CITY OF BRENTWOOD
2005 URBAN WATER MANAGEMENT PLAN

FINAL

Prepared for

Department of Public Works
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Brentwood, California 94513

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SECTION 1.0

INTRODUCTION

This chapter provides the background for this report and an overview of the Urban Water Management Plan (UWMP), previous reports, public participation, and agency coordination.

1.1 Purpose

The purpose of this Urban Water Management Plan (Plan) is to ensure efficient use and promote conservation of urban water supplies within the City of Brentwood (City). The Plan describes the availability of water and discusses water use, reclamation, and water conservation activities. The Plan concludes that the water supplies available to the City's water transmission system, and to its customers, are adequate over the next 20-year planning period.

1.2 Urban Water Management Planning Act

The City's Plan has been prepared by Brown and Caldwell on behalf of the City as required by the Urban Water Management Planning Act (Act) (California Water Code Division 6, Part 2.6, Sections 10610 through 10657). According to the California Department of Water Resources (DWR), the Act states that any urban water supplier that provides water to 3,000 or more customers, or that provides over 3,000 acre-feet of water annually, should make every effort to assure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. The Act describes the contents of the Plan as well as how urban water suppliers should adopt and implement the Plan. It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied.

1.3 Previous Reports

Several reports have been prepared in the past decade, which address water supply and demand for the City. An understanding of the results of these previous studies provides a broader context for preparing an updated water supply plan for the future.

A previous UWMP was submitted for the City of Brentwood in 2000. Of the recommendations contained in that report, the only one that has since been implemented is the hiring of a Water Conservation Coordinator in 2005.

1.4 Public Participation

The Act requires the encouragement of public participation and a public hearing regarding the Water Management Plan. This hearing provides an opportunity for the City's residents and employees to learn about the water supply situation and the plans for providing a reliable, safe, high-quality water supply for the future. The hearing also allows the public to ask questions regarding the current situation and the viability of future plans.

1.5 Agency Coordination

Table 1-1 summarizes the efforts the City has taken to include additional agencies and citizens in its planning and preparation process. Copies of the draft UWMP 2005 were available for public review and comment at City offices. Legal public notices for Board and City Council adoption hearings were published in local newspapers and posted at Agency and City facilities. Copies of the public hearing notices are included in Appendix C.

Table 1-1. Coordination with Appropriate Agencies (DWR Table 1)

Check at least one box on each row	Participated in developing the plan	Commented on the draft	Attended public meetings	Was contacted for assistance	Was sent a copy of the draft plan	Was sent a notice of intention to adopt	Not Involved / No Information
Contra Costa Water District					X		
East Contra Costa Irrigation District					X		
Brentwood Wastewater Treatment Plant	X			X			
General Public		X	X				
Other							

SECTION 2.0

DESCRIPTION OF EXISTING WATER SYSTEM

This chapter describes the City's water system. It contains a description of the service area and its climate, and the water supply facilities, including groundwater wells, surface water supply facilities, reservoirs, and piping system.

2.1 Description of Service Area

The Brentwood Water System serves about 13,000 connections. The City lies in eastern Contra Costa County. Figure 2-1 shows the service area and its surroundings. The service area is bounded by Sellers Avenue to the east, Briones Valley Road, Concord Avenue, Creek Road and the East Contra Costa Irrigation District (ECCID) Main Canal to the south, Heidorn Ranch Road to the west, and Lone Tree Way (Antioch), Neroly Road (Oakley) and Delta Road (Knightsen) to the north. The service area is primarily residential, with small areas of commercial, office, and light industrial land use. The City land use plan has numerous parks, large areas of agriculture conservation, and special planning areas that are undeveloped. Historical and projected population is addressed in detail in Chapter 5.

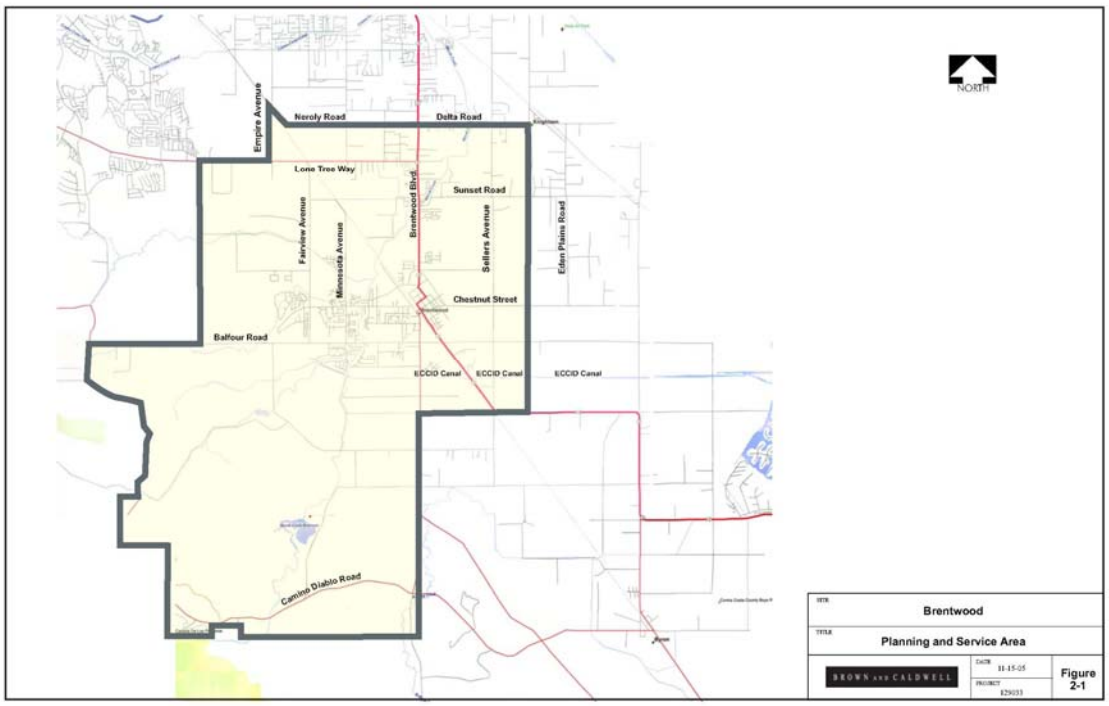

Figure 2-1. Brentwood Planning and Service Area

2.2 Environmental Setting

A description of the City's environmental setting follows and includes geography, climate, and hydrology.

2.2.1 Geography

The area extends from steep, hilly terrain in the south and west portions of the service area to flat with a gentle slope in the northeast portion of the service area. Elevations range from approximately 30 feet to almost 500 feet.

2.2.2 Climate

The City has cool and humid winters, and hot and dry summers. The City's weather is similar to that of Antioch because the two cities are adjacent. Based on the historical data obtained from the Western Regional Climate Center website (Western Regional Climate Center, 1999), Antioch's average daily temperature ranges from 37 to 91 degrees Fahrenheit, but the extreme low and high temperatures have been 18 and 117 degrees Fahrenheit, respectively. The historical monthly average precipitation is shown in Table 2-1 and the annual average is shown in Figure 2-2. The rainy season begins in November and ends in March. Average monthly precipitation during the winter months is about 2 to 3 inches, but records show that the monthly winter precipitation has been as high as 9 inches and as low as 0 inches. Water demands during the winter are relatively low. Low humidity usually occurs in the summer months, from May to September. The combination of hot and dry weather during the summer results in high water demands during these periods. Landscape irrigation, including turf irrigation in the summer, significantly contributes to the higher summer demands.

Table 2-1. Climate (DWR Table 3)

	Standard Average ET (in.)[1]	Average Rainfall (in.)[2]	Average Temperature (F)
January	0.95	2.80	45.3
February	1.75	2.43	50.55
March	3.48	1.93	54.4
April	5.37	0.88	58.8
May	6.88	0.38	64.85
June	7.79	0.10	71.05
July	8.29	0.02	74.1
August	7.24	0.05	73.35
September	5.33	0.21	70.7
October	3.63	0.70	63.85
November	1.76	1.66	53.45
December	1.01	2.12	45.9

[1] http://www.cimis.water.ca.gov/cimis/monthlyEToReport.do
[2] http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?caanti+nca

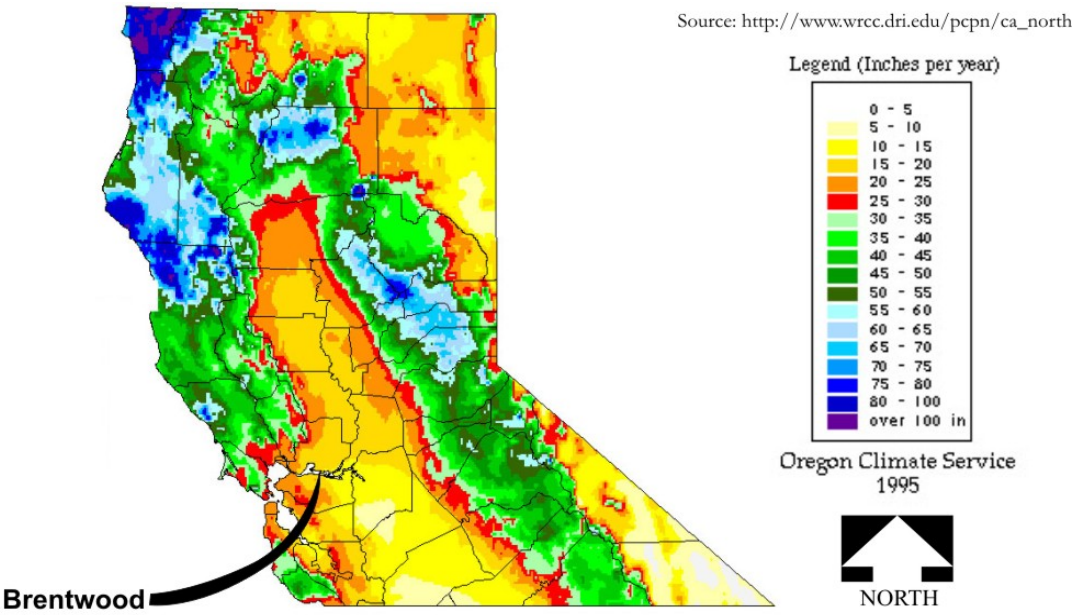

Figure 2-2. Northern California Annual Average Precipitation in Inches, 1961-1990

2.3 Water Supply Facilities and Sources

Groundwater from eight active wells provides approximately 53 percent of the water supply for the City. The remaining water comes from the Randall-Bold Water Treatment Plant located in Oakley, which is jointly owned by Contra Costa Water District (CCWD) and Diablo Water District (DWD). The water from Randall-Bold also provides an emergency source of water supply. Figure 2-3 depicts the locations of the key water system facilities.

2.3.1 Surface Water

The City has a contract with CCWD to treat the City's surface water supply at the Randall-Bold Water Treatment Plant (WTP). The Randall-Bold Inter-tie and connection is at the intersection of Neroly Road and Empire Road. An 18-inch-diameter main pipeline transports the treated water to Lone Tree Way, where it ties in with the City distribution system. The Randall-Bold WTP has a current capacity of 40 million gallons per day (mgd). The WTP receives water from Rock Slough, Old River, and Los Vaqueros Reservoir. Treatment facilities include a grit basin, influent mixing basin, pre- and post-ozone contact basin, flocculation basin, deep bed filtration (granular activated carbon over sand), filtered water reservoir, and distribution pumps. The contract between CCWD and the City does not limit the amount of treated water that the City can purchase. At this time there is an interim pipeline directly from the Randall-Bold WTP to the City's water system. The City's new booster pump station located at Randall-Bold WTP is scheduled to come online in spring 2006. There is no more need to contract with DWD. The City is in the design state of a 12-mgd water treatment plant expandable to 30-mgd.

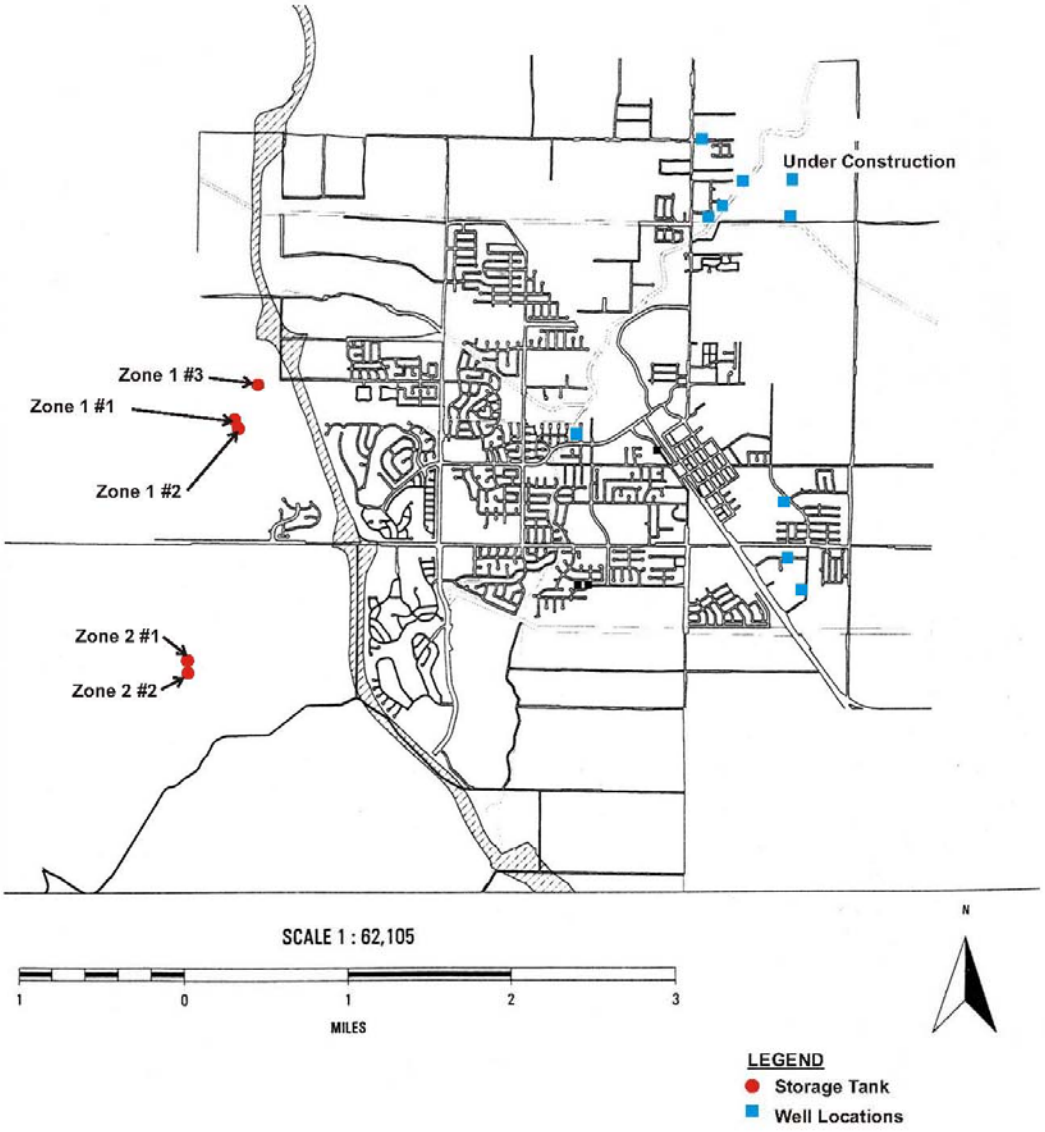

Figure 2-3 Key Water System Facilities

2.3.2 Wells

Eight wells with a combined capacity of 5,150 gpm or 7.416 mgd provide approximately 53 percent of the City's annual water production. The City has two main well fields (1) Wells 6, 7, 8, 15 and 14 located in the northeast part of town and (2) Well 11, 12, and 13 to the south. The water is treated with sodium hypochlorite at the well heads and pumped to the distribution system directly. Table 2-2 summarizes the characteristics of the existing wells.

Table 2-2. City of Brentwood Wells

Well	Well capacity, gpm
Well No. 6	800
Well No. 7	750
Well No. 8	1,000
Well No. 11	600
Well No. 12	250
Well No. 13	300
Well No. 14	1000
Well No. 15	450
Total Well Water Supply	5,150 (7.416 mgd)

2.3.3 Water Rights

Contra Costa County does not regulate groundwater pumping with water rights. The City has first rights to 14,800 acre-feet per year of the surface water rights owned by ECCID under a pre-1914 water right.

2.3.4 Transfers and Exchanges

The City does not participate in any transfer or exchange programs.

2.4 Distribution System

The City's distribution system consists of three primary pressure zones. Water pressure is maintained between 40 and 100 pounds per square inch gauge (psig). The Pressure Zone 1 distribution system serves all developments less than an elevation of 110 feet. Pressure Zone 2 is confined to areas with elevations greater than 110 feet and less than or equal to 220 feet. Pressure Zone 3 is limited to areas with elevations greater than 220 feet and less than or equal to 330 feet. The distribution system includes two booster pump stations, four reservoirs (a fifth reservoir is under construction), and distribution piping.

2.4.1 Booster Pump Stations

Table 2-3 summarizes the design capacities of each booster pump at the two booster pump stations.

Table 2-3. Brentwood Booster Pump Stations

Name	Design flow, gpm
Zone 1 Booster Pump Station	
Pump A	2,100
Pump B	2,100[a]
Total pump capacity	4,200
Zone 2 Booster Pump Station	
Pump A	2,500
Pump B	2,500
Pump C	700
Pump D	700
Pump E	3,000
Total pump capacity	9,400
Zone 3 Booster Pump Station	
Pump A	400
Pump B	3,000
Pump C	640
Pump D	640
Pump E	3,000
Total pump capacity	7,680*

Notes:
* Capacity of two pumps operating simultaneously is less than the individual total, as indicated
[a] This pump will be abandoned upon completion of the new Randall-Bold station in the Spring of 2006.

2.4.2 Reservoirs

The five reservoirs in the City have a combined capacity of 14.7 million gallons (mg). Table 2-4 lists the reservoirs and their capacities. The reservoirs are situated above-grade and are constructed of welded-steel. These reservoirs provide equalization, emergency supply, and fire supply. A new 4.0-million gallon (mg) reservoir is complete and in service in Zone 1.

Table 2-4. Brentwood Storage Tanks

Name	Volume, mg
Zone 1 Reservoir No. 1.1	2.4
Zone 1 Reservoir No. 1.2	4.3
Zone 1 Reservoir No. 1.3	4.0
Zone 2 Reservoir No. 2.1	2.0
Zone 2 Reservoir No. 2.2	2.0
Zone 2 Reservoir No. 2.3	4.0 (new)[a]
Total capacity	18.7

[a] Tank is currently under construction and will be completed in 2006.

2.4.3 Piping System

The City distribution system consists of pipelines with various sizes. The City currently maintains 164 miles of distribution mains. The original water mains were constructed in 1940 and range in size from 4 to 10 inches in diameter. Larger-diameter water mains have been constructed more recently. A 30-inch-diameter transmission main transports treated water from the Randall-Bold WTP along Empire Road to the inter-tie and pump station and then smaller distribution lines connect to the system at Lone Tree Way. Water is transported from the Zone 1 reservoirs to the downtown system by a 24-inch-diameter water main west of Fairview Avenue, which connects to a 20-inch-diameter water main along Dainty Avenue. A 16-inch-diameter water transmission main transports water from the northern wells south along Highway 4 to the downtown pipe grid system. The City currently has an ongoing program to replace sections of the original water mains in need of repair.

SECTION 3.0

WATER SUPPLY QUANTITY AND QUALITY

Currently, the City of Brentwood (City) uses groundwater as its primary source of water supply. This source of supply is supplemented by surface water. This chapter describes the surface water and groundwater sources, quantities, supply constraints, and the water quality of the water supply sources. In addition, this chapter describes current and projected water supplies, water supply reliability and vulnerability, water shortage expectations, and water shortage revenue and expenditure impacts.

3.1 Surface Water

Surface water from the Sacramento-San Joaquin Delta (Delta) is treated at the Randall-Bold Water Treatment Plant (WTP) and supplements the groundwater supply. This section describes the surface water supply and its physical and legal constraints.

3.1.1 Description

Water rights in the supply area are owned by the East Contra Costa Irrigation District (ECCID). In 1999, the City obtained first rights to 14,800 acre-feet per year from ECCID. The City contracts with the Contra Costa Water District (CCWD) to treat the City water supply at the Randall-Bold WTP. The WTP is jointly owned by CCWD and the Diablo Water District (DWD) in Oakley. The WTP takes water from the Contra Costa Canal, which is the CCWD's principal raw water conveyance facility. CCWD delivers water not only to the City but also to areas in Contra Costa County including unincorporated areas surrounding Concord, Clayton, Clyde, Pleasant Hill, Martinez, Port Costa, Antioch, Bay Point, Martinez, Pittsburg, and Veale Tract. Since 1997, the City has obtained its surface water supply from the Randall-Bold WTP via an inter-tie at Empire Road and Neroly Road.

3.1.2 Physical Constraints

The principal physical constraints to the surface water supply are the capacity of the Randall-Bold WTP and the capacity of the pumps in the booster station at the City inter-tie. The Randall-Bold WTP has a treatment capacity of approximately 40 mgd and an expansion capacity of 80 mgd. There is an interim pipeline in use at this time conveying water from the Randall-Bold WTP to the City's water system. Pumping constraints no longer exist. Once the new pump station comes online in the spring of 2006, pumping supply will not be an issue. The City and CCWD are jointly working on a new surface water treatment plant that will be located north of Brentwood and immediately east of the Randall-Bold WTP. The plant will treat surface water supply from the ECCID. The first phase of the treatment plant construction will be completed in early 2008 with a capacity of 12 mgd.

3.1.3 Legal Constraints

The City's surface water supply is purchased from ECCID. ECCID is a pre-1914 water-right and is, therefore, not subject to delivery reductions during water shortages including regulatory restricted and drought years.

3.2 Groundwater

This section describes the groundwater supply and its physical and legal constraints. Groundwater is used as an economical supply to help offset the higher cost of surface water.

3.2.1 Description

The geologic setting of Contra Costa County is comprised of surficial (Quaternary) deposits overlying fault-bounded bedrock assemblages. East Contra Costa County has four groundwater regions. The City occupies the largest region, in which groundwater occurs in material deposited by streams originating from the coast ranges to the west. The extent of aquifer materials capable of yielding quantities of water suitable for municipal and/or agricultural purposes is present to depths of 600 feet below ground surface. Water level hydrographs reflect seasonal fluctuations and, in some areas, climatic influences (such as drought periods) on groundwater. In general, conditions since the late 1950s compared to present indicate that there is no apparent overdraft of the groundwater system, suggesting that historical extraction patterns have not exceeded the safe yield of the basin. Additionally, there have been no significant changes in movement of groundwater within the City since the late 1950s. Brentwood does not currently have a Groundwater Management Plan.

Water quality (discussed in more detail later in this chapter) in the City aquifer is adequate, but does have relatively high levels of total dissolved solids (TDS), chlorides, and nitrate. TDS in the groundwater is naturally high, up to 798 milligrams per liter (mg/L). This is below the California maximum contaminant level of 1,000 mg/L. The occurrence of nitrate in groundwater in this area has generally been attributed to agricultural influences. The occurrence is limited to the upper sequences of aquifer materials. The nitrate concentrations decline appreciably for wells completed below 200 feet of ground surface. Seven of the Cities wells are below 20 ppm, with one well above 20, but still below 45 ppm limit. Chloride and TDS concentrations also decline with depth, but less notably than the nitrate. The decline suggests local anthropogenic influences on TDS, chloride, and other constituents in addition to nitrate.

Table 3-1. Groundwater Pumping Rights – AF Year (DWR Table 5)

Basin Name	Pumping Right – AFY
San Joaquin	No rights to ground water supply in Contra Costa County
Total	Not applicable

Table 3-2. Amount of Groundwater Pumped – AFY (DWR Table 6)

Basin Name (s)	2000	2001	2002	2003	2004
San Joaquin	6,290	6,426	6,615	7,095	9,043
% of Total Water Supply	48	49	49	51	57

Table 3-3. Amount of Groundwater Projected to be Pumped - AFY (DWR Table 7)

Basin Name(s)	2010	2015	2020	2025
San Joaquin Basin	7,662	7,662	7,662	7,662
% of Total Water Supply	38	38	38	38

3.2.2 Physical Constraints

Existing wells in the City supply between 250 to 1,000 gallons per minute (gpm). Static water levels in the City's two main well fields (Wells 6, 7, 8, 14, and 15 located in the northeast part of town and Well 11, 12, and 13 to the south) are deeper than the shallower levels reflected in most of the East Contra Costa County groundwater region. Static water level readings from the City's wells indicate that the water level difference may be 20 to 200 feet and is most likely caused by the municipal pumping. The City's pumping, however, has not affected the larger regional system as previously discussed. The City is taking precautions and is monitoring to determine whether the water level difference between the deeper completion zones of its newer municipal wells and the shallow zones might cause degradation of water quality by inducing downward movement of water quality constituents, including nitrates.

3.2.3 Legal Constraints

Groundwater pumping is not currently regulated by water rights within Contra Costa County. Therefore, it is assumed that there are no legal constraints to pumping groundwater.

3.3 Desalination

Because the distance to the Pacific Ocean or the San Francisco Bay is a limiting factor, there are no opportunities for the development of desalinated water within the District's service area as a future supply source.

Table 3-4. Opportunities for Desalinated Water (DWR Table 18)

Sources of Water	Yield AFY	Start Date	Type of Use	Other
Water purchased from:				
Ocean Water	0	0	0	0
Brackish Ocean Water	0	0	0	0
Brackish Groundwater	0	0	0	0
Other (such as impaired groundwater)	0	0	0	0
Total	0	0	0	0

3.4 Transfer and Exchange Opportunities

The City does not participate in any transfer or exchange programs.

Table 3-5. Transfer and Exchange Opportunities - AF Year (DWR Table 11)

Transfer Agency	Transfer or Exchange	Short term	Proposed Quantities	Long term	Proposed Quantities
Company	0	0	0	0	0
Company	0	0	0	0	0
Company	0	0	0	0	0
Total	0	0	0	0	0

3.5 Water Rights

Section 3.1.1 and 3.1.3 previously discussed the rights for the drinking water used in the City of Brentwood.

3.6 Current and Projected Water Supplies

Table 3-8 summarized the projected annual water supply for normal climate. Recycled water is addressed further in Chapter 4. As shown in Table 3-8, the supply is adequate to meet projected demands during normal climate years.

Table 3-6. Future Water Supply Projects (DWR Table 17)

Project Name	Projected Start Date	Projected Completion Date	Normal-year AF to agency	Single-dry year yield AF	Multiple-Dry-Year 1 AF	Multiple-Dry-Year 2 AF	Multiple-Dry-Year 3 AF
Surface water treatment plant	Underway	2008	13,442	13,442	13,442	13,442	13,442
TOTAL			13,442	13,442	13,442	13,442	13,442

Table 3-7. Current and Planned Water Supplies - AFY (DWR Table 4)

Water Supply Sources	2005	2010	2015	2020	2025
Water purchased from:					
Supplier (Brentwood) produced groundwater	5,350	7,662	7,662	7,662	7,662
Supplier (Brentwood) surface diversions	6,720	20,162	20,162	20,162	20,162
Transfers in or out	0	0	0	0	0
Exchanges in or out	0	0	0	0	0
Recycled water (projected use)	323	2,230	2,646	3,142	3,733
Desalination	0	0	0	0	0
Other					
TOTAL	12,393	30,054	30,470	30,966	31,557

Table 3-8. Projected Normal Water Supply - AF Year (DWR Table 40)

Supply	2010	2015	2020	2025
Groundwater	7,662	7,662	7,662	7,662
Recycled water from Brentwood WWTP	2,230	2,646	3,142	3,733
Surface water[a]	20,162	20,162	20,162	20,162
Total	30,054	30,470	30,966	31,557
% of year 2005*	243	246	250	255

[a] Assumes buildout to reach max capacity of 36 mgd

3.7 Water Supply Reliability and Vulnerability

The surface water supply to the City is a pre-1914 water-right purchased from ECCID that is not subject to water shortages during drought years. Groundwater is assumed to be unaffected by drought conditions. Table 3-9 summarizes the projected year 2025 water supply for normal, single, and multiple dry water years. No reductions from normal year supply are expected in single or multiple dry years. Therefore a calculation incorporating base years was not performed. However appropriate base years for Brentwood would be the same as they are for CCWD. These years are 1980 as an average year, 1961 as a single dry year, and 1989 to 1991 as multiple dry years.

Table 3-9. Supply Reliability[a] - AF (DWR Table 8)

		Multiple Dry Water Years			
Average / Normal Water Year	Single Dry Water Year	Year 1	Year 2	Year 3	Year 4
31,557	31,557	31,557	31,557	31,557	31,557
% of Normal	100	100	100	100	100

[a]Supply reliability included in table includes both surface and groundwater sources.

Table 3-10. Basis of Water Year Data (DWR Table 9)

Water Year Type	Base Year(s)
Average Water Year	N/A
Single Dry Water Year	N/A
Multiple Dry Water Years	N/A

Table 3-11. Description of Factors Resulting in Inconsistency of Supply (DWR Table 10)

Name of supply	Legal	Environmental	Water Quality	Climatic
Groundwater	None	None	High TDS levels could compromise supply	None
Surface Water	None	Catastrophic levee breach could compromise surface water supply	None	None

3.7.1 Wholesaler (Agency) Water Supply Projections

Tables 3-12, 3-13, and 3-14 are presented below but listed as "N/A" because Brentwood does not have a wholesale agency. As mentioned previously, Brentwood's water supply rights were purchased from ECCID, and the water is treated by CCWD. The CCWD currently treats 6 mgd for the City. The City of Brentwood owns first right of refusal to 6 mgd of capacity in the Randall-Bold WTP. The supply is through pre-1914 water rights, and is not expected to be affected in drought years. In 2008 the CCWD will complete the first phase of the new WTP, and will have a capacity of 12 mgd, in addition to the 6 mgd they are currently utilizing.

Table 3-12. Wholesaler Identified & Quantified the Existing and Planned Sources of Water-AFY (DWR Table 20)

Treated Water Source	2010	2015	2020	2025
N/A	N/A	N/A	N/A	N/A

Table 3-13. Wholesale Supply Reliability - % of Normal AFY, 2025 (DWR Table 21)

		Multiple Dry Water Years			
Treated Water Source	Single Dry	Year 1	Year 2	Year 3	Year 4
N/A	N/A	N/A	N/A	N/A	N/A
% of Normal	N/A	N/A	N/A	N/A	N/A

Table 3-14. Factors Resulting in Inconsistency of Wholesaler's Supply (DWR Table 22)

Name of supply	Legal	Environment	Water Quality	Climatic
N/A	None	None	None	None

3.8 Water Quality

The City receives its water supply from groundwater and surface water sources. Groundwater is treated at the wellhead prior to delivery to the drinking water distribution system. Surface water is treated at the Randall-Bold Water Treatment Plant (WTP) in Oakley and at the City of Brentwood water treatment plant.

3.8.1 Water Quality of Existing Water Supply Sources

Groundwater Quality. The groundwater quality constituents and respective issues for the City system wells can be differentiated into normally occurring constituents and man-made constituents. Historical monitoring of water from the wells has indicated some shallow groundwater impact by man-made constituents, including nitrates, chloride and total dissolved solids (TDS). Natural-occurring constituents, however, have required the system to take steps to minimize their taste and odor effects prior to the water being delivered to system customers.

Surface Water Quality. The surface water supply for the Randall-Bold WTP is supplied from the Delta and transported to the Randall-Bold WTP via the Contra Costa Canal. The Canal is operated by the CCWD and is supplied by Sacramento-San Joaquin Delta water through three intake locations. The intakes draw water from Rock Slough near Oakley, Old River near Discovery Bay, and Mallard Slough in Concord. Water can also be stored in the off-stream Los Vaqueros Reservoir from the Old River intake. Los Vaqueros Reservoir also gathers some surface runoff from its catchment.

Water quality fluctuates throughout the year and from year to year for each of the four surface water sources supplying the CCWD Canal. The variation in water quality of the canal water is partially compensated by selecting or changing the flow rates of the various intake sources. Still, the variations in raw water quality at the Randall-Bold WTP require regular attention by the treatment operators.

The Randall-Bold WTP has the ability to treat changing raw water quality on a consistent basis. The existing facilities can respond to changes in raw water turbidity or other quality changes. All current drinking water standards are being met for the treated surface water supply from the Randall-Bold WTP.

Table 3-15. Current & Projected Water Supply Changes Due to Water Quality – Percentage (DWR Table 39)

Water Source	2005	2010	2015	2020	2025
Contra Costa Water District	0	0	0	0	0
Groundwater	0	-10	-10	-10	-10
Recycled water	0	0	0	0	0

3.9 Water Shortage Contingency Plan

This section outlines the estimated three-year minimum water supply, the actions and stages described in the Draft Ordinance that will be implemented in the event of a water supply shortage, and the emergency preparedness and plans for catastrophic events.

3.9.1 Estimate of Minimum Water Supply for Next Three Years

Table 3-16 summarizes the minimum water supply that the City of Brentwood can expect over the next three years in comparison to a normal year. In the third year, the City of Brentwood new WTP will be completed, and the water supply will grow to 20,162 AF-year.

Table 3-16. Three-Year Estimated Minimum Water Supply - AF Year (DWR Table 24)

Source	Normal	Year 1	Year 2	Year 3
Supplier (Brentwood) surface diversions	6,720	6,720	6,720	20,162
Groundwater wells	7,662	7,662	7,662	7,662
Recycled water	323	323	323	323
Total	14,705	14,705	14,705	28,147

3.9.2 Stages of Actions

This section describes the stages of action to be undertaken in response to water supply shortages. Included is an outline of specific water supply conditions that are applicable to each stage. Per California Water Code Section 10632 (a), the City has developed four stages of action to be undertaken in response to water supply shortages, including up to a 50 percent reduction in water supply and an outline of specific water supply conditions which are applicable to each stage.

Four stages of action to be taken during a water supply shortage have been developed. The stages will be implemented during water supply shortages according to shortage level, ranging from 5 percent shortage in Stage I to 50 percent shortage in Stage IV. The stage determination and declaration during a water supply shortage will be made by the Public Works Director. Table 3-17 describes the water supply shortage levels and stages.

Table 3-17. Water Supply Shortage Stages and Conditions (DWR Table 23)

Stage No.	Water Supply Conditions	% Shortage
I	Minor drought	5-10
II	Moderate drought	10-20
III	Severe drought	20-35
IV	Critical drought	35-50

Table 3-18. Consumption Reduction Methods (DWR Table 27)

Consumption Reduction Methods	Stage When Method Takes Effect	Projected Reduction (%)
Demand reduction program	All	10-50
Reduce pressure in water lines		
Flow restriction	III,IV	35-50
Restrict building permits		
Restrict for only priority uses	II,III,IV	20-50
Use prohibitions	II,III,IV	
Water shortage pricing		
Per capita allotment by customer type	III,IV	35-50
Plumbing fixture replacement	All Stages	10-50
Voluntary rationing	II	20
Mandatory rationing	III,IV	35-50
Incentives to reduce water consumption		
Excess use penalty	III,IV	35-50
Water conservation kits	All Stages	10-50
Education program	All Stages	10-50
Percentage reduction by customer type	III,IV	35-50

During Stage I, water alert conditions are declared and voluntary conservation is encouraged. The City maintains an ongoing public information campaign consisting of distribution of literature, speaking engagements, bill inserts, and conservation messages printed in local newspapers and on the City's internet web page. The drought situation is explained to public and governmental bodies. The City explains other stages and forecasts future actions. Also, the City requests voluntary water conservation. Educational programs in area schools are ongoing.

During Stage II of a water supply shortage, the shortage is moderate (10 to 20 percent) and conservation may be voluntary, consist of allotments, and/or include mandatory conservation rules. The severity of actions depends upon the percent shortage. The City aggressively continues its public information and education programs. The City asks for 10 to 20 percent voluntary or mandatory water use reductions. If necessary, the City also supports passage of drought ordinances.

During Stage III of a water supply shortage, the shortage is severe (20 to 35 percent) and conservation consists of allotments and mandatory conservation rules. This phase becomes effective upon notification by the City that water usage is to be reduced by a mandatory percentage. The City adopts drought ordinances and implements mandatory reductions. Rate changes are implemented to penalize excess usage.

Water use restriction is put into effect (i.e., prohibited uses can include restrictions on daytime hours for watering, excessive watering resulting in gutter flooding, using hoses without a shutoff device, non-recycling fountains, washing down sidewalks or patios, unrepaired leaks, etc). The City monitors production weekly for compliance with necessary reductions. As a result of a customer consistently abusing use, the City would install a flow restrictor at the water meter.

During Stage IV of a water supply shortage, the shortage is critical (35 to 50 percent). Conservation consists of allotments and mandatory conservation rules. All steps taken in prior stages are intensified and production is monitored daily for compliance with necessary reductions.

3.9.3 Prohibitions, Penalties, and Consumption Reduction Methods

California Water Code Section 10632 (d) requires mandatory prohibitions against specific water use practices that may be considered excessive during water shortages. Since 1992, the City has adopted Municipal Code 17.630, which addresses landscaping and irrigation for new construction of homes, commercial, and industrial facilities. This ordinance is included in Appendix F. It requires 90 percent of the plants selected in non-turf areas to be well suited to the climate of Brentwood and require minimal water once established. Up to 10 percent of the plants may be of a non-drought-tolerant nature but must be grouped together and irrigated separately from the drought-tolerant plants. Turf is not allowed on City median strips in areas less than 8 feet wide and on slopes greater than 4:1. Soil conditioning, irrigation systems, and sprinkler heads are all addressed in this ordinance. The landscaping shall be inspected and must be issued a certificate of substantial completion that is submitted to the City. This municipal code is a proactive means of reducing the water demand in the City.

Should drought conditions warrant mandatory reductions during Stage II of a water supply shortage, the City may adopt and implement an ordinance for mandatory conservation and water restriction plan. This ordinance may require additional tariffs for the City to enforce the plan.

The ordinance may address prohibitions on various wasteful water uses, including but not limited to the hose washing of sidewalks and driveways using potable water, cleaning or filling decorative fountains, and allowing plumbing leaks to go uncorrected for more than 72 hours. Table 3-19 identifies potential prohibitions and the stages during which the prohibition would be voluntary and mandatory.

Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply. California Water Code Section 10632 (e) requires the water supplier to provide consumption reduction methods in the most restrictive stages of a water shortage. The City will use the consumption reduction methods proposed in Table 3-18.

Section 10632 (f) of the California Water Code requires a water supplier to penalize or charge for excessive water use, where applicable. The City, after one written warning, shall install a flow-restricting device on the service line of any customer observed by City personnel to be using water for any non-essential or unauthorized use defined in a City ordinance.

An excess use penalty per 100 cubic feet of water used in excess of the applicable allocation during each billing period shall be charged by the City for all service rendered on and after the effective date of an ordinance. Repeated violations of unauthorized water use will result in discontinuance of water service. Penalties and charges and the stage during which they take effect are displayed in Table 3-20.

Table 3-19. Mandatory Prohibitions (DWR Table 26)

Examples of Prohibitions	Stage when Prohibition becomes mandatory
Cleaning of sidewalks/streets/walkways/parking areas/patios/porches or veranda	
Washing cars	II,III,IV
Watering lawns/landscapes	II,III,IV
Non-permanent agriculture	II,III,IV
Uncorrected plumbing leaks	II,III,IV
Gutter flooding	
Cleaning/filling/operating maintaining levels in non-recycling decorative fountains	II,III,IV

Table 3-20. Penalties and Charges (DWR Table 28)

Penalties or Charges	Stage When Penalty Takes Effect
Penalties for not reducing consumption	III,IV
Charges for excess use	III,IV
Flat Fine	
Charge per unit over allotment	III,IV
Flow restriction	III,IV
Termination of service	III,IV

3.9.4 Mechanisms for Determining Actual Reductions

California Water Code Section 10632 (i) requires the water supplier to develop a mechanism for determining actual reductions in water use in the course of carrying out the urban water supply shortage contingency analysis.

Under normal water supply conditions, water production figures are recorded daily within and monitored by the Water Production Supervisor during normal water supply conditions. Totals are reported monthly and are incorporated into water supply reports.

The City maintains extensive water use records on individual customer accounts. Exceptionally high usage is identified at meter reading time by the City's electronic meter reading management system. These accounts are investigated for potential water loss or abuse problems.

During all stages of water shortages, daily production figures are reported to and monitored by the Water Production Supervisor daily.

Table 3-21. Water Use Monitoring Mechanisms (DWR Table 31)

Mechanisms for determining actual reductions	Type data expected
Electric meter read	More accurate water usage

3.9.5 Revenue and Expenditure Impacts During Shortages

Section 10632 (g) of the California Water Code requires an analysis of the impacts of each of the actions taken for conservation and water restriction on the revenues and expenditures of the water supplier. The City will establish memorandum accounts to track expenses and revenue shortfalls caused by both mandatory rationing and voluntary conservation efforts. The City will implement a surcharge to recover revenue shortfalls recorded in their drought memorandum accounts.

Tables 3-22 and 3-23 display the components of revenue and expenditure impacts and summarize if the various components were discussed. Every two years the City reviews its revenue and expenditures for water and adjusts the rates.

Table 3-22. Proposed Measures to Overcome Revenue Impacts (DWR Table 29)

Names of measures	Check if Discussed
Review of rate adjustments	X
Development of reserves	X
Change in quantity of sales	X
Impact on Customer's bill	X
Distribution of customer impacts between customer types	X
Impacts to water supplier of higher rates and penalties	X
Cost recovery reviews	X

Table 3-23. Proposed Measures to Overcome Expenditure Impacts (DWR Table 30)

Names of measures	Check if Discussed
Change in quantity of sales	X
Cost recovery reviews	X
Increased staff salaries/overtime	X
Increased costs of new supplies, transfers or exchanges	X
Distribution of customer impacts between customer types	X
Impacts to water supplier of higher rates and penalties	X

3.9.6 Catastrophic Supply Interruption Plan

The Water Code Section 10632 (c) requires actions to be undertaken by the water supplier to prepare for and implement during a catastrophic interruption of water supplies. The City has a Water Quality Emergency Notification Plan in place that coordinates overall response to a disaster.

A catastrophic event that constitutes a proclamation of a water shortage would be any event, either natural or manmade, that causes a severe shortage of water, synonymous with severity equal to or greater than the Stage III or Stage IV water supply shortage conditions. Facilities are inspected annually for earthquake safety. Auxiliary generators and improvements to the water storage facilities to prevent loss of these facilities during an earthquake or any disaster causing an electric power outage have been budgeted for and installed as part of the annual construction process.

Table 3-24 is a summary of items discussed regarding the preparation actions for a catastrophe.

Table 3-24. Preparation Actions for a Catastrophe (DWR Table 25)

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

SECTION 4.0

RECYCLED WATER

4.1 Wastewater Generation

Municipal wastewater is generated in the service area from a combination of residential and commercial sources. The quantities of wastewater generated are proportional to the population and the water use in the service area. At this time, Sunset Park is the City of Brentwood's only recycled water customer. As shown in Table 4-1, there are no other agencies currently purchasing recycled water from the City.

Table 4-1. Participating agencies (DWR Table 32)

	Participated
Water agencies	N/A
Wastewater agencies	N/A
Groundwater agencies	N/A
Planning agencies	N/A
Other agencies	N/A

4.2 Wastewater Collection

The City of Brentwood (City) uses the Brentwood Wastewater Treatment Plant (WWTP) for the treatment and disposal or reuse of the wastewater generated in the City service area. The wastewater is collected by gravity in a series of main, trunk, and interceptors. Collected wastewater is transported to the WWTP. The WWTP currently receives and treats approximately 3.35 million gallons per day (mgd) of dry weather flow on average. The current capacity of the plant to treat dry weather flows is approximately 4.5 mgd.

Table 4-2. Wastewater Collection and Treatment – AF Year (DWR Table 33)

Type of Wastewater	2000	2005	2010	2015	2020	2025
Wastewater collected & treated in service area	2,352	3,887	4,458	5,298	6,284	7,471
Volume that meets recycled water standards	0	1,941	2,229	2,649	3,142	3,736

The WWTP produces a tertiary effluent that is disinfected with liquid sodium hypochlorite and the post-disinfection dechlorination process uses liquid bisulfite. The effluent is then either pumped throughout the plant as process water or offsite as recycled water for surface irrigation of landscaping. The remaining treated effluent is discharged into Marsh Creek via a cascade aeration process that increases the dissolved oxygen level before entering the creek.

Table 4-3. Disposal of Wastewater (non-recycled) – AF Year (DWR Table 34)

Method of disposal	Treatment level	2005	2010	2015	2020	2025
Retention Ponds	Secondary	560	560	560	560	560
Marsh Creek	Tertiary	2,869	1,668	2,092	2,582	3,178
Total		3,429	2,228	2,652	3,142	3,738

4.3 Current and Projected Recycled Water Use

The City has developed some preliminary planning documents to identify uses for reclaimed wastewater at both existing and future sites. The City's recycled water distribution system is shown in Figure 4-1. The reclaimed wastewater will be used for irrigation of parks, golf courses, and other landscape amenities. The City has already constructed a portion of the distribution system for the reclaimed water and will continue to expand the system as the City grows. The City estimates that 50 percent of the reclaimed water produced by the WWTP is available for recycled water supply.

Existing landscape that has the potential to be serviced by reclaimed water includes about 288 acres of city parks and two existing golf courses. A third golf course is almost complete, and a fourth is in the planning stages. The existing and planned golf courses comprise 802 acres. Sunset Park, which has approximately 30 acres of soccer and baseball fields currently uses 0.29 mgd of recycled water for irrigation. Another potential use of reclaimed water is a proposed concrete batch plant of 5 acres in size. The evapotranspiration data indicate that 4.7 feet of water per acre is required in the City's area. Therefore, the parks and golf courses will require about 5,260 acre-feet of reclaimed water per year at build-out. The current demand for landscape irrigation is estimated at approximately 2,500 acre-feet per year. The existing distribution lines can service the existing golf courses and one existing park. This demand is estimated at 1,390 acre-feet. The existing distribution lines can also service the two future golf courses and two proposed parks.

Table 4-4. Recycled Water Uses– Actual and Potential (AFY) (DWR Table 35)

User type	Treatment Level	2005	2010	2015	2020	2025
Agriculture		0	25	50	75	100
Landscape		323	800	1300	1800	2300
Wildlife Habitat		0	5	10	15	20
Wetlands		0	0	0	0	0
Industrial		0	25	50	75	100
	Total	323	855	1410	1965	2520

Table 4-5. Projected Future Use of Recycled Water in Service Area – AF Year (DWR Table 36)

	2010	2015	2020	2025
Projected use of Recycled Water	855	1410	1965	2520

Table 4-6. Recycled Water Use – 2000 Projection Compared with 2005 Actual – AFY (DWR Table 37)

User type	2000 Projection for 2005	2005 Actual use
Agriculture	Not Available	0
Landscape	Not Available	323
Wildlife Habitat	Not Available	0
Wetlands	Not Available	0
Industrial	Not Available	0
Groundwater Recharge	Not Available	0
Total		323

4.4 Optimization Plan with Incentives

The City of Brentwood currently offers potable water at $2.38 per 1,000 gallons. This rate is more than double the recycled water which is $1.11 per 1,000 gallons. The City anticipates the cost of recycled water to remain proportionally lower than the cost of potable water in the future. Another method of optimizing the use of recycled water is by banning the use of potable water for dust control and earth compaction by local contractors.

In the future, the City hopes to increase its number of large volume customers. This includes golf courses, irrigation of roadways, and City parks. The time it takes City staff to supervise a small customer is about the same as supervising a large one.

Table 4-7. Methods to Encourage Recycled Water Use (DWR Table 38)

Actions	2010	2015	2020	2025
Financial incentives	Availability and Decreased Rate	Availability and Decreased Rate	Availability and Decreased Rate	Availability and Decreased Rate
Total	0	0	0	0

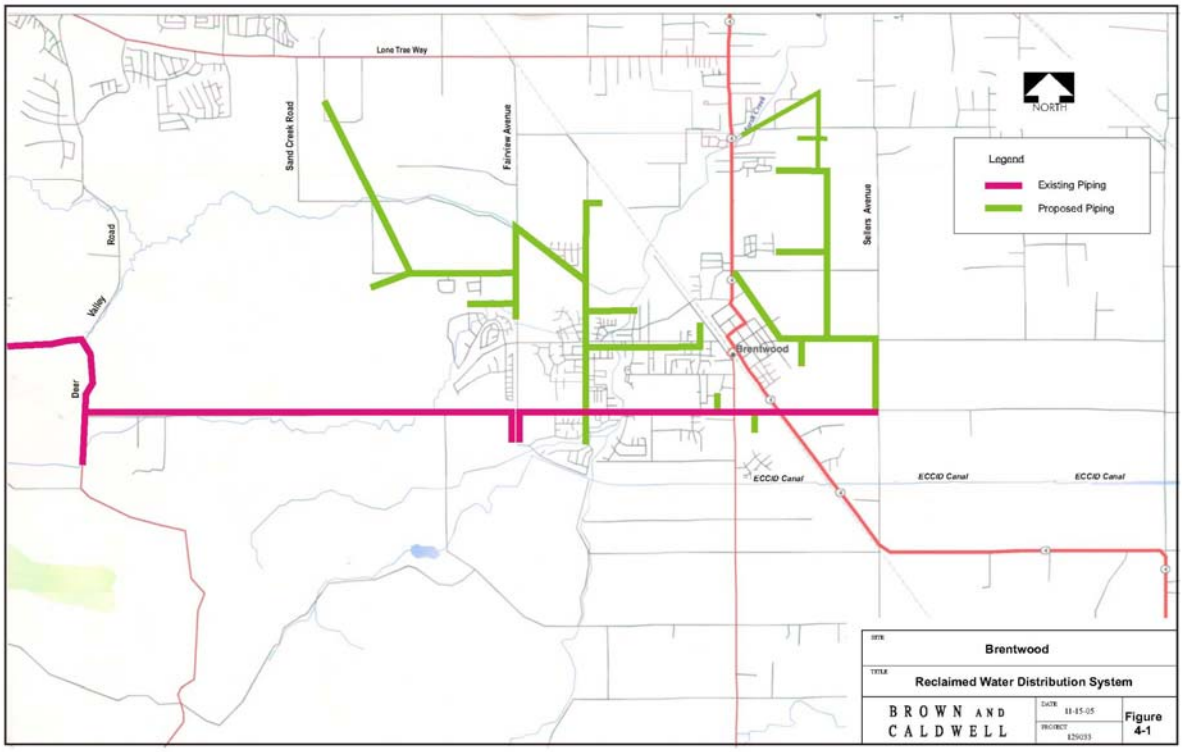

Figure 4-1. Brentwood Reclamation Water Distribution System

SECTION 5.0

HISTORICAL AND PROJECTED WATER USE

Water demand projections provide the basis for sizing and staging future water facilities. Water use and production records, combined with projections of population, employment, and urban development, provide the basis for estimating future water requirements. This chapter presents an analysis of available demographic and water use data, customer connections, historical groundwater and surface water production, unit water use, and the resulting projections for future water needs for the City.

5.1 Population, Employment, and Housing

Population, housing, and employment data developed by the Association of Bay Area Governments (ABAG) and available U.S. Census data were used to develop estimates of future City water use for this report. These were not used for the Master Plan Update currently being prepared. The water service area encompasses the City sphere of influence rather than the jurisdictional boundary, as defined in the ABAG Projections 2005 publication; therefore, sphere of influence projections were used.

On November 28, 2000, the City annexed approximately an additional 1,133 acres. The areas of annexation are shown on Figure 5-1. The Central Annexation encompasses approximately 910 acres of inhabited land and fills in the area from Central Boulevard on the south to Neroly Road on the north. The other two annexations are the Stolich/Brown and Bonnickson/Tambellini properties located along the eastern side of the City. These two annexation areas are uninhabited and encompass about 223 acres. These annexations are consistent with the 1993 General Plan and the update. The annexation will enable the connection of several major arterial streets throughout the City.

ABAG population projections use the California State Department of Finance's Demographic Research Unit (DRU) data as control totals for each jurisdiction. The ABAG population projections are driven by economic and demographic mathematical models and constrained by examining local governments' plans, policies, and regulations affecting land development. ABAG housing projections are based on 1990 and 2000 U.S. Census data. By assuming a certain housing unit vacancy factor, the ABAG projections can be converted into the number of new housing units that can be expected to be constructed during the period. Projections are made considering historical and present trends, taking into account available vacant land, redevelopment activities and current land use policies and plans.

According to the 2005 U.S. Census, it is estimated that the current population within the jurisdictional boundary of the City is approximately 44,300 people. Within the City sphere of influence and the area served by the City's water system, the current population is about 45,700. This population is anticipated to reach 62,100 by 2025. A summary of the historic and projected population within the area served by the City water system, based on ABAG data, is presented in

Table 5-1. A large increase in the number of employees working in the areas served by the city water system is expected over the next 20 years.

Table 5-1. Population - Current and Projected (DWR Table 2)

	2005	2010	2015	2020	2025
Service Area Population	44,300	51,700	55,600	59,000	62,100

In summary, according to ABAG the City population increased 42 percent from 1990 to 1995, which is a growth rate of approximately 7.2 percent per year. From 1995 to 2000, the City population increased 78 percent, which is a growth rate of approximately 12 percent per year. From 2000 to 2005, the city population increased 90 percent. By 2025, population served by Brentwood (inside the City's sphere of influence) is expected to increase by 40 percent, from 44,300 in 2005 to 62,100 in 2025. The projected growth rate would then average 2.0 percent per year.

The City's June 2001 General Plan assumes there will be approximately 25,229 dwelling units at buildout. Assuming 3.1 persons per household, this equates to a population of about 78,210 persons at buildout. For this Urban Water Management Plan, we assume buildout will occur at the year 2040. This Urban Water Management Plan only addresses water supply and demand through the year 2025.

5.2 Historical Water Use

Records of historical water production obtained from the City serve as the basis for developing unit water demands and peaking ratios for the City's system. These data include maximum day and annual water production. Water production is the volume of water measured at the source, which includes all water delivered to residential, commercial, and public authority connections, as well as unaccounted-for water.

5.2.1 Annual Water Production and Average Daily Demand

Currently, the City system produces 53 percent of its water demand from groundwater wells. The City's surface water is treated at the Randall-Bold WTP, which is operated by Contra Costa Water District (CCWD). Total water production in 2004 was 9,043 acre-feet (ac-ft).

5.2.2 Maximum Day Demand

Daily demand fluctuates throughout the year based primarily on seasonal climate changes. More water is used in the summer than the winter. System production facilities must be sized to meet the demand on the maximum day of the year, not just the average. The ratio between average and maximum day demands provides a maximum day peaking factor that can be used to scale future demand projections to maximum day levels. For this report, a maximum day peaking factor of 2.1 is used[1].

[1] CDM, Water Master Plan, March 23, 2004, page 5

Table 5-2. Past, Current and Projected Water Deliveries (MG) (DWR Table 12)

Year		Water Use Sector	Single family	Multi-family	Commercial	Industrial[a]	Institutional/gov	Landscape[b] / Hydrant	Agriculture	Total
2002	metered	Deliveries MG/Y	1,348	61	157	0	117	N/A	N/A	1,683
		# of accounts	11,412	33	366	0	127	N/A	N/A	11,938
2004	metered	Deliveries MG/Y	2,072	77	310	0	283	7	N/A	2,749
		# of accounts	14,866	37	472	0	177	8	N/A	15,560
2010	metered	Deliveries MG/Y	2,431	90	364	0	332	8	N/A	3,225
		# of accounts	17,444	43	554	0	208	8	N/A	18,257
2015	metered	Deliveries MG/Y	2,619	97	392	0	358	9	N/A	3,475
		# of accounts	18,792	47	597	0	224	9	N/A	19,669
2020	metered	Deliveries MG/Y	2,780	103	416	0	380	9	N/A	3,688
		# of accounts	19,947	50	633	0	238	9	N/A	20,877
2025	metered	Deliveries MG/Y	2,921	108	437	0	399	10	N/A	3,875
		# of accounts	20,964	53	666	0	250	10	N/A	21,943

[a]Industrial water use is included in the commercial connections
[b]Landscape water use is included with Institutional/government use

5.2.3 Unit Water Use Factors

Unit water use factors are developed to estimate future water needs based on the housing and employment projections discussed previously. Two main categories of water users are employed to estimate future water needs, residential and nonresidential. Residential future water needs are determined using the projections for single family and multi-family dwelling units within the City, coupled with a unit water use factor per dwelling unit type. Nonresidential future water needs are determined using the projections for employment within the City, coupled with a unit water use factor per employee. Studies show there is a good correlation between nonresidential water use and number of employees (California Urban Water Agencies, 1992).

Unit water use factors were developed by the City in their Water Master Plan Update to estimate future water needs. The City analyzed water consumption by lot size. In general, there is a tendency for water use to increase with larger lot size. The Master Plan Update estimates water consumption per dwelling unit at 600 gallons per dwelling unit per day. The average water consumption from 2001 to 2003 is estimated at 192 gallons per person per day. The Master Plan Update predicts that average water consumption will increase to 260 gallons per person per day. For this report, this increase is assumed to happen by 2025. For all nonresidential water uses in the City, the current water consumption is estimated at 800 to 1,500 gallons per acre per day.

5.2.4 Water Sales to Other Agencies

Table 5-3. Sales to Other Agencies - AF Year (DWR Table 13)

Water Distributed	2000	2005	2010	2015	2020	2025	
N/A	0	0	0	0	0	0	
Total							

Water use varies continuously throughout a given day, as well as seasonally. Water use during a typical summer day is approximately four times that of a winter day. Maximum demands for water normally occur in June, July, August, and September. Increased landscape irrigation during the hot, dry weather is largely responsible for these higher demands. The ratio between the highest daily water use and the annual average water use is defined as the maximum day peaking factor.

5.2.5 Unaccounted-for Water and Additional Water Use

Unaccounted-for water use is unmetered water use including water used for fire protection and training, system and street flushing, sewer cleaning, construction, system leaks, and unauthorized connections. Unaccounted-for water can also result from meter inaccuracies. Unaccounted-for water is assumed for this study to be approximately 5 percent of total water production.

Table 5-4. Additional Water Uses and Losses - AF Year (DWR Table 14)

Water Use	2000	2005	2010	2015	2020	2025
Saline barriers	0	0	0	0	0	0
Groundwater recharge	0	0	0	0	0	0
Conjunctive use	0	0	0	0	0	0
raw water	0	0	0	0	0	0
recycled	0	0	0	0	0	0
other (define)	0	0	0	0	0	0
Unaccounted-for system losses	300	700	750	800	850	900
Total	300	700	750	800	850	900

5.2.6 Total Water Use

Past, present, and future water use for the system, which is the sums of the totals from Tables 5-2, 5-3, and 5-4 is provided in Table 5-5.

Table 5-5. Total Water Use - AF Year (DWR Table 15)

Water Use	2000	2005	2010	2015	2020	2025
Total of Tables 5-2, 5-3, 5-4	4,865	8,059	11,344	12,510	13,610	14,724

5.3 Water Demand Summary

Water demands through the year 2025 were estimated based on the unit water use factors (see Table 5-6 and the population projections (see Table 5-1). Unit water use factors are assumed to increase linearly with time from current values to predicted 2030 values. Water demand projections are shown in Table 5-7. Between 2005 and 2025, water demands are expected to increase by 225 percent, from 8.5 mgd (9,481 ac-ft/yr) in 2005 to 19.1 mgd (21,419 ac-ft/yr) in 2025. Impacts to water use due to any conservation measures taken in the future are not reflected in the projected water demands.

Table 5-6. Average Unit Water Use Factors

Classification	Unit water use factor
Residential:	600 gpd[a]/household
Nonresidential:	800 - 1,500 gpd[a] /acre
Population (in 2003):	181 gpd[a] / person
Population (in 2030):	309 gpd[a] / person

[a] Gallons per day

Note: Includes unaccounted-for water

Table 5-7. Total Projected Water Demands

Year	Annual average		Maximum day, mgd
	ac-ft/yr	mgd	
2005	9,481	8.5	17.8
2010	12,958	11.6	24.3
2015	15,475	13.8	29.1
2020	18,032	16.1	33.9
2025	21,419	19.1	39.9

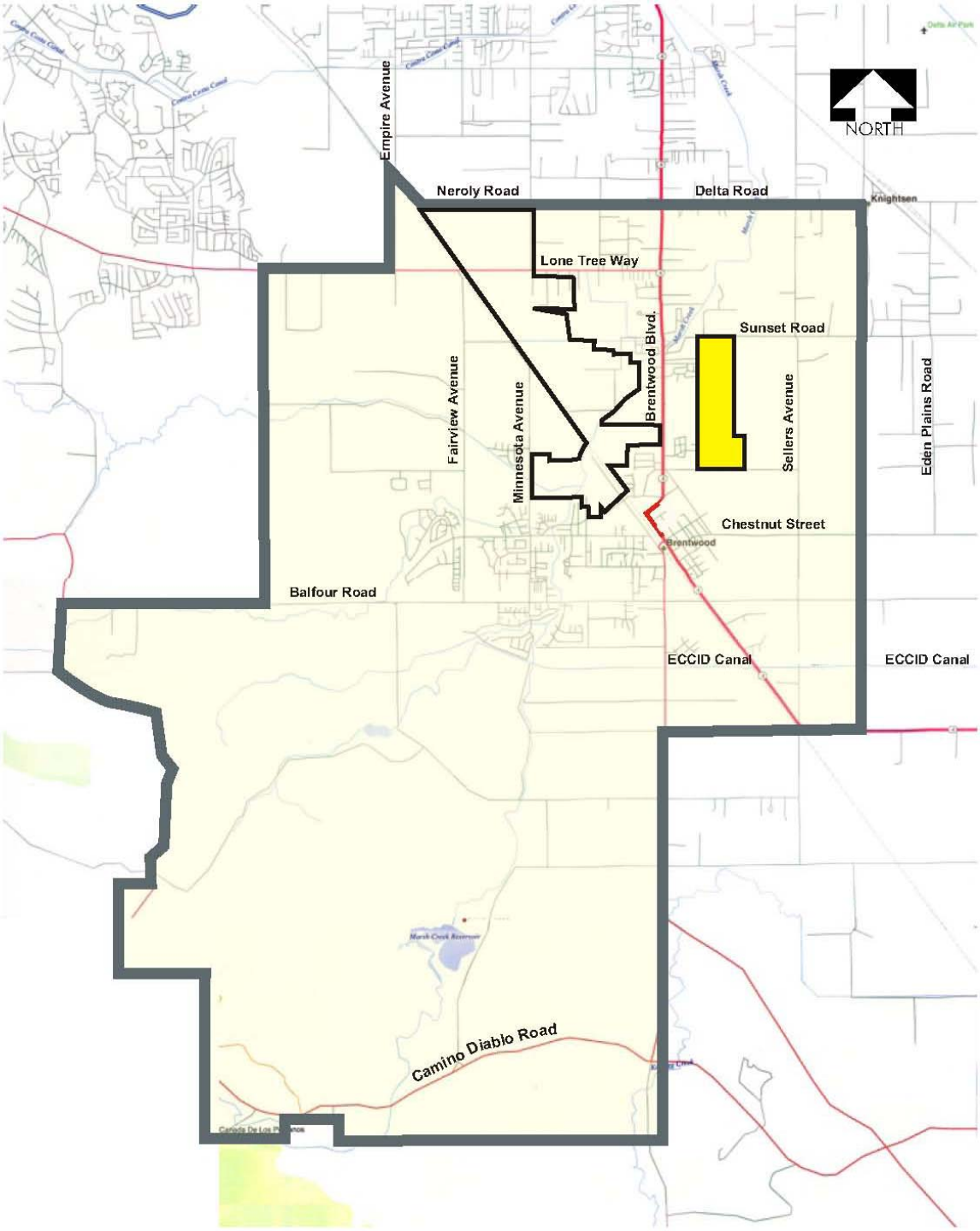

Figure 5-1 Areas of Annexation

SECTION 6.0

WATER SUPPLY VERSUS DEMAND COMPARISON

6.1 Current and Projected Water Supplies vs. Demand

Tables 6-1 and 6-2 summarize the projected normal water supply and projected normal water demand. As shown in the two tables, the supply is adequate to meet the projected demands during normal climate years.

Table 6-1. Projected Normal Water Supply - AF Year (DWR Table 40)

(from DWR Table 4)	2010	2015	2020	2025
Supply	30,054	30,470	30,966	31,557
% of year 2005	243	246	250	255

Table 6-2. Projected Normal Water Demand - AF Year (DWR Table 41)

(from DWR Table 15)	2010	2015	2020	2025
Demand[1][2]	11,344	12,510	13,610	14,724
% of year 2005	141	155	169	183

Table 6-3. Projected Supply and Demand Comparison - AF Year (DWR Table 42)

	2010	2015	2020	2025
Supply totals	30,054	30,470	30,966	31,557
Demand totals	11,344	12,510	13,610	14,724
Difference	18,710	17,960	17,356	16,833
Difference as % of Supply	62	59	56	53
Difference as % of Demand	165	144	128	114

6.2 Single and Multiple Dry Water Years

Tables 6-4 through 6-18 summarize the projected water supply and demand for normal, single dry, and multiple dry water years based on the knowledge that Brentwood has pre-1914 water rights. Table 6-17 shows that the City will have an adequate water supply during multiple dry water years through the year 2025 assuming no concurrent demand reduction. The demands recognize that the City's water demand associated with growth will continue to occur during multiple dry years.

[1]ABAG Projections, 2005.
[2] CDM Water Master Plan, March 23, 2004, page 5.

Table 6-4. Projected Single Dry Year Water Supply - AF Year (DWR Table 43)

	2010	2015	2020	2025
Supply	30,054	30,470	30,966	31,557
% of projected normal	100	100	100	100

Table 6-5. Projected Single Dry Year Water Demand - AF Year (DWR Table 44)

	2010	2015	2020	2025
Demand	11,344	12,510	13,610	14,724
% of projected normal	100	100	100	100

Table 6-6. Projected Single Dry Year Supply and Demand Comparison - AF Year (DWR Table 45)

	2010	2015	2020	2025
Supply totals	30,054	30,470	30,966	31,557
Demand totals	11,344	12,510	13,610	14,724
Difference	18,710	17,960	17,356	16,833
Difference as % of Supply	62	59	56	53
Difference as % of Demand	165	144	128	114

Table 6-7. Projected Supply During Multiple Dry Year Period Ending in 2010 - AF Year (DWR Table 46)

	2006	2007	2008	2009	2010
Supply	12,393	12,393	30,054	30,054	30,054
% of projected normal	100	100	100	100	100

Table 6-8. Projected Demand Multiple Dry Year Period Ending in 2010 - AFY (DWR Table 47)

	2006	2007	2008	2009	2010
Demand	8,716	9,373	10,030	10,687	11,344
% of projected normal	100%	100%	100%	100%	100%

Table 6-9. Projected Supply and Demand Comparison During Multiple Dry Year Period Ending in 2010- AF Year (DWR Table 48)

	2006	2007	2008	2009	2010
Supply totals	12,393	12,393	30,054	30,054	30,054
Demand totals	8,716	9,373	10,030	10,687	11,344
Difference	3,677	3,020	20,024	19,367	18,710
Difference as % of Supply	30	24	67	64	62
Difference as % of Demand	42	32	200	181	165

Table 6-10. Projected Supply During Multiple Dry Year Period Ending in 2015 - AF Year (DWR Table 49)

	2011	2012	2013	2014	2015
Supply	30,137	30,220	30,304	30,387	30,470
% of projected normal	100	100	100	100	100

Table 6-11. Projected Demand Multiple Dry Year Period Ending in 2015 - AFY (DWR Table 50)

	2011	2012	2013	2014	2015
Demand	11,577	11,810	12,044	12,277	12,510
% of projected normal	100%	100%	100%	100%	100%

Table 6-12. Projected Supply and Demand Comparison During Multiple Dry Year Period Ending in 2015- AF Year (DWR Table 51)

	2011	2012	2013	2014	2015
Supply totals	30,137	30,220	30,304	30,387	30,470
Demand totals	11,577	11,810	12,044	12,277	12,510
Difference	18,560	18,410	18,260	18,110	17,960
Difference as % of Supply	62	61	60	60	59
Difference as % of Demand	160	156	152	148	144

Table 6-13. Projected Supply During Multiple Dry Year Period Ending in 2020 - AF Year (DWR Table 52)

	2016	2017	2018	2019	2020
Supply	30,569	30,668	30,768	30,867	30,966
% of projected normal	100	100	100	100	100

Table 6-14. Projected Demand Multiple Dry Year Period Ending in 2020 - AFY (DWR Table 53)

	2016	2017	2018	2019	2020
Demand	12,730	12,950	13,170	13,390	13,610
% of projected normal	100	100	100	100	100

Table 6-15. Projected Supply and Demand Comparison During Multiple Dry Year Period Ending in 2020- AF Year (DWR Table 54)

	2016	2017	2018	2019	2020
Supply totals	30,569	30,668	30,768	30,867	30,966
Demand totals	12,730	12,950	13,170	13,390	13,610
Difference	17,839	17,718	17,598	17,477	17,356
Difference as % of Supply	58	58	57	57	56
Difference as % of Demand	140	137	134	131	128

Table 6-16. Projected Supply During Multiple Dry Year Period Ending in 2025 - AF Year (DWR Table 55)

	2021	2022	2023	2024	2025
Supply	31,084	31,202	31,321	31,439	31,557
% of projected normal	100	100	100	100	100

Table 6-17. Projected Demand Multiple Dry Year Period Ending in 2025 - AFY (DWR Table 56)

	2021	2022	2023	2024	2025
Demand	13,833	14,056	14,278	14,501	14,724
% of projected normal	100	100	100	100	100

Table 6-18. Projected Supply and Demand Comparison During Multiple Dry Year Period Ending in 2025- AF Year (DWR Table 57)

	2021	2022	2023	2024	2025
Supply totals	31,084	31,202	31,321	31,439	31,557
Demand totals	13,833	14,056	14,278	14,501	14,724
Difference	17,251	17,146	17,043	16,938	16,833
Difference as % of Supply	55	55	54	54	53
Difference as % of Demand	125	122	119	117	114

6.3 Water Service Reliability and Demand

Based on available and planned supplies, the City should have adequate supply to meet normal, single and multiple dry years. This conclusion assumes that the following measures will be taken:

- Groundwater supply remains at current levels. No additional wells are required to be drilled.
- In 2008, the CCWD and the City will add an additional WTP with a capacity of 16,162 acre-feet per year. This will be in addition to the Randall-Bold Water Treatment Plant, and existing groundwater supplies.
- Reclaimed water from the Brentwood WWTP will be a real source of water for landscaped irrigation of parks and golf courses.
- Demand of irrigation water for parks and golf courses will be at least 3,733 acre-feet by the year 2025.

SECTION 7.0

DEMAND MANAGEMENT PRACTICES

Water conservation is a method available to reduce water demands, thereby reducing water supply needs for the City. This chapter describes of the City's water conservation program including water conservation Demand Management Measures (DMMs).

7.1 California Urban Water Conservation Council

The unpredictable water supply and ever increasing demand on California's complex water resources have resulted in a coordinated effort by the State of California Department of Water Resources (DWR), water utilities, environmental organizations, and other interested groups to develop a list of urban DMMs for conserving water. This consensus-building effort resulted in a Memorandum of Understanding Regarding Urban Water Conservation in California, as amended September 16, 1999, among parties, which formalizes an agreement to implement these DMMs and makes a cooperative effort to reduce the consumption of California's water resources. The DMMs as defined by the MOU are presented in Table 7-1. The MOU is administered by the California Urban Water Conservation Council (CUWCC). Brentwood is currently an MOU signatory.

The MOU requires that a water utility implement only the DMMs that are economically feasible. If a DMM is not economically feasible, the utility may request an economic exemption for that DMM. The DMMs as defined in the MOU are generally recognized as standard definitions of water conservation measures.

Table 7-1. Water Conservation Demand Management Measures

No.	DMM Name
1.	Water survey programs for single-family residential and multi-family residential connections.
2.	Residential plumbing retrofit.
3.	System water audits, leak detection and repair.
4.	Metering with commodity rates for all new connections and retrofit of existing connections.
5.	Large landscape conservation programs and incentives.
6.	High-efficiency washing machine rebate programs.
7.	Public information programs.
8.	School education programs.
9.	Conservation programs for commercial, industrial, and institutional accounts.
10.	Wholesale agency assistance programs.
11.	Conservation pricing.
12.	Conservation coordinator.
13.	Water waste prohibition.
14.	Residential ULFT (ultra low flow toilets) replacement programs.

7.2 Current Water Conservation Program

The City conducts an ongoing water conservation program. A description of each DMM that is currently being implemented or scheduled for implementation, a schedule of implementation, and a method to evaluate effectiveness is provided in this section.

DMM 1. Water survey programs for single-family residential and multi-family residential connections.

Description: Water survey programs for single-family residential and multifamily residential connections consist of annual water audits, water use reviews, and surveys of past program participants. Audits will be conducted by trained auditors and may include low flow device installation. Audits will identify water-use problems, recommend repairs, instruction in landscape principles, irrigation timer use and, when appropriate, meter reading.

Schedule: The City will conduct such surveys annually and plans to start such surveys by the start of the next fiscal year, July 1, 2006, conducting about 370 surveys per year.

Evaluation of DMM Effectiveness: Effectiveness of this DMM will be evaluated by program penetration and by comparison of prior audited customer water use to future water use.

DMM 2. Residential plumbing retrofit.

Description: Plumbing retrofit of existing residential accounts consists of providing low flow showerheads, faucet aerators, and toilet leak detection tablets to customers. Since over 75 percent of construction in the City occurred after 1992, most plumbing fixtures are ultra low flow. Remodeling and equipment replacement will upgrade older installations. Therefore, the City currently does not plan to support plumbing retrofits.

Schedule: Not applicable.

Evaluation of DMM Effectiveness: Not applicable.

DMM 3. System water audits, leak detection and repair.

Description: A system water audit, leak detection and repair program consists of ongoing leak detection and repair within the system, focused on the high probability leak areas. This program will also include an ongoing meter calibration and replacement program for all production and distribution meters.

Schedule: the City will conduct this program annually, with a planned start within three years.

Evaluation of DMM Effectiveness: Effectiveness of this DMM will be evaluated by tracking leak detection and leak repair and comparison of prior water use to future water use.

DMM 4. Metering with commodity rates for all new connections and retrofit of existing connections.

Description: The City meters all served residential connections and non-residential connections. Water is sold on a commodity basis. Also see discussion under DMM 11 below.

Schedule: Already implemented.

Evaluation of DMM Effectiveness: Effectiveness of this DMM will be evaluated by comparison of prior water use to future water use.

DMM 5. Large landscape conservation programs and incentives.

Description: The large landscape conservation program will consist of identifying all irrigation accounts and commercial, industrial, and institutional accounts with landscape of one acre and larger, and recording this information into a database. The City will prepare irrigation educational information for all customers. The City will perform surveys with its own staff or contractors.

Schedule: This program will be conducted annually and will begin within three years.

Evaluation of DMM Effectiveness: Effectiveness of this DMM will be evaluated by comparison of prior water use to future water use for large landscape customer accounts.

DMM 6. High-efficiency washing machine rebate programs.

Description: The City has committed to a high-efficiency washing machine rebate program, to promote this water saving technology. The City is also coordinating with other local agencies to obtain grant money for this program.

Schedule: The program will commence by July 1, 2006.

Evaluation of DMM Effectiveness: Effectiveness of this DMM will be evaluated by program penetration and high-efficiency washing machine savings estimates.

DMM 7. Public information programs.

Description: Public information is an ongoing component of the City's water conservation program. The City currently produces bill inserts and news articles in the Brentwood quarterly newsletter. The City plans to expand its website to include conservation information.

Schedule: The City's public information program is an ongoing, annual program.

Evaluation of DMM Effectiveness: Savings from this program cannot be directly quantified.

DMM 8. School education programs.

Description: School education is an ongoing component of the City's water conservation program. The program targets all grades.
Schedule: The City's school education program is an ongoing, annual program.

Evaluation of DMM Effectiveness: Savings from this program cannot be directly quantified.

DMM 9. Conservation programs for commercial, industrial, and institutional accounts.

Description: The City will develop a conservation program for CII accounts that includes water audits targeted to the top water users. This program will also include surveys of past program participants to determine if audit recommendations were implemented.

Schedule: Within three years the City will commence this annual program.

Evaluation of DMM Effectiveness: Effectiveness of this DMM will be evaluated by comparison of CII accounts prior water use to future water use.

DMM 10. Wholesale agency assistance programs.

This DMM is not applicable to the City since the City is not a wholesale agency.

DMM 11. Conservation pricing.

Description: The City currently implements conservation pricing for all its metered customers. All of the City's customers are metered. Tiered rates are implemented for residential and commercial customers.

Schedule: The implementation of this DMM is ongoing.

Evaluation of DMM Effectiveness: Effectiveness of this DMM will be evaluated by comparison of City water use prior to and following the implementation of conservation pricing.

DMM 12. Conservation coordinator.

Description: The City has hired a conservation coordinator as an ongoing component of the City's water conservation program. The conservation coordinator is responsible for implementing and monitoring the City's water conservation activities.

Schedule: The implementation of this DMM is ongoing.

Evaluation of DMM Effectiveness: Water savings from this DMM cannot be directly quantified. Effectiveness of this DMM will be evaluated by the success of the City's water conservation program.

DMM 13. Water waste prohibition.

Description: The City has adopted landscape and irrigation ordinances to encourage the efficient use of its water resources. The City is considering other ordinances to discourage wasting of water.

Schedule: The implementation of this DMM is ongoing.

Evaluation of DMM Effectiveness: Water savings from this program cannot be directly quantified.

DMM 14. Residential ULFT replacement programs.

Description: As noted above over 75 percent of construction in the City occurred after 1992. Hence, most toilets are already ultra low flow. Remodeling and equipment replacement will upgrade

older installations with a typical rate for toilets of four percent per year. Based on newer construction and older toilet replacement since 1992, the City estimates that over 90 percent of toilets are already ultra low flow. Therefore, the City currently does not plan to support a ULFT program but rather depend on toilet replacement to remove remaining older units.

Schedule: Not applicable. The City is not currently implementing this DMM.

Evaluation of DMM Effectiveness: Not applicable. The City is not currently implementing this DMM.

7.3 Economic Analysis Methodology and Assumptions

As noted above the City already has implemented or plans on implementing most DMMs. Owing to existing high market penetration for the other DMMs (2 and 14), no economic analyses were completed in the preparation of this plan.

7.4 Economic Analysis Results

As noted above no economic analyses were completed for this plan. Hence, this section is not applicable**.**

Table 7-2. Evaluation of Unit Cost of Water Resulting from Non-Implemented / Non-Scheduled DMMs and Planned Water Supply Project and Programs (DWR Table 16)

Non-implemented & Not Scheduled DMM / Planned Water Supply Projects (Name)	Per-AF Cost ($)
NA	NA

APPENDIX A

ABBREVIATIONS AND REFERENCES

APPENDIX A

LIST OF ABBREVIATIONS

ABAG	Association of Bay Area Governments
ac-ft	acre-feet
ac-ft/yr	acre-feet per year
Act	Urban Water Management Act
ALs	Action Levels
BMPs	Best Management Practices
BPS	Booster pump station
Cal Poly	California Polytechnic State University in San Luis Obispo
ccf	one hundred cubic feet
CCWD	Contra Costa Water Department
cfs	cubic fee per second
CPUC	California Public Utilities Commission
CSA	Customer Service Area
CUWCC	California Urban Water Conservation Council
DDSD	Delta Diablo Sanitation District
DHS	California Department of Health Services
DLR	detection levels for the purposes of reporting
DRU	Demographic Research Unit
DWR	California Department of Water Resources
EPA	U.S. Environmental Protection Agency
GAC	granulated activated carbon
gpd gal/d	gallons per day
gpm	gallons per minute
GWR	Groundwater Rule
IESWTR	Interim Enhanced Surface Water Treatment Rule
JPA	joint powers authority
MCL	maximum contaminant level
MCLG	maximum contaminant level goal
mg	million gallons
mgd	million gallons per day
mg/l	Milligrams per liter
µg/l	micrograms per liter
MOU	Memorandum of Understanding Regarding Urban Water Conservation in California
NDMA	N-nitrosodimethylamine
PCAs	possible contaminating activities

LIST OF ABBREVIATIONS
(Continued)

pCi/l	pico-Curies per liter
Plan	Urban Water Management Plan
POU	Place of Use
Ppm	parts per million
Ppt	parts per trillion
Psi	pounds per square inch
SCADA	Supervisory Control and Data Acquisition
SCWC	Southern California Water Company
SWP	California State Water Project
TCE	trichloroethene
TDS	total dissolved solids
THMs	Trihalomethanes
WTP	Water Treatment Plant

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APPENDIX B

2005 URBAN WATER MANAGEMENT PLAN
"REVIEW FOR COMPLETENESS" FORM

2005 Urban Water Management Plan "Review for Completeness" Form

For DWR Review Staff Use

Coordination with Appropriate Agencies — **(Water Code § 10620 (d)(1)(2))**

Yes

☐ Participated in area, regional, watershed or basin wide plan _____ Reference & Page Number

Name of plan _____ Lead Agency _____ _____ Reference & Page Number

☐ Describe the coordination of the plan preparation and anticipated benefits. _____ Reference & Page Number

Table 1
Coordination with Appropriate Agencies

Check at least one box on each row	Participated in developing the plan	Commented on the draft	Attended public meetings	Was contacted for assistance	Was sent a copy of the draft plan	Was sent a notice of intention to adopt	Not Involved / No Information
Other water suppliers							
Water management agencies							
Relevant public agencies							
Other							
Other							

Describe resource maximization / import minimization plan — **(Water Code §10620 (f))**

☐ Describe how water management tools / options maximize resources & minimize need to import water _____ Reference & Page Number

Plan Updated in Years Ending in Five and Zero — **(Water Code § 10621(a))**

☐ Date updated and adopted plan received _____ (enter date) _____ Reference & Page Number

City and County Notification and Participation — **(Water Code § 10621(b))**

☐ Notify any city or county within service area of UWMP of plan review & revision _____ Reference & Page Number

☐ Consult and obtain comments from cities and counties within service area _____ Reference & Page Number

Service Area Information — **Water Code § 10631 (a))**

☐ Include current and projected population _____ Reference & Page Number

☐ Population projections were based on data from state, regional or local agency _____ Reference & Page Number

Table 2
Population - Current and Projected

	2005	2010	2015	2020	2025	2030 - opt

Service Area Population						

☐ Describe climate characteristics that affect water management _____ Reference & Page Number

☐ Describe other demographic factors affecting water management _____ Reference & Page Number

Table 3
Climate

	January	February	March	April	May	June
Standard Average ETo						
Average Rainfall						
Average Temperature						

Table 3 (continued)
Climate

	July	August	September	October	November	December	Annual
Average ETo							0
Average Rainfall							0
Average Temperature							0

Water Sources (Water Code § 10631 (b))

☐ Identify existing and planned water supply sour 2-1 Reference & Page Number

☐ Provide current water supply quantities 2-1 Reference & Page Number

☐ Provide planned water supply quantities 2-1 Reference & Page Number

Table 4
Current and Planned Water Supplies - AFY

Water Supply Sources	2005	2010	2015	2020	2025	2030 - opt
Water purchased from:						
U.S. Bureau of Reclamation						
Department of Water Resources						
Arcade Water District						
Calleguas Municipal Water District						
Castaic Lake Water Agency						
Central Basin Municipal Water District						
Chino Basin Municipal Water District						
Coastal Municipal Water District						
Contra Costa Water District						

Eastern Municipal Water District						
Foothill Municipal Water District						
Humboldt Bay Municipal Water District						
Inland Empire Utilities Agency						
Joint Regional Water Supply System						
Kern County Water Agency						
Metropolitan Water District of Southern Ca						
Municipal Water District of Orange County						
North of The River Municipal Water Distric						
Placer County Water Agency						
Sacramento County Water Management Di						
San Diego County Water Authority						
San Francisco City of						
San Juan Water District						
San Luis Obispo County						
Santa Clara Valley Water District						
Solano County Water Agency						
Sonoma County Water Agency						
Stockton East Water District						
Tehachapi-Cummings County Water Distri						
Three Valleys Municipal Utility District						
Upper San Gabriel Valley Municipal Water						
Water Facilities Authority						
West Basin Municipal Water District						
Western Municipal Water Dist of Riverside						
Zone 7						
Other Wholesaler 1 (enter agency name)						
Other Wholesaler 2 (enter agency name)						
Other Wholesaler 3 (enter agency name)						
Supplier produced groundwater						
Supplier surface diversions						
Transfers in or out						
Exchanges In or out						
Recycled Water (projected use)						
Desalination						
Other						
Other						
Total	0	0	0	0	0	0

If Groundwater identified as existing or planned source **(Water Code §10631 (b)(1-4))**

☐	Has management plan	Reference & Page Number
☐	Attached management plan (b)(1)	Reference & Page Number
☐	Description of basin(s) (b)(2)	Reference & Page Number
☐	Basin is adjudicated	Reference & Page Number
☐	If adjudicated, attached order or decree (b)(2)	Reference & Page Number
☐	Quantified amount of legal pumping right (b)(2)	Reference & Page Number

Table 5
Groundwater Pumping Rights - AF Year

Basin Name	Pumping Right - AFY
Total	0

☐	DWR identified, or projected to be, in overdraft (b)(2)	Reference & Page Number
☐	Plan to eliminate overdraft (b)(2)	Reference & Page Number
☐	Analysis of location, amount & sufficiency, last five years (b)(3)	Reference & Page Number
☐	Analysis of location & amount projected, 20 years (b)(4)	Reference & Page Number

Table 6
Amount of Groundwater pumped - AFY

Basin Name (s)	2000	2001	2002	2003	2004
	0	0	0	0	0
% of Total Water Supply					

Table 7
Amount of Groundwater projected to be pumped - AFY

Basin Name(s)	2010	2015	2020	2025	2030 - opt
	0	0	0	0	0
% of Total Water Supply	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Reliability of Supply **(Water Code §10631 (c) (1-3)**

☐	Describes the reliability of the water supply and vulnerability to seasonal or climatic shortage	Reference & Page Number

Describes the reliability of the water supply and vulnerability to seasonal or climatic shortage

Table 8 Supply Reliability - AF Year					
		Multiple Dry Water Years			
Average / Normal Water Year	Single Dry Water Year	Year 1	Year 2	Year 3	Year 4
% of Normal	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Table 9 Basis of Water Year Data			
Water Year Type	Source name	Source name	Source name
Average Water Year			
Single-Dry Water Year			
Multiple-Dry Water Years			

_____ Reference & Page Number
_____ Reference & Page Number
_____ Reference & Page Number

Water Sources Not Available on a Consistent Basis **(Water Code §10631 (c))**

☐ Describe the reliability of the water supply due to seasonal or climatic shortages _____ Reference & Page Number
☐ Describe the vulnerability of the water supply to seasonal or climatic shortages _____ Reference & Page Number
☐ No unreliable sources _____ Reference & Page Number

Table 10 Factors resulting in inconsistency of supply				
Name of supply	Legal	Environ-mental	Water Quality	Climatic

☐ Describe plans to supplement or replace inconsistent sources with alternative sources or DMMs _____ Reference & Page Number
☐ No inconsistent sources _____ Reference & Page Number

Transfer or Exchange Opportunities **(Water Code §10631 (d))**

☐ Describe short term and long term exchange or transfer opportunities _____ Reference & Page Number

☐ No transfer opportunities _____ Reference & Page Number

Table11
Transfer and Exchange Opportunities - AF Year

Transfer Agency	Transfer or Exchange	Short term	Proposed Quantities	Long term	Proposed Quantities
Total			0		0

Water Use Provisions **(Water Code §10631 (e)(1)(2))**

☐ Quantify past water use by sector 4-2 Reference & Page Number

☐ Quantify current water use by sector 4-2 Reference & Page Number

☐ Project future water use by sector 4-2 Reference & Page Number

TABLE 12 - Past, Current and Projected Water Deliveries

	2000				2005			
	metered		unmetered		metered		unmetered	
Water Use Sectors	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY
Single family								
Multi-family								
Commercial								
Industrial								
Institutional/gov								
Landscape								
Agriculture								
other								
Total	0	0	0	0	0	0	0	0

TABLE12 (continued) - Past, Current and Project

	2015				2020			
	metered		unmetered		metered		unmetered	
Water Use Sectors	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY
Single family								
Multi-family								
Commercial								

Industrial								
Institutional/gov								
Landscape								
Agriculture								
other								
Total	0	0	0	0	0	0	0	0

☐ Identify and quantify sales to other agencies _____ Reference & Page Number

☐ No sales to other agencies _____ Reference & Page Number

Table 13 Sales to Other Agencies - AF Year							
Water Distributed	2000	2005	2010	2015	2020	2025	2030 - opt
La Cumbre	0	0	0	0	0	0	0
name of agency							
name of agency							
Total	0	0	0	0	0	0	0

☐ Identify and quantify additional water uses _____ Reference & Page Number

Table 14 Additional Water Uses and Losses - AF Year							
Water Use	2000	2005	2010	2015	2020	2025	2030 - opt
Saline barriers							
Groundwater recharge							
Conjunctive use							
raw water							
recycled							
other (define)							
Unaccounted-for system losses							
Total	0	0	0	0	0	0	0

Table 15 Total Water Use - AF Year							
Water Use	2000	2005	2010	2015	2020	2025	2030 - opt
Total of Tables 12, 13, 14	0	0	0	0	0	0	0

(Water Code §10631 (f) & (g), the 2005 Urban Water Management Plan "Review of DMMs for Completeness" Form is found on Sheet 2

Planned Water Supply Projects and Programs, including non-implemented DMMs **(Water Code §10631 (g))**

- ☐ No non-implemented / not scheduled DMMs _____ Reference & Page Number
- ☐ Cost-Benefit includes economic and non-economic factors (environmental, social, health, customer impact, and technological factors) _____ Reference & Page Number
- ☐ Cost-Benefit analysis includes total benefits and total costs _____ Reference & Page Number
- ☐ Identifies funding available for Projects with higher per-unit-cost than DMMs _____ Reference & Page Number
- ☐ Identifies Suppliers' legal authority to implement DMMs, efforts to implement the measures and efforts to identify cost share partners _____ Reference & Page Number

Table 16
Evaluation of unit cost of water resulting from non-implemented / non-scheduled DMMs and planned water supply project and programs

Non-implemented & Not Scheduled DMM / Planned Water Supply Projects (Name)	Per-AF Cost ($)

Planned Water Supply Projects and Programs **(Water Code §10631 (h))**

- ☐ No future water supply projects or programs
- ☐ Detailed description of expected future supply projects & programs _____ Reference & Page Number
- ☐ Timeline for each proposed project _____ Reference & Page Number
- ☐ Quantification of each projects normal yield (AFY) _____ Reference & Page Number
- ☐ Quantification of each projects single dry-year yield (AFY) _____ Reference & Page Number
- ☐ Quantification of each projects multiple dry-year yield (AFY) _____ Reference & Page Number

Table 17
Future Water Supply Projects

Project Name	Projected Start Date	Projected Completion Date	Normal-year AF to agency	Single-dry year yield AF	Multiple-Dry-Year 1 AF	Multiple-Dry-Year 2 AF	Multiple-Dry-Year 3 AF

Opportunities for development of desalinated water (Water Code §10631 (i))

☐ Describes opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term s

☐ No opportunities for development of desalinated water

Table 18
Opportunities for desalinated water

Sources of Water	Check if yes
Ocean Water	
Brackish ocean water	
Brackish groundwater	
other	
other	

District is a CUWCC signatory (Water Code § 10631 (j))

Urban suppliers that are California Urban Water Conservation Council members may submit the annual reports identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of subdivisions (f) and (g). The supplier's CUWCC Best Management Practices Report should be attached to the UWMP.

☐ Agency is a CUWCC member _____ Reference & Page Number

☐ 2003-04 annual updates are attached to plan _____ Reference & Page Number

☐ Both annual updates are considered completed by CUWCC website _____ Reference & Page Number

If Supplier receives or projects receiving water from a wholesale supplier (Water Code §10631 (k))

Yes

☐ Agency receives, or projects receiving, wholesale water _____ Reference & Page Number

☐ Agency provided written demand projections to wholesaler, 20 years _____ Reference & Page Number

Table 19
Agency demand projections provided to wholesale suppliers - AFY

Wholesaler	2010	2015	2020	2025	2030 - opt
(name 1)					
(name 2)					
(name 3)					

☐ Wholesaler provided written water availability projections, by source, to agency, 20 years _____ Reference & Page Number

(if agency served by more than one wholesaler, duplicate this table and provide the source availability for each wholesaler)

Table 20
Wholesaler identified & quantified the existing and planned sources of water- AFY

Wholesaler sources	2010	2015	2020	2025	2030 - opt

(source 1)					
(source 2)					
(source 3)					

☐ Reliability of wholesale supply provided in writing by wholesale agency _____ Reference & Page Number
(if agency served by more than one wholesaler, duplicate this table and provide the source availability for each wholesaler)

Table 21
Wholesale Supply Reliability - % of normal AFY

	Multiple Dry Water Years				
Wholesaler sources	**Single Dry**	**Year 1**	**Year 2**	**Year 3**	**Year 4**
(source 1)					
(source 2)					
(source 3)					

Table 22
Factors resulting in inconsistency of wholesaler's supply

Name of supply	Legal	Environment	Water Quality	Climatic

Water Shortage Contingency Plan Section **(Water Code § 10632)**
Stages of Action **(Water Code § 10632 (a))**

☐ Provide stages of action _____ Reference & Page Number
☐ Provide the water supply conditions for each stage _____ Reference & Page Number
☐ Includes plan for 50 percent supply shortage _____ Reference & Page Number

Table 23
Water Supply Shortage Stages and Conditions
RATIONING STAGES

Stage No.	Water Supply Conditions	% Shortage

Three-Year Minimum Water Supply (Water Code §10632 (b))

☐ Identifies driest 3-year period _____ Reference & Page Number

☐ Minimum water supply available by source for the next three years _____ Reference & Page Number

Table 24
Three-Year Estimated Minimum Water Supply - AF Year

source**	Normal	Year 1	Year 2	Year 3
Total	0	0	0	0

*Note: If reporting after 2005, please change the column headers (Year 1, 2, & 3) to the appropriate years

Preparation for catastrophic water supply interruption (Water Code §10632 (c))

☐ Provided catastrophic supply interruption plan _____ Reference & Page Number

Table 25
Preparation Actions for a Catastrophe

Possible Catastrophe	Check if Discussed
Regional power outage	
Earthquake	
Other (name event)	
Other (name event)	

Prohibitions (Water Code § 10632 (d))

☐ List the mandatory prohibitions against specific water use practices during water shortages _____ Reference & Page Number

Table 26
Mandatory Prohibitions

Examples of Prohibitions	Stage When Prohibition Becomes Mandatory
Using potable water for street washing	
Other (name prohibition)	
Other (name prohibition)	

Other (name prohibition)	
Other (name prohibition)	
Other (name prohibition)	
Other (name prohibition)	

Consumption Reduction Methods (Water Code § 10632 (e))

☐ List the consumption reduction methods the water supplier will use to reduce water use in the most restrictive stages with up to a 50% reduction.

_____ Reference & Page Number

Table 27
Consumption Reduction Methods

Consumption Reduction Methods	Stage When Method Takes Effect	Projected Reduction (%)
name method	2	25
name method	3	35
name method	4	50
name method	2, 3, 4	?
name method	3, 4	?
name method		

Penalties (Water Code § 10632 (f))

☐ List excessive use penalties or charges for excessive use

_____ Reference & Page Number

Table 28
Penalties and Charges

Penalties or Charges	Stage When Penalty Takes Effect
Penalty for excess use	
Charge for excess use	
Other (name penalties or charges)	
Other (name penalties or charges)	
Other (name penalties or charges)	
Other (name penalties or charges)	
Other (name penalties or charges)	

Other (name penalties or charges)	

Revenue and Expenditure Impacts (Water Code § 10632 (g))

- ☐ Describe how actions and conditions impact revenues _____ Reference & Page Number
- ☐ Describe how actions and conditions impact expenditures _____ Reference & Page Number
- ☐ Describe measures to overcome the revenue and expenditure impacts _____ Reference & Page Number

Table 29
Proposed measures to overcome revenue impacts

Names of measures	Check if Discussed
Rate adjustment	
Development of reserves	
name of measure	
name of measure	

Table 30
Proposed measures to overcome expenditure impacts

Names of measures	Check if Discussed
name of measure	
name of measure	
name of measure	
name of measure	

Water Shortage Contingency Ordinance/Resolution (Water Code § 10632 (h))

- ☐ Attach a copy of the draft water shortage contingency resolution or ordinance. _____ Reference & Page Number

Reduction Measuring Mechanism (Water Code § 10632 (i))

- ☐ Provided mechanisms for determining actual reductions _____ Reference & Page Number

Table 31
Water Use Monitoring Mechanisms

Mechanisms for determining actual reductions	Type data expected (pop-up?)

Name mechanism	
Name mechanism	
Name mechanism	

Recycling Plan Agency Coordination — Water Code § 10633

☐ Describe the coordination of the recycling plan preparation information to the extent available.. _____ Reference & Page Number

Table 32 Participating agencies	
	participated
Water agencies	
Wastewater agencies	
Groundwater agencies	
Planning Agencies	

Wastewater System Description — (Water Code § 10633 (a))

☐ Describe the wastewater collection and treatment systems in the supplier's service area _____ Reference & Page Number

☐ Quantify the volume of wastewater collected and treated _____ Reference & Page Number

Table 33 Wastewater Collection and Treatment - AF Year							
Type of Wastewater	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030 - opt**
Wastewater collected & treated in service area	6,796						
Volume that meets recycled water standard	1,030						

Wastewater Disposal and Recycled Water Uses — (Water Code § 10633 (a - d))

☐ Describes methods of wastewater disposal _____ Reference & Page Number

☐ Describe the current type, place and use of recycled water _____ Reference & Page Number

☐ None _____ Reference & Page Number

☐ Describe and quantify potential uses of recycled water _____ Reference & Page Number

Table 34 Disposal of wastewater (non-recycled) AF Year							
Method of disposal	**Treatment Level**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030 - opt**

Name of method							
Name of method							
Name of method							
Name of method							
Total		0	0	0	0	0	0

Table 35
Recycled Water Uses - Actual and Potential (AFY)

User type	Treatment Level	2005	2010	2015	2020	2025	2030 - opt
Agriculture							
Landscape							
Wildlife Habitat							
Wetlands							
Industrial							
Groundwater Recharge							
Other (user type)							
Other (user type)							
Total		0	0	0	0	0	0

☐ Determination of technical and economic feasibility of serving the potential uses _____ Reference & Page Number

Projected Uses of Recycled Water (Water Code § 10633 (e))

☐ Projected use of recycled water, 20 years _____ Reference & Page Number

Table 36
Projected Future Use of Recycled Water in Service Area - AF Year

	2010	2015	2020	2025	2030 - opt
Projected use of Recycled Water					

☐ Compare UWMP 2000 projections with UWMP 2005 actual (§ 10633 (e)) _____ Reference & Page Number

☐ None _____ Reference & Page Number

Table 37
Recycled Water Uses - 2000 Projection compared with 2005 actual - AFY

User type	2000 Projection for 2005	2005 actual use
Agriculture		
Landscape		
Wildlife Habitat		

Wetlands		
Industrial		
Groundwater Recharge		
Other (user type)		
Other (user type)		
Total	0	0

Plan to Optimize Use of Recycled Water (Water Code § 10633 (f))

☐ Describe actions that might be taken to encourage recycled water uses _____ Reference & Page Number

☐ Describe projected results of these actions in terms of acre-feet of recycled water used per year _____ Reference & Page Number

Table 38
Methods to Encourage Recycled Water Use

Actions	AF of use projected to result from this action				
	2010	2015	2020	2025	2030 - opt
Financial incentives					
name of action					
name of action					
name of action					
name of action					
name of action					
name of action					
name of action					
Total	0	0	0	0	0

☐ Provide a recycled water use optimization plan which includes actions to facilitate the use of recycled water (dual distribution systems, promote recirculating uses) _____ Reference & Page Number

Water quality impacts on availability of supply (Water Code §10634)

☐ Discusses water quality impacts (by source) upon water management strategies and supply reliability _____ Reference & Page Number

☐ No water quality impacts projected _____

Table 39
Current & projected water supply changes due to water quality - percentage

water source	2005	2010	2015	2020	2025	2030 - opt

Supply and Demand Comparison to 20 Years (Water Code § 10635 (a))

☐ Compare the projected normal water supply to projected normal water use over the next 20 years, in 5-year increments.

_____ Reference & Page Number

Table 40 Projected Normal Water Supply - AF Year					
(from table 4)	**2010**	**2015**	**2020**	**2025**	**2030 - opt**
Supply	0	0	0	0	0
% of year 2005	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Table 41 Projected Normal Water Demand - AF Year					
(from table 15)	**2010**	**2015**	**2020**	**2025**	**2030 - opt**
Demand	0	0	0	0	0
% of year 2005	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Table 42 Projected Supply and Demand Comparison - AF Year					
	2010	**2015**	**2020**	**2025**	**2030 - opt**
Supply totals	-	-	-	-	-
Demand totals	-	-	-	-	-
Difference	0	0	0	0	0
Difference as % of Supply	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Difference as % of Demand	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Supply and Demand Comparison: Single-dry Year Scenario (Water Code § 10635 (a))

☐ Compare the projected single-dry year water supply to projected single-dry year water use over the next 20 years, in 5-year increments.

_____ Reference & Page Number

Table 43 Projected single dry year Water Supply - AF Year					
	2010	**2015**	**2020**	**2025**	**2030 - opt**

Supply					
% of projected normal					

Table 44 Projected single dry year Water Demand - AF Year					
	2010	**2015**	**2020**	**2025**	**2030 - opt**
Demand					
% of projected normal					

Table 45 Projected single dry year Supply and Demand Comparison - AF Year					
	2010	**2015**	**2020**	**2025**	**2030 - opt**
Supply totals	0	0	0	0	0
Demand totals	0	0	0	0	0
Difference	0	0	0	0	0
Difference as % of Supply					
Difference as % of Demand					

Supply and Demand Comparison: Multiple-dry Year Scenario **(Water Code § 10635 (a))**

☐ Project a multiple-dry year period (as identified in Table 9) occurring between 2006-2010 and compare projected supply and demand during those years _____ Reference & Page Number

Table 46 Projected supply during multiple dry year period ending in 2010 - AF Year					
	2006	**2007**	**2008**	**2009**	**2010**
Supply					
% of projected normal					

Table 47 Projected demand multiple dry year period ending in 2010 - AFY					
	2006	**2007**	**2008**	**2009**	**2010**
Demand					
% of projected normal	0.0%	0.0%	0.0%	0.0%	0.0%

Table 48 Projected Supply and Demand Comparison during multiple dry year period ending in 2010- AF Year					
	2006	**2007**	**2008**	**2009**	**2010**
Supply totals	0	0	0	0	0

Demand totals	0	0	0	0	0
Difference	0	0	0	0	0
Difference as % of Supply					
Difference as % of Demand					

☐ Project a multiple-dry year period (as identified in Table 9) occurring between 2011-2015 and _____ Reference & Page Number
compare projected supply and demand during those years

Table 49 Projected supply during multiple dry year period ending in 2015 - AF Year					
	2011	**2012**	**2013**	**2014**	**2015**
Supply					
% of projected normal					

Table 50 Projected demand multiple dry year period ending in 2015 - AFY					
	2011	**2012**	**2013**	**2014**	**2015**
Demand					
% of projected normal					

Table 51 Projected Supply and Demand Comparison during multiple dry year period ending in 2015- AF Year					
	2011	**2012**	**2013**	**2014**	**2015**
Supply totals	0	0	0	0	0
Demand totals	0	0	0	0	0
Difference	0	0	0	0	0
Difference as % of Supply					
Difference as % of Demand					

☐ Project a multiple-dry year period (as identified in Table 9) occurring between 2016-2020 and _____ Reference & Page Number
compare projected supply and demand during those years

Table 52 Projected supply during multiple dry year period ending in 2020 - AF Year					
	2016	**2017**	**2018**	**2019**	**2020**
Supply					
% of projected normal					

Table 53 Projected demand multiple dry year period ending in 2020 - AFY					
	2016	2017	2018	2019	2020
Demand					
% of projected normal					

Table 54 Projected Supply and Demand Comparison during multiple dry year period ending in 2020- AF Year					
	2016	2017	2018	2019	2020
Supply totals	0	0	0	0	0
Demand totals	0	0	0	0	0
Difference	0	0	0	0	0
Difference as % of Supply					
Difference as % of Demand					

☐ Project a multiple-dry year period (as identified in Table 9) occurring between 2021-2025 and _____ Reference & Page Number compare projected supply and demand during those years

Table 55 Projected supply during multiple dry year period ending in 2025 - AF Year					
	2021	2022	2023	2024	2025
Supply					
% of projected normal					

Table 56 Projected demand multiple dry year period ending in 2025 - AFY					
	2021	2022	2023	2024	2025
Demand					
% of projected normal					

Table 57 Projected Supply and Demand Comparison during multiple dry year period ending in 2025- AF Year					
	2021	2022	2023	2024	2025
Supply totals	0	0	0	0	0
Demand totals	0	0	0	0	0
Difference	0	0	0	0	0
Difference as % of Supply					
Difference as % of Demand					

Provision of Water Service Reliability section to cities/counties within service area	(Water Code § 10635(b))	
☐ Provided Water Service Reliability section of UWMP to cities and counties within which it provides water supplies within 60 days of UWMP submission to DWR	_____	Reference & Page Number

Does the Plan Include Public Participation and Plan Adoption	(Water Code § 10642)	
☐ Attach a copy of adoption resolution	_____	Reference & Page Number
☐ Encourage involvement of social, cultural & economic community groups	_____	Reference & Page Number
☐ Plan available for public inspection	_____	Reference & Page Number
☐ Provide proof of public hearing	_____	Reference & Page Number
☐ Provided meeting notice to local governments		Reference & Page Number

Review of implementation of 2000 UWMP	(Water Code § 10643)	
☐ Reviewed implementation plan and schedule of 2000 UWMP	_____	Reference & Page Number
☐ Implemented in accordance with the schedule set forth in plan	_____	Reference & Page Number
☐ 2000 UWMP not required	_____	Reference & Page Number

Provision of 2005 UWMP to local governments	(Water Code § 10644 (a))	
☐ Provide 2005 UWMP to DWR, and cities and counties within 30 days of adoption	_____	Reference & Page Number

Does the plan or correspondence accompanying it show where it is available for public review	(Water Code § 10645)	
☐ Does UWMP or correspondence accompanying it show where it is available for public review	_____	Reference & Page Number

Supply and Demand Comparison: Multiple-dry Year Scenario (Water Code § 1

☐ Project a multiple-dry year period (as identified in Table 9) occurring between 2006-2010 and compare projected supply and demand during those years _____ R

Table 46
Projected supply during multiple dry year period ending in 2010 - AF Year

	2006	2007	2008	2009	2010
Supply					
% of projected normal					

Table 47
Projected demand multiple dry year period ending in 2010 - AFY

	2006	2007	2008	2009	2010
Demand					
% of projected normal	0.0%	0.0%	0.0%	0.0%	0.0%

Table 48
Projected Supply and Demand Comparison during multiple dry year period ending in 2010- AF Year

	2006	2007	2008	2009	2010
Supply totals	0	0	0	0	0
Demand totals	0	0	0	0	0
Difference	0	0	0	0	0
Difference as % of Supply					
Difference as % of Demand					

☐ Project a multiple-dry year period (as identified in Table 9) occurring between 2011-2015 and compare projected supply and demand during those years _____ R

Table 49
Projected supply during multiple dry year period ending in 2015 - AF Year

	2011	2012	2013	2014	2015
Supply					
% of projected normal					

Table 50 Projected demand multiple dry year period ending in 2015 - AFY					
	2011	**2012**	**2013**	**2014**	**2015**
Demand					
% of projected normal					

Table 51 Projected Supply and Demand Comparison during multiple dry year period ending in 2015- AF Year					
	2011	**2012**	**2013**	**2014**	**2015**
Supply totals	0	0	0	0	0
Demand totals	0	0	0	0	0
Difference	0	0	0	0	0
Difference as % of Supply					
Difference as % of Demand					

☐ Project a multiple-dry year period (as identified in Table 9) occurring between 2016-2020 and compare projected supply and demand during those years _____ R

Table 52 Projected supply during multiple dry year period ending in 2020 - AF Year					
	2016	**2017**	**2018**	**2019**	**2020**
Supply					
% of projected normal					

Table 53 Projected demand multiple dry year period ending in 2020 - AFY					
	2016	**2017**	**2018**	**2019**	**2020**
Demand					

% of projected normal					

Table 54 Projected Supply and Demand Comparison during multiple dry year period ending in 2020- AF Year					
	2016	2017	2018	2019	2020
Supply totals	0	0	0	0	0
Demand totals	0	0	0	0	0
Difference	0	0	0	0	0
Difference as % of Supply					
Difference as % of Demand					

☐ Project a multiple-dry year period (as identified in Table 9) occurring between 2021-2025 and compare projected supply and demand during those years _____ R

Table 55 Projected supply during multiple dry year period ending in 2025 - AF Year					
	2021	2022	2023	2024	2025
Supply					
% of projected normal					

Table 56 Projected demand multiple dry year period ending in 2025 - AFY					
	2021	2022	2023	2024	2025
Demand					
% of projected normal					

Table 57 Projected Supply and Demand Comparison during multiple dry year period ending in 2025- AF Year					
	2021	2022	2023	2024	2025
Supply totals	0	0	0	0	0
Demand totals	0	0	0	0	0
Difference	0	0	0	0	0

Difference as % of Supply					
Difference as % of Demand					

Provision of Water Service Reliability section to cities/counties within service area **(Water Code § 1**

- ☐ Provided Water Service Reliability section of UWMP to cities and counties within which it provides water supplies within 60 days of UWMP submission to DWR _____ R

Does the Plan Include Public Participation and Plan Adoption **(Water Code § 1**

- ☐ Attach a copy of adoption resolution _____ R
- ☐ Encourage involvement of social, cultural & economic community groups _____ R
- ☐ Plan available for public inspection _____ R
- ☐ Provide proof of public hearing _____ R
- ☐ Provided meeting notice to local governments R

Review of implementation of 2000 UWMP **(Water Code § 1**

- ☐ Reviewed implementation plan and schedule of 2000 UWMP _____ R
- ☐ Implemented in accordance with the schedule set forth in plan _____ R
- ☐ 2000 UWMP not required _____ R

Provision of 2005 UWMP to local governments **(Water Code § 1**

- ☐ Provide 2005 UWMP to DWR, and cities and counties within 30 days of adoption _____ R

Does the plan or correspondence accompanying it show where it is available for public review **(Water Code § 1**

- ☐ Does UWMP or correspondence accompanying it show where it is available for public review _____ R

APPENDIX C

RESOLUTION TO ADOPT THE URBAN WATER MANAGEMENT PLAN

RESOLUTION NO. 2007-72

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BRENTWOOD ADOPTING A RESOLUTION APPROVING AN AMENDMENT TO 2005 URBAN WATER MANAGEMENT PLAN AS RECOMMENDED BY AND APPROVED BY THE CALIFORNIA DEPARTMENT OF WATER RESOURCES (DWR).

WHEREAS, the State Urban Water Management Planning Act requires every urban water supplier providing water for municipal purposes to more than 3,000 customers to adopt and submit an Urban Water Management Plan (UWMP) to the California Department of Water Resources every five years; and

WHEREAS, on May 11, 1999, by Resolution No. 99-118, City Council authorized the City Manager to sign the California Urban Water Conservation Council's Memorandum of Understanding Regarding Urban Water Conservation; and

WHEREAS, on January 10, 2006, by Resolution No. 2006-006, City Council adopted the 2005 Urban Water Management Plan as Submitted by Brown and Caldwell, Environmental Engineers and Consultants; and

WHEREAS, the adopted 2005 Urban Water Management Plan was submitted to the DWR in February, 2006; and

WHEREAS, the DWR State Water Resources Control Board has reviewed and commented on our 2005 UWMP; and

WHEREAS, the amendment to the 2005 UWMP has been approved by the Department of Water Resources, a copy of which is attached hereto as Exhibit "A" (the "Amendment").

NOW, THEREFORE BE IT RESOLVED that the City Council of the City of Brentwood hereby adopts the Amendment to replace specific sections of the 2005 Urban Water Management Plan with those corresponding sections listed in the Amendment.

PASSED, APPROVED AND ADOPTED by the City Council of the City of Brentwood at a regular meeting held on the 24th day of April, 2007 by the following vote:

AYES:	Becnel, Brockman, Richey, Stonebarger, Taylor
NOES:	None
ABSENT:	None
ABSTAIN:	None

Robert Taylor
Mayor

ATTEST:

Margaret Wimberly, CMC
City Clerk

CITY COUNCIL AGENDA ITEM NO. _____

Meeting Date: January 10, 2006

Subject/Title: Adoption of the 2005 Urban Water Management Plan as submitted by Brown and Caldwell, Environmental Engineers and Consultants.

Prepared by: Chris Ehlers, Water Operations Manager
Diana Williford, Water Reclamation Specialist

Submitted by: Paul Zolfarelli, Director of Public Works

RECOMMENDATION
Approve a Resolution adopting the 2005 Urban Water Management Plan (UWMP) as submitted by Brown and Caldwell, Environmental Engineers and Consultants.

PREVIOUS ACTION
On October 24, 2000, by Resolution No. 2179, City Council authorized the City Manager to sign an agreement with Brown and Caldwell for the preparation of the Urban Water Management Plan.

On August 14, 2001, by Resolution No. 2341, City Council adopted the 2000 Urban Water Management Plan as prepared by Brown and Caldwell.

On February 24, 2004, by Resolution No. 2004-40, City Council approved the amended Purchasing Policy.

On June 14, 2005, by Resolution No. 2005-143, City Council adopted the 2005/06 – 2006/07 Operating Budget for the City of Brentwood.

BACKGROUND
On August 10, 2005 the City of Brentwood signed a Professional Services Agreement with Brown and Caldwell to prepare the 2005 Urban Water Management Plan in an amount not to exceed $24,900 without prior authorization. This professional services agreement is in compliance with Purchasing Policy 10-7, 6.8. This Water Management Plan addresses the City of Brentwood water system, which in 2004 provided approximately 2,947 million gallons of water to 13,763 connections in Brentwood via 172 miles of distribution mains. In 2004, approximately 58 percent of the water in the system was supplied from groundwater (wells) with the remainder purchased from Contra Costa Water District.

This plan serves as the 2005 UWMP as required by the Urban Water Management Planning Act (Act). It provides the analysis of water conservation measures in accordance with the guidelines of the California Urban Water Conservation Council and it serves as the long-term water supply plan for the City of Brentwood water system.

The Act requires the encouragement of public participation and a public hearing regarding the Water Management Plan. This hearing provides an opportunity for the City's residents to learn about water supply and plans for providing a reliable, safe, high-quality water for the future. The

hearing also allows the public to ask questions regarding the current water supply and the viability of future plans. This plan is required by the Act to be updated every five years. City Council adopted the 2000 UWMP in August of 2001.

The State Water Resources Control Board requires water suppliers to review historic and projected demand and supply balances, consider alternative supply sources, and provide detailed information about demand management or water conservation. The UWMP must outline drought contingency plans for times of water shortage and is also required for land use planning purposes. According to the Act, the purpose of the plan is to help local agencies "achieve conservation and efficient use" of the State's water resources.

Upon adoption by City Council, the Plan will be submitted to the Department of Water Resources (DWR) State Water Resources Control Board. The Board has a one year period to review and comment on the Plan. If the Board has recommended changes the Plan will be resubmitted to Council for adoption of the changes.

FISCAL IMPACT

The cost to prepare the 2005 Urban Water Management Plan is $24,900. These funds were budgeted in the 2005/06 Fiscal Year through the Water Enterprise and approved by Council by the adoption of the 2005/06 – 2006/07 Operating Budget. This is a one-time cost for the preparation of this plan and will not require additional resources. The submittal of the UWMP ensures compliance with the State Water Resources Control Board, Clean Water Division, State Revolving Fund loan. The City's Wastewater Treatment Plant is funded through the State Revolving Fund loan.

Attachments:

- Resolution
- 2005 Urban Water Management Plan

RESOLUTION NO.

ADOPTION OF THE 2005 URBAN WATER MANAGEMENT PLAN AS SUBMITTED BY BROWN AND CALDWELL, ENVIRONMENTAL ENGINEERS AND CONSULTANTS.

WHEREAS, the State Urban Water Management Planning Act requires every urban water supplier providing water for municipal purposes to more than 3,000 customers to adopt and submit an Urban Water Management Plan (UWMP) to the California Department of Water Resources every five years; and

WHEREAS, the City of Brentwood is an urban water supplier providing water for municipal purposes to more than 13,763 customers; and

WHEREAS, on October 24, 2000, by Resolution No. 2179, City Council authorized the City Manager to sign an agreement with Brown and Caldwell for the preparation of the 2000 Urban Water Management Plan; and

WHEREAS, on August 14, 2001, by Resolution No. 2341, the City Council adopted the 2000 Urban Water Management Plan as prepared by Brown and Caldwell; and

WHEREAS, on February 24, 2004, by Resolution No. 2004-40, City Council approved the amended Purchasing Policy; and

WHEREAS, on June 14, 2005, by Resolution No. 2005-143, City Council adopted the 2005/06 – 2006/07 Operating Budget for the City of Brentwood; and

WHEREAS, the funds for the preparation of the 2005 UWMP were budgeted in the 2005/06 Fiscal Year; and

WHEREAS, on August 10, 2005 the City of Brentwood signed a Professional Services Agreement with Brown and Caldwell to prepare the 2005 UWMP; and

WHEREAS, the City of Brentwood has prepared the 2005 UWMP, a copy of which is on file with the City Clerk, made it available for public review, and has held the appropriate public hearing.

NOW, THEREFORE BE IT RESOLVED by the City Council of the City of Brentwood that the 2005 UWMP is hereby adopted.

PASSED, APPROVED AND ADOPTED by the City Council of the City of Brentwood at a regular meeting held on the 10th day of January 2006 by the following vote:

APPENDIX D

CALIFORNIA WATER CODE

WATER CODE
SECTION 10610-10610.4

10610. This part shall be known and may be cited as the "Urban Water Management Planning Act."

10610.2. (a) The Legislature finds and declares all of the following:

(1) The waters of the state are a limited and renewable resource subject to ever-increasing demands.

(2) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.

(3) A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate.

(4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years.

(5) Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.

(6) Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.

(7) Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.

(8) Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.

(9) The quality of source supplies can have a significant impact on water management strategies and supply reliability.

(b) This part is intended to provide assistance to water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water.

10610.4. The Legislature finds and declares that it is the policy of the state as follows:

(a) The management of urban water demands and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.

(b) The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions.

(c) Urban water suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies.

WATER CODE
SECTION 10611-10617

10611. Unless the context otherwise requires, the definitions of this chapter govern the construction of this part.

10611.5. "Demand management" means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.

10612. "Customer" means a purchaser of water from a water supplier who uses the water for municipal purposes, including residential, commercial, governmental, and industrial uses.

10613. "Efficient use" means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.

10614. "Person" means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of such an entity.

10615. "Plan" means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.

10616. "Public agency" means any board, commission, county, city and county, city, regional agency, district, or other public entity.

10616.5. "Recycled water" means the reclamation and reuse of wastewater for beneficial use.

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

WATER CODE
SECTION 10620-10621

10620. (a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).

(b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.

(c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.

(d) (1) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.

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

(e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.

(f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

10621. (a) Each urban water supplier shall update its plan at least once every five years on or before December 31, in years ending in five and zero.

(b) Every urban water supplier required to prepare a plan pursuant to this part shall notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.

(c) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

WATER CODE
SECTION 10630-10634

10630. It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied.

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

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

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

(1) An average water year.

(2) A single dry water year.

(3) Multiple dry water years.

For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

(e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors including, but not necessarily limited to, all of the following uses:

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.

(I) Agricultural.

(2) The water use projections shall be in the same five-year increments described in subdivision (a).

(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:

(A) Water survey programs for single-family residential and multifamily residential customers.

(B) Residential plumbing retrofit.

(C) System water audits, leak detection, and repair.

(D) Metering with commodity rates for all new connections and retrofit of existing connections.

(E) Large landscape conservation programs and incentives.

(F) High-efficiency washing machine rebate programs.

(G) Public information programs.

(H) School education programs.

(I) Conservation programs for commercial, industrial, and institutional accounts.

(J) Wholesale agency programs.

(K) Conservation pricing.

(L) Water conservation coordinator.

(M) Water waste prohibition.

(N) Residential ultra-low-flush toilet replacement programs.

(2) A schedule of implementation for all water demand management measures proposed or described in the plan.

(3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.

(4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the

savings on the supplier's ability to further reduce demand.

(g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:

(1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.

(2) Include a cost-benefit analysis, identifying total benefits and total costs.

(3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.

(4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.

(h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

(i) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

(j) Urban water suppliers that are members of the California Urban Water Conservation Council and submit annual reports to that council in accordance with the "Memorandum of Understanding Regarding Urban Water Conservation in California," dated September 1991, may submit the annual reports identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of subdivisions (f) and (g).

(k) Urban water suppliers that rely upon a wholesale agency for a source of water, shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c).

10631.5. The department shall take into consideration whether the urban water supplier is implementing or scheduled for implementation, the water demand management activities that the urban water supplier identified in its urban water management plan, pursuant to Section 10631, in evaluating applications for grants and loans made available pursuant to Section 79163. The urban water supplier may submit to the department copies of its annual reports and other relevant documents to assist the department in determining whether the urban water supplier is implementing or scheduling the implementation of water demand management activities.

10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

(a) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.

(b) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.

(c) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.

(d) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.

(e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.

(f) Penalties or charges for excessive use, where applicable.

(g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.

(h) A draft water shortage contingency resolution or ordinance.

(i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:

(a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

(b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise

available for use in a recycled water project.

(c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

(e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

(f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.

(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

10634. The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

WATER CODE
SECTION 10635

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

(b) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.

(c) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.

(d) Nothing in this article is intended to change existing law concerning an urban water supplier's obligation to provide water service to its existing customers or to any potential future customers.

WATER CODE
SECTION 10640-10645

10640. Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630).

The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

10641. An urban water supplier required to prepare a plan may consult with, and obtain comments from, any public agency or state agency or any person who has special expertise with respect to water demand management methods and techniques.

10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

10643. An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

10644. (a) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

(b) The department shall prepare and submit to the Legislature, on or before December 31, in the years ending in six and one, a report summarizing the status of the plans adopted pursuant to this part. The report prepared by the department shall identify the outstanding elements of the individual plans. The department shall provide a copy of the report to each urban water supplier that has submitted its plan to the department. The department shall also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans submitted pursuant to this part.

10645. Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

WATER CODE
SECTION 10650-10657

10650. Any actions or proceedings to attack, review, set aside, void, or annul the acts or decisions of an urban water supplier on the grounds of noncompliance with this part shall be commenced as follows:

(a) An action or proceeding alleging failure to adopt a plan shall be commenced within 18 months after that adoption is required by this part.

(b) Any action or proceeding alleging that a plan, or action taken pursuant to the plan, does not comply with this part shall be commenced within 90 days after filing of the plan or amendment thereto pursuant to Section 10644 or the taking of that action.

10651. In any action or proceeding to attack, review, set aside, void, or annul a plan, or an action taken pursuant to the plan by an urban water supplier on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the supplier has not proceeded in a manner required by law or if the action by the water supplier is not supported by substantial evidence.

10652. The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant to Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any project that would significantly affect water supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.

10653. The adoption of a plan shall satisfy any requirements of state law, regulation, or order, including those of the State Water Resources Control Board and the Public Utilities Commission, for the preparation of water management plans or conservation plans; provided, that if the State Water Resources Control Board or the Public Utilities Commission requires additional information concerning water conservation to implement its existing authority, nothing in this part shall be deemed to limit the board or the commission in obtaining that information. The requirements of this part shall be satisfied by any urban water demand management plan prepared to meet federal laws or regulations after the effective date of this part, and which substantially meets the requirements of this part, or by any existing urban water management plan which includes the contents of a plan required under this part.

10654. An urban water supplier may recover in its rates the costs incurred in preparing its plan and implementing the reasonable water conservation measures included in the plan. Any best water management practice that is included in the plan that is identified

in the "Memorandum of Understanding Regarding Urban Water Conservation in California" is deemed to be reasonable for the purposes of this section.

10655. If any provision of this part or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of this part which can be given effect without the invalid provision or application thereof, and to this end the provisions of this part are severable.

10656. An urban water supplier that does not prepare, adopt, and submit its urban water management plan to the department in accordance with this part, is ineligible to receive funding pursuant to Division 24 (commencing with Section 78500) or Division 26 (commencing with Section 79000), or receive drought assistance from the state until the urban water management plan is submitted pursuant to this article.

10657. (a) The department shall take into consideration whether the urban water supplier has submitted an updated urban water management plan that is consistent with Section 10631, as amended by the act that adds this section, in determining whether the urban water supplier is eligible for funds made available pursuant to any program administered by the department.

(b) This section shall remain in effect only until January 1, 2006, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2006, deletes or extends that date.

APPENDIX E

WATER SHORTAGE CONTINGENCY PLAN

APPENDIX E

WATER SHORTAGE CONTINGENCY PLAN

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List of Tables

Attachments

This document is a Water Shortage Contingency Plan for the City of Brentwood (City) water system. The purpose of this contingency plan is to provide a plan of action to be followed at the various stages of a water shortage.

Section 1. Water Supply Shortage Stages and Conditions

This section describes the stages of action to be undertaken in response to water supply shortages. Included is an outline of specific water supply conditions that are applicable to each stage. Per California Water Code Section 10632 (a), the City has developed four stages of action to be undertaken in response to water supply shortages, including up to a 50 percent reduction in water supply and an outline of specific water supply conditions which are applicable to each stage.

Four stages of action to be taken during a water supply shortage have been developed. The stages will be implemented during water supply shortages according to shortage level, ranging from 5 percent shortage in Stage I to 50 percent shortage in Stage IV. The stage determination and declaration during a water supply shortage will be made by the Public Works Director. Table 1 describes the water supply shortage levels and stages.

Table 1. Water Supply Shortage Stages

Shortage	Stage	Demand Reduction Goal	Type of Program
Minimum 5-10 percent	I	10 percent	Voluntary
Moderate 10-20 percent	II	20 percent	Mandatory Conservation Phase - Voluntary Allotments and/or Mandatory Conservation Rules
Severe 20-35 percent	III	35 percent	Rationing Phase - Allotments and Mandatory Conservation Rules
Critical 35-50 percent	IV	50 percent	Intense Rationing Phase - Allotments and Mandatory Conservation and Rules

During Stage I, water alert conditions are declared and voluntary conservation is encouraged. The City maintains an ongoing public information campaign consisting of distribution of literature, speaking engagements, bill inserts, and conversation messages printed in local newspapers and on the City's internet web page. The drought situation is explained to public and governmental bodies. The City explains other stages and forecast future actions. Also, the City requests voluntary water conservation. Educational programs in area schools are ongoing.

During Stage II of a water supply shortage, the shortage is moderate, 10 to 20 percent, and conservation may be voluntary, consist of allotments, and or include mandatory conservation rules. The severity of actions depends upon the percent shortage. The City aggressively continues it public information and education programs. The City asks for 10 to 20 percent voluntary or mandatory water use reductions. If necessary, the City also supports passage of drought ordinances.

During Stage III of a water supply shortage, the shortage is severe, 20 to 35 percent, and conservation consists of allotments and mandatory conservation rules. This phase becomes effective upon notification by the City that water usage is to be reduced by a mandatory percentage. The City would adopt drought ordinances and implements mandatory reductions. Rate changes are implemented to penalize excess usage.

Water use restriction is put into effect; i.e., prohibited uses can include restrictions on daytime hours for watering, excessive watering resulting in gutter flooding, using hoses without a shutoff device, non-recycling fountains, washing down sidewalks or patios, unrepaired leaks, etc. The City monitors production weekly for compliance with necessary reductions. As a result of a customer consistently abusing use, the City would install a flow restrictor at the water meter.

During Stage IV of a water supply shortage, the shortage is critical, 35 to 50 percent. Conservation consists of allotments and mandatory conservation rules. All steps taken in prior stages are intensified and production is monitored daily for compliance with necessary reductions.

Section 2. Prohibitions

California Water Code Section 10632 (d) requires mandatory prohibitions against specific water use practices that may be considered excessive during water shortages. Since 1992, the City has adopted Municipal Code 17.630, which addresses landscaping and irrigation for new construction of homes, commercial and industrial facilities. This code is included in Appendix F. It requires 90 percent of the plants selected in non-turf areas to be well suited to the climate of Brentwood and require minimal water once established. Up to 10 percent of the plants may be of a non-drought-tolerant nature but must be grouped together and irrigated separately from the drought-tolerant plants. Turf is not allowed on City median strips, in areas less than 8 feet wide and on slopes greater than 4:1. Soil conditioning, irrigation systems and sprinkler heads are all addressed in this ordinance. The landscaping shall be inspected and must be issued a certificate of substantial completion that is submitted to the City. This code is a proactive means of reducing the water demand in the City of Brentwood.

Should drought conditions warrant mandatory reductions, during Stage II of a water supply shortage, the City may adopt and implement an ordinance for mandatory conservation and water restriction plan. This code may require additional tariffs for the City to enforce the plan.

The code may address prohibitions on various wasteful water uses, including, but not limited to, the hose washing of sidewalks and driveways using potable water, cleaning or filling decorative fountains, and allowing plumbing leaks to go uncorrected for more than 72 hours. Table 2 identifies potential prohibitions and the stages during which the prohibition would be voluntary and mandatory.

Table 2. Voluntary and Mandatory Prohibitions

Prohibitions	Stage When Prohibition is Voluntarily Requested	Stage When Prohibition Becomes Mandatory
Cleaning of Streets/sidewalks/walkways/parking areas/patios/porches or verandas	I	II, III, IV
Washing cars	I	II, III, IV
Watering lawns/landscapes	I	II, III, IV
Non-permanent agriculture	I	II, III, IV
Uncorrected plumbing leaks	I	II, III, IV
Gutter flooding	I	II, III, IV
Cleaning/filling/operating/maintaining levels in non-recycling decorative fountains	I	II, III, IV

Section 3. Consumption Reduction Methods

Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply. California Water Code Section 10632 (e) requires the water supplier to provide consumption reduction methods in the most restrictive stages of a water shortage. The City will use the consumption reduction methods proposed in Table 3.

Table 3. Consumption Reduction Methods

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

Section 4. Reduction Measuring Mechanism

California Water Code Section 10632 (i) requires the water supplier to develop a mechanism for determining actual reductions in water use in the course of carrying out the urban water supply shortage contingency analysis.

Under normal water supply conditions, water production figures are recorded daily within and monitored by the Superintendent during normal water supply conditions. Totals are reported monthly and are incorporated into water supply reports.

The City maintains extensive water use records on individual customer accounts. Exceptionally high usage is identified at meter reading time by the City's electronic meter reading management system. These accounts are investigated for potential water loss or abuse problems.

During all stages of water shortages, daily production figures are reported to and monitored by the Superintendent daily.

Section 5. Penalties or Charges for Excessive Use

Section 10632 (f) of the California Water Code requires a water supplier to penalize or charge for excessive water use, where applicable. The City, after one written warning, shall install a flow-restricting device on the service line of any customer observed by City personnel to be using water for any non-essential or unauthorized use defined in a City ordinance.

An excess use penalty per 100 cubic feet of water used in excess of the applicable allocation during each billing period shall be charged by the City for all service rendered on and after the effective date of an ordinance. Repeated violations of unauthorized water use will result in discontinuance of water service. Penalties and charges and the stage during which they take effect are displayed in Table 4.

Table 4. Penalties and Charges

Examples of Penalties and Charges	Stage When Penalty Takes Effect
Penalties for not reducing consumption	III, IV
Charges for excess use	III, IV
Flat fine	
Charge per unit over allotment	III, IV
Flow restriction	III, IV
Termination of Service	III, IV

Section 6. Worst-Case Scenarios

California Water Code Section 10632 (b) requires an estimate of the minimum water supply availability during each of the next 3 water years based on the driest 3 -year historic sequence for the agency's water supply. Refer to Chapter 3 of the Year 2005 Urban Water Management Plan for this analysis.

Section 7. Preparation for Catastrophic Water Supply Interruption

The Water Code Section 10632 (c) requires actions to be undertaken by the water supplier to prepare for and implement during a catastrophic interruption of water supplies. The City has a Water Quality Emergency Notification Plan in place that coordinates overall response to a disaster. This plan is included as Appendix F.

A catastrophic event that constitutes a proclamation of a water shortage would be any event, either natural or manmade, that causes a severe shortage of water, synonymous with or with greater severity than the Stage III or Stage IV water supply shortage conditions. Facilities are inspected annually for earthquake safety. Auxiliary generators and improvements to the water storage facilities to prevent loss of these facilities during an earthquake or any disaster causing an electric power outage have been budgeted for and installed as part of the annual construction process.

Table 5 is a summary of items discussed regarding the preparation actions for a catastrophe.

Table 5. Preparation Actions for a Catastrophe

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

Section 8. Analysis of Revenue and Expenditure Impacts

Section 10632 (g) of the California Water Code requires an analysis of the impacts of each of the actions taken for conservation and water restriction on the revenues and expenditures of the water supplier. The City will establish memorandum accounts to track expenses and revenue shortfalls caused by both mandatory rationing and voluntary conservation efforts. The City will implement a surcharge to recover revenue shortfalls recorded in their drought memorandum accounts.

Tables 6 and 7 display the Components of Revenue and Expenditure Impacts and summarize if the various components were discussed.

Table 6. Components of Revenue Impact Description

Components	Check if Discussed
Review of rate adjustment	X
Development of reserves	X
Change in quantity of sales	X
Impact on Customer's bill	X
Distribution of customer impacts between customer types	X
Impacts to water supplier of higher rates and penalties	X
Cost recovery reviews	X

Table 7. Components of Expenditure Impact Description

Components	Check if Discussed
Change in quantity of sales	X
Cost recovery reviews	X
Increased staff salaries/overtime	X
Increased costs of new supplies, transfers or exchanges	X
Distribution of customer impacts between customer types	X
Impacts to water supplier of higher rates and penalties	X

Appendix E

RESOLUTION NO. _____

IMPLEMENTATION OF STAGE [I, II, III, OR IV] OF THE CITY OF BRENTWOOD WATER SHORTAGE CONTINGENCY PLAN AS OUTLINED IN THE 2005 URBAN WATER MANAGEMENT PLAN ON FILE WITH THE CALIFORNIA DEPARTMENT OF WATER RESOURCES.

WHEREAS, on January 10, 2006, by Resolution No. 2006-006, City Council approved the 2005 Urban Water Management Plan; and

WHEREAS, the 2005 Urban Water Management Plan includes the Water Shortage Contingency Plan; and

WHEREAS, based on the [describe drought condition], the City of Brentwood City Council hereby declares that a water shortage emergency condition prevails within the water service area of the City and that water use within the City should be reduced by up to [10, 20, 30, 40, 50] percent; and

WHEREAS, required water use reduction described above necessitates implementation of Stage [I, II, III, IV] of the City's Water Shortage Contingency Plan. The water conservation measures and water use restrictions for Stage [I, II, III, IV] are described in the attached Water Shortage Contingency Plan. Implementation of Stage [I, II, III, IV] shall be cumulative and shall include implementation of all previous provisions listed in Stages [I, II, III]; and

WHEREAS, the City Manager is herby authorized and empowered to delegate his or her authority hereunder to such assistants, deputies, officers, employees, or agents of the City as he or she shall designate, and to establish such rules, regulations, and procedures, and to prepare or furnish such forms, as he or she deems necessary or appropriate to carry out the provisions of the Resolution; and

WHEREAS, this Resolution shall be effective upon its adoption, and shall remain effective until the drought conditions are resolved, in which case this Resolution shall be rescinded, or until conditions worsen, thus requiring additional action by the City Council, in which case a subsequent Resolution will be considered for adoption.

NOW, THEREFORE BE IT RESOLVED by the City Council of the City of Brentwood that Stage [I, II, III, IV] of the Water Shortage Contingency Plan is hereby adopted.

PASSED, APPROVED AND ADOPTED by the City Council of the City of Brentwood at a [regular, special] meeting held on the [Day] day of [Month] by the following vote:

APPENDIX G

NOTICE OF PUBLIC HEARING AND MUNICIPAL CODE

NOTICE OF PUBLIC HEARING

Notice is hereby given that the City Council of the City of Brentwood will hold a public hearing at 7:00 p.m. or as soon thereafter as the normal course of business permits on December 13, 2005 to consider the following matter:

Consideration of Adoption of a Resolution approving the 2005 Urban Water Management Plan as submitted by Brown and Caldwell, Environmental Engineers and Consultants.

Said hearing will be held at the City Council Chambers, 734 Third Street, Brentwood, CA 94513.

Further information may be obtained from City Hall, 708 Third Street, Brentwood, California 94513, (925) 516-5400.

If you challenge the City Council's action in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the Brentwood City Council at, or prior to, the public hearing.

Dated: November 7, 2005

*/s/*_____
Cynthia Garcia, CMC
Assistant City Clerk

Chapter 17.630

LANDSCAPING AND SCREENING

Sections:

17.630.001 Title and purpose of provisions.

A. Title. The provisions of this chapter shall be known as the "landscaping and screening regulations" of this title.

B. Purpose. The purpose of the landscape and screening regulations is to provide for the general welfare and convenience of the public by:

1. Increasing the compatibility between different intensities of land uses, by providing visual barriers, visually interrupting the barren expanse of paved parking lots, screening undesirable views which have a blighting impact on surrounding properties, and providing a visual separation and physical buffer between varying intensities of abutting land uses;

2. Implementing the comprehensive plan;

3. Encouraging the retention of significant existing vegetation to the extent feasible;

4. Reducing erosion and water runoff;

5. Conserving energy;

6. Preserving and promoting urban wildlife habitats;

7. Minimizing impacts of noise, light and glare. (Ord. 408 (part), 1987)

17.630.002 Applicability of provisions—General.

A. Landscaping shall be required within all yards, off-street parking lots and open land uses that are visible to and/or accessible to the public.

B. Shade trees shall be required within required landscaping, off-street parking lots and open land uses.

C. Screening shall be required as a buffer between activities having a different intensity of use and between certain zoning districts so as to mitigate the impacts of noise, light and glare and human activity.

D. All ornamental uses of water in the common areas of a development project, such as ponds, lakes and fountains shall be supplied, operated and maintained with alternative sources of water if they are available.

E. Exceptions to the specific requirements may be granted on a case-by-case basis due to either unusual site conditions or other extenuating circumstances.

F. The requirements are applicable to:

1. All landscaping for new construction, including:

a. All residential development greater than one unit,

b. Model homes or temporary development,

c. Commercial,

d. Industrial,

e. Public authorities.

G. The requirements shall be used as a guideline for landscaping and irrigation for a single-family residence.

H. The requirements does not apply to that portion of a site irrigating edible crops or using nonpotable water. (Ord. 523 § 2, 1992; Ord. 408 (part), 1987)

17.630.003 Definitions.

For the purposes of this chapter, unless otherwise apparent from the context, certain works and phrases used in this chapter are defined as follows:

A. "Landscaping" means vegetative plantings such as grass, trees, shrubs and vines and related

improvements such as pools, walkways, rock work and sculpture which is of a design that will beautify and enhance a property and control erosion and reduce glare.

B. "Screening" means a masonry wall, board fence, screened chain link fence, hedge, berm or vegetative planting or combination thereof which is of a design that will provide a visual and audible barrier between land uses having different intensities of use.

C. "Shade tree" means trees of a variety approved by the city that will, under ordinary circumstances and growing conditions, provide shade upon reaching maturity.

D. "Automatic controller" means a mechanical or solid state timer, capable of operating valve stations to set the days and length of time of a water application.

E. "Check valve" means a valve located under a sprinkler head to hold water in the system so it minimizes drainage from the lower elevation sprinkler heads.

F. "Conversion factor (0.62)" means a number that converts the estimated total water use from acres-inches per acre per year to gallons per square foot per year. The conversion factor is calculated as follows:

(325,851 gallons/43,560 square feet)/12 inches = (0.62)
325,851 gallons = one acre foot
43,560 square feet = one acre
12 inches = one foot

To convert gallons per year to one hundred-cubic-feet per year, another common billing unit for water, divide gallons per year by seven hundred forty-eight. (Seven hundred forty-eight gallons equal one hundred cubic feet.)

G. "Estimated total water use" means the annual total amount of water estimated to be needed to keep the plants in the landscaped area healthy. It is based upon such factors as the local evapotranspiration rate, the size of the landscaped area, the type of plants, and the efficiency of the irrigation system.

H. "Evapotranspiration" means the quantity of water evaporated from adjacent soil surfaces and transpired by plants during a specific time.

I. "Flowrate" means a portion of the landscaped area having plants with similar water needs that are served by a valve or set of valves with the same schedule. A hydro-zone may be irrigated or nonirrigated. For example, a naturalized area planted with native vegetation that will not need supplemental irrigation once established is a nonirrigated hydrozone.

J. "Hydrozone" means a portion of the landscaped area having plants with similar water needs that are served by a valve or set of valves with the same schedule. A hydrozone may be irrigated or nonirrigated. For example, a naturalized area planted with native vegetation that will not need supplemental irrigation once established is a nonirrigated hydrozone.

K. "Irrigation efficiency" means the measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. For the purpose of this chapter the following factors shall be used:

Spray heads (pop-up or riser)	0.60
Rotor or impact heads	0.70
Bubbler	0.70
Drip	0.76

L. "Landscape irrigation audit" means a process to perform site inspections, evaluate irrigation systems and develop efficient irrigation schedules.

M. "Landscaped area" means the entire parcel less the building(s) footprint, driveways, nonirrigated portions of the parking lots, hardscapes such as decks and patios and other nonporous areas. Water features are included in the calculation of the landscaped area. Areas dedicated to edible plants, such as orchards or vegetable gardens, are not included.

N. "Mulch" means any material such as leaves, bark, straw or other materials left loose and applied to the soil surface to reduce evaporation.

O. "Nonpotable water" means water unfit for human consumption, such as treated or recycled waste water, untreated irrigation water or untreated groundwater.

P. "Overspray" means the water which is delivered beyond the landscaped area, wetting pavements, walks, structures or other nonlandscaped areas.

Q. "Plant factor" means a factor that when multiplied by reference evapotranspiration, estimates the amount of water used by plants. For purposes of this ordinance, use the following plant factors:

Low water using:	0.1 - 0.3
Medium water using:	0.4 - 0.6
High water using:	0.7 - 0.9

These plant factors are based on the Water Use Classification Of Landscape Species project (WUCOLS). The project list is intended solely as a guide to help landscape professional identify irrigation water needs of landscape species. It is not intended to be used as a required, mandatory, approved or master list. The WUCOLS Project is available from the California Department of Water Resources or from the Contra Costa water district.

R. "Reference evapotranspiration" or "ETo" means a standard measurement of environmental parameters which affect the water use of plants. ETo is given in inches per day, month or year and is an estimate of the evapotranspiration of a large field of four-to-seven-inch tall, cool season grasses that is well watered. Reference evapotranspiration is used as the basis of determining the estimated total water use so that regional differences in climate can be accommodated. (For historical ETo rates see Exhibit B attached to the ordinance codified in this chapter.)

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

T. "Soil composition" means the classification of soil based on the percentage of sand, silt and clay in the soil.

U. "Sprinkler" means a device which sprays water through a nozzle.

V. "Station" means an area served by one valve or by a set of valves that operate simultaneously.

W. "Turf" means a surface layer of earth containing mowed grass and its roots. This can be either a cool season or warm season grass. For example, Red Fescue and Tall Fescue are cool season grasses; Bermuda grass, Kikuyu grass, St. Augustine, Zoysia grass, and Buffalo grass are warm season grasses.

X. "Valve" means a device used to control the flow of water in the irrigation systems. (Ord. 523 § 3, 1992; Ord. 408 (part), 1987)

17.630.004 Landscaping required.

Landscaping in conformance with Section 17.630.008 shall be required as follows:

A. Residential uses: Within any front yard or side yard adjacent to a street;

B. Public and quasi-public uses: Within any parking lot, front yard, side yards adjacent to a street or interior open space that is visible from a public right-of-way or accessible to the public;

C. Commercial and industrial uses: Within any parking lot, front yard, side yard adjacent to a street or open land use that is visible from a public right-of-way or accessible to the public;

D. Where a parking lot abuts a public right-of-way there shall be required a landscaped strip of not less than five feet in width contiguous to and parallel to such right-of-way;

E. Except for single-family residential uses landscaping shall be subject to design and site development review. (Ord. 408 (part), 1987)

17.630.005 Screening required.

Screening in conformance with Section 17.630.009 shall be required as follows:

A. Along the interior boundaries between any R, A, or OS zone and any C, IC, PEC, PF or SPF zone.

B. Parking lots for more than six vehicles shall be enclosed, except for necessary driveway open-

ings, by screening where contiguous to or within two hundred feet of any property in any R zone, any A zone or the OS zone.

C. Where a parking lot abuts a public right-of-way across from property in any R zone, any A zone or the OS zone, such lot shall be screened along that right-of-way to a height of forty-eight inches.

D. The following specific uses shall be screened:

1. Multiple residential projects having four or more dwellings;

2. Public and quasi-public uses such as churches, schools and similar uses;

3. The boundaries of new subdivisions upon development;

4. Mobile home parks. (Ord. 408 (part), 1987)

17.630.006 Shade trees required.

Shade trees in conformance with Section 17.630.008 shall be required as follows:

A. Within any public parking lot;

B. Within any area of required landscaping;

C. Within any area of open land use. (Ord. 408 (part), 1987)

17.630.007 Exceptions—Landscaping and screening.

The exception to the landscape and screening requirements are as follows:

A. The standards set forth in this chapter for location and height of landscaping or screening may be modified by the city when such landscaping or screening would constitute a danger to traffic by reason of impairment of vision at a street or driveway intersection.

B. Screening shall not be required along a lot line where a building wall, solid fence or freestanding wall of the required height exists immediately abutting and on the other side of the lot line. (Ord. 408 (part), 1987)

17.630.008 Landscape standards.

Required landscaping, to include shade trees, shall be installed in accordance with the following minimum standards. These standards may be exceeded voluntarily by the developer and greater standards may be imposed as a condition of an approved permit:

A. Parking lots and other open land uses which are visible to, or accessible to the public shall be landscaped at the following rate:

Parking Lot or Open Space Size (Spaces)	Area (Acres)	Percent of Lot In Landscaping
6 or less	.1 AC	4%
7 to 15	.2 AC	7%
16 to 30	.3 AC	10%
31 to 70	.4 AC	13%
71 or more	.5 AC	16%

B. Landscaped areas, parking lots and other open land uses shall be required to have shade trees at the rate of sixteen trees per acre or fraction thereof.

C. Shade trees generally shall be of a fifteen-gallon can size having a minimum height of six feet and a one-inch caliper. Modification of these standards for equivalent quality of tree may be permitted by the city depending on tree species and quality of stock.

D. Shade trees shall be scattered within a parking lot approximately thirty feet apart and may be clustered within landscaped areas.

E. Landscaped areas and tree wells shall be contained by pavement, fences or walls, or shall be contained in planters and tree wells bordered by a minimum six-inch-high concrete curb or equivalent approved by the city.

F. Planters and tree wells shall have a width of not less than five feet and shall be protected from automobile overhang where necessary through the provision of tire stops or other barriers approved by the city.

G. Landscaped areas and planters shall be watered by an automatic irrigation system approved by the city and designed to maximize water conservation.

H. All landscaping shall be maintained in good growing condition. Maintenance shall include, where appropriate, pruning, mowing, weeding, cleaning, fertilizing and regular watering. Whenever necessary, planting shall be replaced with other plant

materials to insure continued compliance with applicable landscaping requirements.

I. Paved and graveled walkways and the use of gravel or similar materials as a landscape feature shall not exceed twenty percent of the landscape area.

J. Vegetive materials shall be selected from among those known to be suitable to the climate of the city of Brentwood area.

K. In order to foster water conservation programs the use of native plants or other plant material proven to require minimal watering shall be permitted and encouraged.

L. Except for shade trees, landscaping or screening shall not exceed three feet in height within thirty-five feet of the street corner on any corner lots.

M. Within overhead utility line easements trees shall be of a type that customarily grow to a height not exceeding fifteen feet.

N. Within underground utility line easements the planting of trees shall be prohibited. (Ord. 408 (part), 1987)

17.630.009 Screening standards.

Required screening shall be installed in accordance with the following minimum standards;

A. Except where a greater height is required by the city for noise abatement, fences and walls shall not exceed a height of six feet.

B. Walls shall be constructed in conformance with the requirements of the city director of public works.

C. Fence supports should be on a maximum of six-foot centers and cemented in place and may be four-by-four wood posts, pipe or masonry piers.

D. Fence covering shall be masonry, wood boards of not less than one-inch thickness or a chain link type fence with slats, vegetative or other durable screening.

E. Fences or walls shall be maintained in good repair, including painting if required, without any signs or advertising thereon except in conformance with the city sign ordinance.

F. Vegetive screening may include an evergreen hedge or a mix of evergreen shrubs and trees of a type, density and spacing so that sight and illumination will be obscured through the screening within three years of planting.

G. Except for trees, vegetative screening shall be maintained at a height of not less than six feet nor more than ten feet.

H. An earth berm may be used in combination with any of the above types of screening, but not more than two-thirds of the required height of such screening may be provided by the berm.

I. All screening shall follow the lot line of the lot to be screened, or the inside edge of the sidewalks or shall be so arranged within the boundaries of the lot as to substantially screen, from adjoining properties the building, facility or activity required to be screened. (Ord. 408 (part), 1987)

17.630.010 Landscaping for new development.

A. Plant Selection. At least ninety percent of the plants selected in nonturf areas shall be well-suited to the climate of Brentwood and require minimal water once established. Up to ten percent of the plants may be of a non-drought tolerant variety as long as they are grouped together and can be irrigated separately.

B. Turf Selection and Limitations.

1. The combined turf and/or water area (i.e., pools, ponds and fountains) shall be limited to twenty-five percent of landscape areas. Turf limitation is excluded for public parks, golf courses, cemeteries, school and recreation areas;

2. No turf shall be allowed:

a. In median strips,

b. In areas less than eight feet wide,

c. On slopes greater than 4:1.

C. Soil Conditioning and Mulching.

1. A soil analysis shall be submitted with the landscape plans, showing general suitability, soluble salts, available micronutrients, plus gypsum requirement and applicable recommendations;

2. A minimum of two inches of mulch shall be added in nonturf areas to the soil surface after plant-

ing. Nonporous material shall not be placed under the mulch.

D. Irrigation.

1. Sprinklers and sprays shall not be used in areas less than eight feet wide. Micro-irrigation devices and/or bubblers shall be used that do not exceed 1.5 gallons per minute per device;

2. Sprinkler heads with a precipitation rate of .85 inches per hour or less shall be used on slopes exceeding fifteen percent to minimize runoff, or exceeding ten percent within ten feet of hardscape;

3. Valves and circuits shall be separated based on water use (hydrozoning);

4. Bubbler irrigation systems are required for newly installed trees;

5. Sprinkler heads must have matched precipitation rates within each control valve circuit;

6. Serviceable check valves are required where elevation differential may cause low head drainage;

7. Sprinkler head spacing shall be designed for head-to-head coverage. The system should be designed for minimum runoff and overspray onto nonirrigated areas;

8. All irrigation systems shall be equipped with an automatic controller capable of multiple programming. Controllers must have multiple cycle start capacity and a flexible calendar program;

9. Pop-up sprinklers in lawn areas shall have at least a four inch pop-up height;

10. All irrigation systems shall be equipped with automatic rain shutoff devices and high-flow shutoff valves at heads adjacent to walks, curbs or other high-traffic areas, or other flow sensor devices;

11. Irrigation plans shall include:

a. Irrigated turf area (in square feet),

b. Irrigated nonturf area (in square feet),

c. Flow rate in gallons per minute per valve,

d. Estimated annual water use per hydrozone in gallons (see Exhibit A attached to the ordinance codified in this chapter for formula),

e. Estimated total annual water use in gallons (sum of all hydrozones;)

12. Upon completing the installation of the landscaping and irrigation system, during the maintenance period, an irrigation audit shall be performed by a certified landscape irrigation auditor.

E. Certification. A licensed contractor and a licensed landscape architect and/or certified irrigation designer and/or other licensed or certified professional in a related field shall conduct a final field observation and shall provide a certificate of substantial completion to the city. (See Exhibit C attached to the ordinance codified in this chapter for the certificate of substantial completion.) (Ord. 523 § 4, 1992: Ord. 408 (part), 1987)

17.630.011 Installation.

All landscaping, shade trees and screening required pursuant to this chapter shall be installed prior to granting of any occupancy permit(s) approval. Except upon submittal of a bond or other surety acceptable to the city, installation may be deferred for a period not to exceed six months from the date of occupancy. (Ord. 523 § 5, 1992)

APPENDIX H

CUWCC BEST MANAGEMENT PRACTICES REPORTS

Reported as of 1/4/06

Water Supply & Reuse

Reporting Unit: **City of Brentwood**

Year: **2003**

Water Supply Source Information

Supply Source Name	Quantity (AF) Supplied	Supply Type
Contra Costa Water District	2693.91	Imported
City Well 6	580.77	Groundwater
City Well 7	806.56	Groundwater
City Well 8	765.59	Groundwater
City Well 11	344.59	Groundwater
City Well 12	309.22	Groundwater
City Well 13	298.33	Groundwater
City Well 14	1276.83	Groundwater

Total AF: 7075.8

Reported as of 1/4/06

Accounts & Water Use

Reporting Unit Name:	Submitted to CUWCC	Year:
City of Brentwood	**02/28/2005**	**2003**

A. Service Area Population Information:

1. Total service area population 35000

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	12000	6046.01	0	0
2. Multi-Family	14	3.04	0	0
3. Commercial	302	720.43	0	0
4. Industrial	0	0	0	0
5. Institutional	0	0	0	0
6. Dedicated Irrigation	280	901.71	0	0
7. Recycled Water	0	0	0	0
8. Other	0	0	0	0
9. Unaccounted	NA	0	NA	0
Total	12596	7671.19	0	0

	Metered	Unmetered

Reported as of 1/4/06

Reported as of 1/4/06

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

Reporting Unit:
City of Brentwood

BMP Form Status:
100% Complete

Year:
2003

A. Implementation

1. Based on your signed MOU date, 05/11/1999, your Agency STRATEGY DUE DATE is:	05/10/2001
2. Has your agency developed and implemented a targeting/ marketing strategy for SINGLE-FAMILY residential water use surveys?	no
a. If YES, when was it implemented?	
3. Has your agency developed and implemented a targeting/ marketing strategy for MULTI-FAMILY residential water use surveys?	no
a. If YES, when was it implemented?	

B. Water Survey Data

Survey Counts:	**Single Family Accounts**	**Multi-Family Units**
1. Number of surveys offered:	0	0
2. Number of surveys completed:	0	0
Indoor Survey:		
3. Check for leaks, including toilets, faucets and meter checks	no	no
4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary	no	no
5. Check toilet flow rates and offer to install or recommend installation of displacement device or direct customer to ULFT replacement program, as neccesary; replace leaking toilet flapper, as necessary	no	no
Outdoor Survey:		
6. Check irrigation system and timers	no	no
7. Review or develop customer irrigation schedule	no	no
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?	no	no
12. Have the number of surveys offered and completed, survey results, and survey costs been tracked?	no	no

a. If yes, in what form are surveys tracked?

b. Describe how your agency tracks this information.

C. Water Survey 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 1/4/06

BMP 02: Residential Plumbing Retrofit

Reporting Unit:
City of Brentwood

BMP Form Status:
100% Complete

Year:
2003

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: — 70%

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: — 60%

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? — no

   a. If YES, when did your agency begin implementing this strategy?

   b. Describe your targeting/ marketing strategy.

Low-Flow Devices Distributed/ Installed	SF Accounts	MF Units
2. Number of low-flow showerheads distributed:	0	0
3. Number of toilet-displacement devices distributed:	0	0
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? — no

a. If YES, in what format are low-flow devices tracked?

b. If yes, describe your tracking and distribution system :

C. Low-Flow Device Distribution 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 1/4/06

BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit:
City of Brentwood

BMP Form Status:
100% Complete

Year:
2003

A. Implementation

1. Has your agency completed a pre-screening system audit for this reporting year?	no
2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:	
a. Determine metered sales (AF)	7671
b. Determine other system verifiable uses (AF)	0
c. Determine total supply into the system (AF)	7601
d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required.	1.01
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?	no
6. Does your agency operate a system leak detection program?	no
a. If yes, describe the leak detection program:	

B. Survey Data

1. Total number of miles of distribution system line.	118.38
2. Number of miles of distribution system line surveyed.	0

C. System Audit / Leak Detection Program Expenditures

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

D. "At Least As Effective As"

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

E. Comments

Reported as of 1/4/06

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

Reporting Unit:
City of Brentwood

BMP Form Status:
100% Complete

Year:
2003

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? (mm/dd/yy)	
b. Describe the feasibility study:	
Sewer rates were based on metered water sales so irrigation meters were implimented	
2. Number of CII accounts with mixed-use meters.	200
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 1/4/06

BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit:	BMP Form Status:	Year:
City of Brentwood	**100% Complete**	**2003**

A. Water Use Budgets

1. Number of Dedicated Irrigation Meter Accounts:	280
2. Number of Dedicated Irrigation Meter Accounts with Water Budgets:	0
3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF):	0
4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF):	0
5. Does your agency provide water use notices to accounts with budgets each billing cycle?	no

B. Landscape Surveys

1. Has your agency developed a marketing / targeting strategy for landscape surveys?	no
a. If YES, when did your agency begin implementing this strategy?	
b. Description of marketing / targeting strategy:	
2. Number of Surveys Offered.	0
3. Number of Surveys Completed.	0
4. Indicate which of the following Landscape Elements are part of your survey:	
a. Irrigation System Check	no
b. Distribution Uniformity Analysis	no
c. Review / Develop Irrigation Schedules	no
d. Measure Landscape Area	no
e. Measure Total Irrigable Area	no
f. Provide Customer Report / Information	no
5. Do you track survey offers and results?	no
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. Does your agency provide mixed-use accounts with landscape budgets?	no
2. Number of CII mixed-use accounts with landscape budgets.	0
3. Do you offer landscape irrigation training?	no
4. Does your agency offer financial incentives to improve landscape water use efficiency?	no

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

5. Do you provide landscape water use efficiency information to new customers and customers changing services?	No

a. If YES, describe below:

6. Do you have irrigated landscaping at your facilities?	yes
a. If yes, is it water-efficient?	yes
b. If yes, does it have dedicated irrigation metering?	yes
7. Do you provide customer notices at the start of the irrigation season?	no
8. Do you provide customer notices at the end of the irrigation season?	no

D. Landscape Conservation Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	5000
2. Actual Expenditures	0	

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 1/4/06

BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit:
City of Brentwood

BMP Form Status:
100% Complete

Year:
2003

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 1/4/06

BMP 07: Public Information Programs

Reporting Unit:
City of Brentwood

BMP Form Status:
100% Complete

Year:
2003

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.

Web based & news letter

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	4
b. Public Service Announcement	no	
c. Bill Inserts / Newsletters / Brochures	yes	4
d. Bill showing water usage in comparison to previous year's usage	yes	
e. Demonstration Gardens	no	
f. Special Events, Media Events	yes	4
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	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 1/4/06

BMP 08: School Education Programs

Reporting Unit:
City of Brentwood

BMP Form Status:
100% Complete

Year:
2003

A. Implementation

1.Has your agency implemented a school information program to promote water conservation? no

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				
Grades 4th-6th				
Grades 7th-8th				
High School				

3. Did your Agency's materials meet state education framework requirements?

4. When did your Agency begin implementing this program?

B. School Education Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	1200
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 1/4/06

BMP 09: Conservation Programs for CII Accounts

Reporting Unit:	BMP Form Status:	Year:
City of Brentwood	**100% Complete**	**2003**

A. Implementation

1. Has your agency identified and ranked COMMERCIAL customers according to use?	no
2. Has your agency identified and ranked INDUSTRIAL customers according to use?	no
3. Has your agency identified and ranked INSTITUTIONAL customers according to use?	no

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?	no

CII Surveys	Commercial Accounts	Industrial Accounts	Institutional Accounts
a. Number of New Surveys Offered			
b. Number of New Surveys Completed			
c. Number of Site Follow-ups of Previous Surveys (within 1 yr)			
d. Number of Phone Follow-ups of Previous Surveys (within 1 yr)			

CII Survey Components	Commercial Accounts	Industrial Accounts	Institutional Accounts
e. Site Visit			
f. Evaluation of all water-using apparatus and processes			
g. Customer report identifying recommended efficiency measures, paybacks and agency incentives			

Agency CII Customer Incentives	Budget ($/Year)	No. Awarded to Customers	Total $ Amount Awarded
h. Rebates			
i. Loans			
j. Grants			
k. Others			

Option B: CII Conservation Program Targets

5. Does your agency track CII program interventions and water savings for the purpose of complying with BMP 9 under this option?	no
6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings?	
7. Estimated annual savings (AF/yr) from site-verified actions taken by agency since 1991.	
8. Estimated annual savings (AF/yr) from non-site-verified actions taken by agency since 1991.	

B. Conservation Program Expenditures for CII Accounts

	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

Did not have funding or sufficient staff

Reported as of 1/4/06

BMP 09a: CII ULFT Water Savings

Reporting Unit:
City of Brentwood

BMP Form Status:
100% Complete

Year:
2003

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

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.)

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?

3. What is the total number of customer accounts participating in the program during the last year ?

CII Subsector	Number of Toilets Replaced				
4.	Standard Gravity Tank	Air Assisted	Valve Floor Mount	Valve Wall Mount	Type Not Specified
a. Offices					
b. Retail / Wholesale					
c. Hotels					
d. Health					
e. Industrial					

f. Schools:
K to 12

g. Eating

h. Govern-
ment

i. Churches

j. Other

5. Program design.

6. Does your agency use outside services to implement this program?

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 isues 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?

The city does not have a replacement program. The majority of the City has been built after 1992 and has ULFT's existing.

C. Conservation Program Expenditures for CII ULFT

1. CII ULFT Program: Annual Budget & Expenditure Data

	Budgeted	Actual Expenditure
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 1/4/06

BMP 11: Conservation Pricing

Reporting Unit:	BMP Form Status:	Year:
City of Brentwood	**100% Complete**	**2003**

A. Implementation

Rate Structure Data Volumetric Rates for Water Service by Customer Class

1. Residential	
a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	$3723235.74
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	$1800000
2. Commercial	
a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	$443650
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	$200000
3. Industrial	
a. Water Rate Structure	Service Not Provided
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	$0
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	$0
4. Institutional / Government	
a. Water Rate Structure	Service Not Provided
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	$0
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	$0
5. Irrigation	
a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	$555290

d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	$100000
6. Other	
a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	$1870
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	$200

B. Conservation Pricing Program Expenditures

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

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Other indicates multi-family

Reported as of 1/4/06

BMP 12: Conservation Coordinator

Reporting Unit:
City of Brentwood

BMP Form Status:
100% Complete

Year:
2003

A. Implementation

1. Does your Agency have a conservation coordinator?	no
2. Is this a full-time position?	no
3. If no, is the coordinator supplied by another agency with which you cooperate in a regional conservation program ?	no
4. Partner agency's name:	
5. If your agency supplies the conservation coordinator:	
a. What percent is this conservation coordinator's position?	%
b. Coordinator's Name	
c. Coordinator's Title	
d. Coordinator's Experience and Number of Years	
e. Date Coordinator's position was created (mm/dd/yyyy)	
6. Number of conservation staff, including Conservation Coordinator.	0

B. Conservation Staff 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 1/4/06

BMP 13: Water Waste Prohibition

Reporting Unit:
City of Brentwood

BMP Form Status:
100% Complete

Year:
2003

A. Requirements for Documenting BMP Implementation

1. Is a water waste prohibition ordinance in effect in your service area? no

a. If YES, describe the ordinance:

2. Is a copy of the most current ordinance(s) on file with CUWCC? no

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:

B. Implementation

1. Indicate which of the water uses listed below are prohibited by your agency or service area.

a. Gutter flooding: no

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: yes

e. Non-recirculating systems in all new decorative fountains: no

f. Other, please name: no

2. Describe measures that prohibit water uses listed above:

New cooling systems require closed systems, Car wash / conveyor must recirculate, decorative fountains recirculate.

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.	yes
ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced.	yes
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

	This Year	Next Year
1. Budgeted Expenditures	1500	1500
2. Actual Expenditures	1250	

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 1/4/06

BMP 14: Residential ULFT Replacement Programs

Reporting Unit:
City of Brentwood

BMP Form Status:
100% Complete

Year:
2003

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 majority of the City has ULFT.

Reported as of 1/4/06

Water Supply & Reuse

Reporting Unit: **City of Brentwood**

Year: **2004**

Water Supply Source Information

Supply Source Name	Quantity (AF) Supplied	Supply Type
Contra Costa Water District	3742.21	Imported
City Well 6	571.98	Groundwater
City Well 7	938.89	Groundwater
City Well 8	909.92	Groundwater
City Well 11	504.1	Groundwater
City Well 12	342.05	Groundwater
City Well 13	394.42	Groundwater
City Well 14	1615.1	Groundwater

Total AF: 9018.67

Reported as of 1/4/06

Accounts & Water Use

Reporting Unit Name:	Submitted to CUWCC	Year:
City of Brentwood	**02/28/2005**	**2004**

A. Service Area Population Information:

1. Total service area population 40000

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	12651	7455.59	0	0
2. Multi-Family	17	48.78	0	0
3. Commercial	336	756.51	0	0
4. Industrial	0	0	0	0
5. Institutional	0	0	0	0
6. Dedicated Irrigation	288	952.35	0	0
7. Recycled Water	0	0	0	0
8. Other	0	137.73	0	0
9. Unaccounted	NA	0	NA	0
Total	13292	9350.96	0	0

	Metered	Unmetered

Reported as of 1/4/06

Reported as of 1/4/06

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

Reporting Unit:
City of Brentwood

BMP Form Status:
100% Complete

Year:
2004

A. Implementation

1. Based on your signed MOU date, 05/11/1999, your Agency STRATEGY DUE DATE is:	05/10/2001
2. Has your agency developed and implemented a targeting/ marketing strategy for SINGLE-FAMILY residential water use surveys?	no
a. If YES, when was it implemented?	
3. Has your agency developed and implemented a targeting/ marketing strategy for MULTI-FAMILY residential water use surveys?	no
a. If YES, when was it implemented?	

B. Water Survey Data

Survey Counts:	**Single Family Accounts**	**Multi-Family Units**
1. Number of surveys offered:	4	0
2. Number of surveys completed:	4	0
Indoor Survey:		
3. Check for leaks, including toilets, faucets and meter checks	yes	no
4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary	yes	no
5. Check toilet flow rates and offer to install or recommend installation of displacement device or direct customer to ULFT replacement program, as neccesary; replace leaking toilet flapper, as necessary	yes	no
Outdoor Survey:		
6. Check irrigation system and timers	yes	no
7. Review or develop customer irrigation schedule	yes	no
8. Measure landscaped area (Recommended but not required for surveys)	yes	no
9. Measure total irrigable area (Recommended but not required for surveys)	yes	no
10. Which measurement method is typically used (Recommended but not required for surveys)	Odometer Wheel	

11. Were customers provided with information packets that included evaluation results and water savings recommendations?	yes	no
12. Have the number of surveys offered and completed, survey results, and survey costs been tracked?	no	no
a. If yes, in what form are surveys tracked?		None
b. Describe how your agency tracks this information.		

C. Water Survey Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	2500	5000
2. Actual Expenditures	2500	

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 1/4/06

BMP 02: Residential Plumbing Retrofit

Reporting Unit:
City of Brentwood

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: 62%

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? no

a. If YES, when did your agency begin implementing this strategy?

b. Describe your targeting/ marketing strategy.

Low-Flow Devices Distributed/ Installed	SF Accounts	MF Units
2. Number of low-flow showerheads distributed:	0	0
3. Number of toilet-displacement devices distributed:	0	0
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? no

a. If YES, in what format are low-flow devices tracked?

b. If yes, describe your tracking and distribution system :

C. Low-Flow Device Distribution Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	37000
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 1/4/06

BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit:
City of Brentwood

BMP Form Status:
100% Complete

Year:
2004

A. Implementation

1. Has your agency completed a pre-screening system audit for this reporting year?	no
2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:	
a. Determine metered sales (AF)	9213.46
b. Determine other system verifiable uses (AF)	137.73
c. Determine total supply into the system (AF)	9358
d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required.	1.00
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?	no
6. Does your agency operate a system leak detection program?	yes
a. If yes, describe the leak detection program:	

FCS Data loggers

B. Survey Data

1. Total number of miles of distribution system line.	119.73
2. Number of miles of distribution system line surveyed.	59.86

C. System Audit / Leak Detection Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	45000	20000
2. Actual Expenditures	48000	

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 1/4/06

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

Reporting Unit:
City of Brentwood

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? (mm/dd/yy)	
b. Describe the feasibility study:	
2. Number of CII accounts with mixed-use meters.	205
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 1/4/06

BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit:	BMP Form Status:	Year:
City of Brentwood	**100% Complete**	**2004**

A. Water Use Budgets

1. Number of Dedicated Irrigation Meter Accounts:	288
2. Number of Dedicated Irrigation Meter Accounts with Water Budgets:	0
3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF):	0
4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF):	0
5. Does your agency provide water use notices to accounts with budgets each billing cycle?	no

B. Landscape Surveys

1. Has your agency developed a marketing / targeting strategy for landscape surveys?	no
a. If YES, when did your agency begin implementing this strategy?	
b. Description of marketing / targeting strategy:	
2. Number of Surveys Offered.	0
3. Number of Surveys Completed.	0
4. Indicate which of the following Landscape Elements are part of your survey:	
a. Irrigation System Check	no
b. Distribution Uniformity Analysis	no
c. Review / Develop Irrigation Schedules	no
d. Measure Landscape Area	no
e. Measure Total Irrigable Area	no
f. Provide Customer Report / Information	no
5. Do you track survey offers and results?	no
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. Does your agency provide mixed-use accounts with landscape budgets?	no
2. Number of CII mixed-use accounts with landscape budgets.	0
3. Do you offer landscape irrigation training?	no
4. Does your agency offer financial incentives to improve landscape water use efficiency?	no

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

5. Do you provide landscape water use efficiency information to new customers and customers changing services?	No
a. If YES, describe below:	
6. Do you have irrigated landscaping at your facilities?	yes
a. If yes, is it water-efficient?	yes
b. If yes, does it have dedicated irrigation metering?	yes
7. Do you provide customer notices at the start of the irrigation season?	yes
8. Do you provide customer notices at the end of the irrigation season?	yes

D. Landscape Conservation Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	5000	5000
2. Actual Expenditures	5000	

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 1/4/06

BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit:
City of Brentwood

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	37000
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 1/4/06

BMP 07: Public Information Programs

Reporting Unit:
City of Brentwood

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.

Web based & news letter

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	4
b. Public Service Announcement	no	
c. Bill Inserts / Newsletters / Brochures	yes	4
d. Bill showing water usage in comparison to previous year's usage	yes	
e. Demonstration Gardens	no	
f. Special Events, Media Events	yes	4
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	2000	2000
2. Actual Expenditures	2200	

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 1/4/06

BMP 08: School Education Programs

Reporting Unit:
City of Brentwood

BMP Form Status:
100% Complete

Year:
2004

A. Implementation

1.Has your agency implemented a school information program to promote water conservation? no

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				
Grades 4th-6th				
Grades 7th-8th				
High School				

3. Did your Agency's materials meet state education framework requirements?

4. When did your Agency begin implementing this program?

B. School Education Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	1200	2000
2. Actual Expenditures	550	

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 1/4/06

BMP 09: Conservation Programs for CII Accounts

Reporting Unit:	BMP Form Status:	Year:
City of Brentwood	**100% Complete**	**2004**

A. Implementation

1. Has your agency identified and ranked COMMERCIAL customers according to use?	yes
2. Has your agency identified and ranked INDUSTRIAL customers according to use?	no
3. Has your agency identified and ranked INSTITUTIONAL customers according to use?	no

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?	no

CII Surveys	Commercial Accounts	Industrial Accounts	Institutional Accounts
a. Number of New Surveys Offered			
b. Number of New Surveys Completed			
c. Number of Site Follow-ups of Previous Surveys (within 1 yr)			
d. Number of Phone Follow-ups of Previous Surveys (within 1 yr)			

CII Survey Components	Commercial Accounts	Industrial Accounts	Institutional Accounts
e. Site Visit			
f. Evaluation of all water-using apparatus and processes			
g. Customer report identifying recommended efficiency measures, paybacks and agency incentives			

Agency CII Customer Incentives	Budget ($/Year)	No. Awarded to Customers	Total $ Amount Awarded
h. Rebates			
i. Loans			
j. Grants			
k. Others			

Option B: CII Conservation Program Targets

5. Does your agency track CII program interventions and water savings for the purpose of complying with BMP 9 under this option?	no
6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings?	
7. Estimated annual savings (AF/yr) from site-verified actions taken by agency since 1991.	
8. Estimated annual savings (AF/yr) from non-site-verified actions taken by agency since 1991.	

B. Conservation Program Expenditures for CII Accounts

	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

Did not have funding or sufficient staff

Reported as of 1/4/06

BMP 09a: CII ULFT Water Savings

Reporting Unit:
City of Brentwood

BMP Form Status:
100% Complete

Year:
2004

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

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.)

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?

3. What is the total number of customer accounts participating in the program during the last year ?

CII Subsector	Number of Toilets Replaced				
4.	**Standard Gravity Tank**	**Air Assisted**	**Valve Floor Mount**	**Valve Wall Mount**	**Type Not Specified**
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?

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 isues 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?

The city does not have a replacement program. The majority of the City has been built after 1992 and has ULFT's existing.

C. Conservation Program Expenditures for CII ULFT

1. CII ULFT Program: Annual Budget & Expenditure Data

	Budgeted	Actual Expenditure
a. Labor		
b. Materials		
c. Marketing & Advertising		

	d. Administration & Overhead		
	e. Outside Services		
	f. Total	0	0
2. CII ULFT Program: Annual Cost Sharing			
	a. Wholesale agency contribution		
	b. State agency contribution		
	c. Federal agency contribution		
	d. Other contribution		
	e. Total		0

D. Comments

Reported as of 1/4/06

BMP 11: Conservation Pricing

Reporting Unit:
City of Brentwood

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	$6340334.67
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	$1900000
2. Commercial	
a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	$643346.73
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	$210000
3. Industrial	
a. Water Rate Structure	Service Not Provided
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	$0
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	$0
4. Institutional / Government	
a. Water Rate Structure	Service Not Provided
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	$0
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	$0
5. Irrigation	
a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	$809888.22

d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	$120000
6. Other	
a. Water Rate Structure	Increasing Block
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	$60768
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	$10000

B. Conservation Pricing Program Expenditures

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

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Other indicates multi-family & Hydrant meters.

Reported as of 1/4/06

BMP 12: Conservation Coordinator

Reporting Unit:
City of Brentwood

BMP Form Status:
100% Complete

Year:
2004

A. Implementation

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

B. Conservation Staff Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	50000	50000
2. Actual Expenditures	60000	

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 1/4/06

BMP 13: Water Waste Prohibition

Reporting Unit:
City of Brentwood

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? — no

a. If YES, describe the ordinance:

2. Is a copy of the most current ordinance(s) on file with CUWCC? — no

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:

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 — yes

e. Non-recirculating systems in all new decorative fountains — no

f. Other, please name — no

2. Describe measures that prohibit water uses listed above:

NPDES code enforcement regulates gutters / Storm Drains. New cooling systems require closed systems, Car wash / conveyor must recirculate, decorative fountains recirculate.

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.	yes
ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced.	yes
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

	This Year	Next Year
1. Budgeted Expenditures	1500	1500
2. Actual Expenditures	1250	

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 1/4/06

BMP 14: Residential ULFT Replacement Programs

Reporting Unit:
City of Brentwood

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 majority of the City has ULFT.