelling unit @ \$4.14 All other @ \$4.37	\$9.89 per month per dwelling unit; plus \$1.71 per hcf, up to 7 hcf per dwelling, per month
Commercial	100% of base allotment <sup>2</sup> @ \$4.14 per hcf; All other @ \$4.37	\$1.95 per hcf; subject to minimum charge by meter size (see table below)
Industrial & High Strength Commercial	100% of base allotment <sup>2</sup> @ \$4.14 per hcf; All other @ \$4.37/hcf	\$2.36 per hcf; subject to minimum charge by meter size (see table below)
Irrigation - Residential	Billed as if used through associated residential meter, OR annual allotment <sup>3</sup> of 654 hcf/acre @ \$4.14; all other @ \$4.37	Not applicable
Irrigation - Recreation/Parks/Schools	Annual allotment <sup>3</sup> of 1,404 hcf/acre @ \$1.95 Next 240 hcf/acre/year @ \$4.14 All other @ \$4.37	Not applicable
Irrigation - Commercial	100% of base allotment <sup>2</sup> @ \$4.14 per hcf; All other @ \$4.37/hcf	Not applicable
Irrigation - Agriculture	Annual allotment <sup>3</sup> of 870 hcf/acre @ \$1.56 Next 240 hcf/acre/year @ \$4.14 All other at \$4.37/hcf	Not applicable
Recycled Water	All usage @ \$1.56/hcf	Charges based on type of use. Not applicable for irrigation.
Outside City Limits	130% of corresponding in-City rates	Same as in-City rates, except that residential accounts not receiving City water are charged at maximum rate.

**Monthly Water Meter Service Charges By Meter Size<sup>1</sup>**

Meter Size	5/8"	3/4"	1"	1½"	2"	3"	4"	6"	8"	10"
Monthly Service Charge:	\$10.42	\$15.64	\$26.06	\$52.11	\$83.38	\$166.76	\$260.56	\$521.12	\$833.80	\$1,198.58

**Minimum Monthly Sewer Charges by Meter Size for Non-Residential Customers**

Meter Size	5/8"	3/4" *	1"	1½" *	2"	3"	4"	6"	8"	10"
Commercial	\$18.61	\$27.90	\$32.45	\$55.71	\$92.89	\$185.71	\$231.80	\$464.27	\$812.49	\$1,276.78
Indus/HS Com.	\$23.19	\$34.78	\$40.63	\$69.80	\$116.08	\$232.11	\$290.21	\$580.33	\$1,015.55	\$1,595.96

\* These meter sizes no longer available for new installations.

**Typical City Water and Sewer Fees for Connection of a Single-Family Residence**

Water: \$1,771 (1" service connection, with 5/8" meter) + \$2,039 (buy-in fee, per residence) = \$3,810  
 Sewer: \$537 (4" sewer line tap) + \$270 (trench inspection) + \$1,418 (buy-in fee, per single-family residence)<sup>4</sup> = \$2,225

**For more information, contact the City's Water Hotline at (805) 564-5460**

- <sup>1</sup> Utility users tax of 6% added to metered water charges and monthly water meter service charges.
- <sup>2</sup> Base allotment = average monthly consumption during most recent January - June period.
- <sup>3</sup> Annualized allotments run July to June; new allotments available for the July water bill; unused allotments do not carry forward.
- <sup>4</sup> Through 6/30/07, the sewer buy-in fee is reduced by 50% for conversions from septic tank to City sewer.