

SECTION 3

WATER USE

3.1 LAW

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

10631 (e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors including, but not necessarily limited to, all of the following uses:

(A) Single-family residential; (B) Multifamily; (C) Commercial; (D) Industrial; (E) Institutional and governmental; (F) Landscape; (G) Sales to other agencies; (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof; and (I) Agricultural.

(2) The water use projections shall be in the same 5-year increments to 20 years or as far as data is available.

3.2 PAST, CURRENT, AND PROJECTED WATER USE

3.2.1 Past and Current Water Use

In 1990 the demand on the District supply was approximately 5,572 acre-feet, and the water demand in the year 2000 was 6,308 acre-feet. Current demand, based on the totals in the year 2004 is 8,662 acre-ft. The population grew from 12,850 in 1990 to a projected 24,975 in 2005. About 3,600 new services have been added – almost all were residential. Water use for agricultural purposes is projected to decrease within the District from approximately 3% of the total demand in 2005 to less than 1% by the year 2030.

Although the water demand is based on well production records, the amount of average daily pumpage exceeds that of the average daily demand. This is due to several factors including inaccurate meters, fire flows, main flushing, leaks, and accidental main breaks, etc. Unaccounted for water is approximately 5 to 7 percent of the total water pumped. This is easily within the range of a well-operated water system.

Table 3-1 illustrates past, current, and projected water use from 1990 to the year 2030 in AFY. The total demand includes both potable and non-potable demands.

**Table 3-1
Past, Current, and Projected Water Demand
acre-ft/year**

Water Use Sectors	1995	2000	2005	2010	2015	2020	2025	2030
Single & Multi-family residential	2,608	3,297	4,230	10,658	14,873	16,015	16,805	17,400
Commercial	503	630	797	2,515	3,473	3,689	3,809	3,905
Industrial	169	212	242	303	363	424	485	545
Landscape / Recycled Water Users	900	1,100	2,153	6,410	6,828	7,028	7,028	7,028
Agriculture	201	252	225	171	120	85	69	51
Other	652	817	1,140	2,229	2,231	2,050	1,800	1,523
Total	5,033	6,308	8,767	22,286	27,888	29,292	29,994	30,452

**Table 3-2
Past, Current, and Projected Potable and Non-Potable Water Demand**

Water Use s	1995	2000	2005	2010	2015	2020	2025	2030
Potable, AFY			6,315	15,876	21,060	22,264	22,966	23,424
Non-Potable AFY ¹			2,153	6,410	6,828	7,028	7,028	7,028
Total, AFY	5,033	6,308	8,767	22,286	27,888	29,292	29,994	30,452
Potable, mgd			5.90	14.17	18.80	19.88	20.50	20.91
Non-Potable, mgd			1.92	5.72	6.10	6.27	6.27	6.27
Total, mgd		5.63	7.83	19.89	24.90	26.15	26.78	27.18

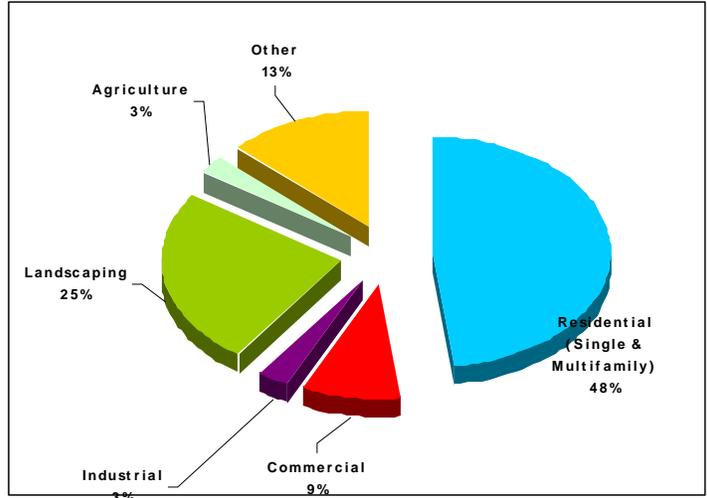
¹ Non-Potable water demand includes only existing landscape customers converted to recycled water; recycled water to irrigate future landscape areas, and recycled water supplied to Overlying Parties.

Table 3-3, Figure 3-1, and Figure 3-2 illustrate the percent of total water use by land use designation estimated within the District's SOI for both the current and year 2030 conditions.

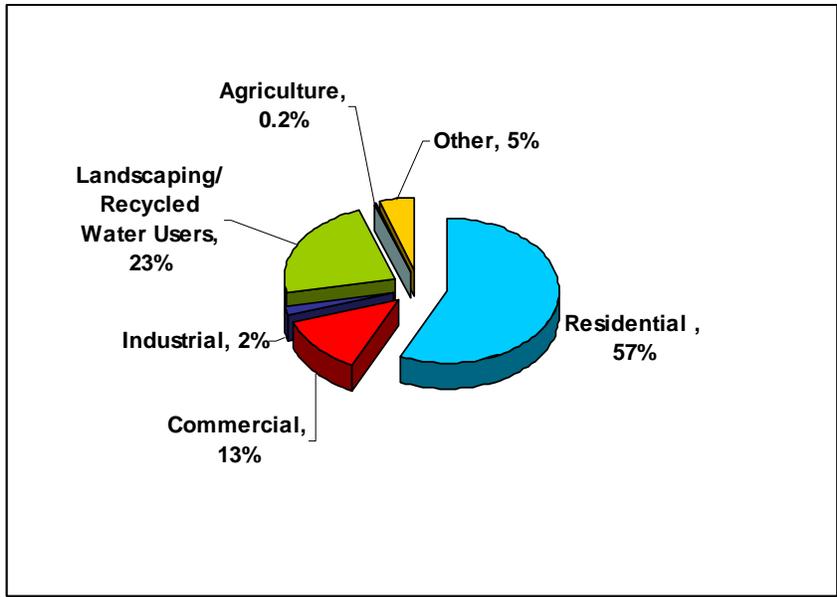
**Table 3-3
Total Projected Water Use by Land Use Type**

TYPE	2005 (%)	2030 (%)
Residential (Single & Multifamily)	48	57
Commercial	9	13
Industrial	3	2
Landscaping / Recycled Water Users e.g. parks, medians, cemeteries, golf courses, egg ranch, groundwater recharge, etc.	25	23
Agriculture	2	>1
Other e.g. construction, fire, maintenance, system losses, etc.	13	5

**Figure 3-1
Total Water Use by Land Use Designation in 2005**



**Figure 3-2
Total Water Use by Land Use Designation in 2030**



The residential, commercial, and industrial developments listed in Table 3-4 will add approximately 10,940 gpm or about 17,650 AFY to the current demand. This is based on a water demand of 0.38 gpm/EDU or 0.61 AFY/EDU. Analyses of water meter records for three recent projects in Beaumont totaling 392 units indicated a range from 0.34 gpm/unit to 0.39 gpm/unit. The average of the projects studied was 0.37 gpm/unit. For the purposes of planning 0.38 gpm/EDU is used.

To determine the water demand from forecasted property development, the potable water demand was based on the “Estimated Start Date” for construction and the “Estimated Years to Build-Out” for the developments listed in Table 3-4. These estimates were made by BCVWD. It is possible some of the developers could have delayed start dates or extended build-out periods. The demand is equally distributed over the number of years to completion of the development. To estimate the projected wastewater generated for residential and commercial/industrial development, 250 gpd/EDU was used. The calculation tables are provided in Appendix K.

The City of Beaumont’s WWTP receives wastewater from almost all of the City of Beaumont and the northeast portion of Cherry Valley. The remainder of Cherry Valley is currently unsewered; all parcels are on septic tanks. The District has noticed an increase in nitrate concentration at several of its wells in the Beaumont Basin. Because the Beaumont Basin is such a critical part of the District’s water supply and the cost to remove nitrates from groundwater is very expensive, the District is planning on activating its latent sewerage authority and sewer Cherry Valley, (except for the Mesa Area which will remain on septic tanks since the population is limited and the cost to extend sewer lines into this area would be very expensive. The sewerage of Cherry Valley will add about 1 mgd (1,100 AFY) to the flow at the City of Beaumont’s treatment plant by the year 2030. This can be recycled.

3.2.1.1 Multiple and Single-Family Residential

Residential water consumption is composed of both indoor and outdoor uses. Indoor water use includes sanitation, bathing, laundry, cooking and drinking. Most outdoor water use is to meet domestic landscaping irrigation requirements. Other minor outdoor uses include car washing, surface cleaning, and similar activities.

3.2.1.2 Commercial

The District has a mix of commercial customers, ranging from markets, restaurants, stores, insurance offices, beauty shops, and gas stations to office buildings, shopping centers and other facilities serving the population. The commercial sector is growing each year. Major supermarkets, a Wal-Mart, and Lowes have, or are in the process of, constructing facilities in Beaumont to serve the residential growth. The planned development as shown in Table 3-4 includes planned areas of commercial land use to serve the proposed increasing population. The commercial water demands are expected to increase to 13% of the total demand over the next 25 years.

**Table 3-4
Water Demands for Developments Requesting Service**

Project Name	TOTAL EDUs	EDUs Remaining 1/2005	Average Water Demand of Remaining Units (AFY)	Estimated Start Date	Estimated Years to Build Out
Pardee -- Sundance (Deutch)	4,640	3740	2281	2002	10
Noble Creek Specific Plan	900	900	549	2006	10
Cougar Ranch	164	84	51	2004	2
Suncal (formerly Heartland)	1,484	1484	905	2006	10
K-Hovnanian Four Seasons	2,305	2305	1406	2005	7
Hdden Canyon (formerly Lockheed Aircraft, Beaumont Gateway)	400	400	244	2007	4
Seneca Springs (formerly Loma Linda)	950	950	580	2005	7
Pardee Tournament Hills (formerly Oak Valley Partners LP / SCPGA)	2,100	2100	1281	2004	10
Majestic Realty (formerly Olinger Commercial)	84	84	51	2007	2
Cross Roads Logistics (formerly Rolling Hills Ranch)	100	100	61	2007	2
Pulte Oak Valley Greens	2,740	1240	756	2002	5
Willow Springs Area	3,010	3010	1836	2007	15
Shea Homes Laborde Canyon Hidden Canyon I & II (formerly Mission Viejo Co., Jack Rabbit)	1,200	1200	732	2006	10
Sixth Street Commercial Corridor -- Xenia St East	1,278	1278	780	2005	5
Beaumont Industrial / Fourth Street Area	1,139	1139	695	2006	5
Centerstone (formerly KSE)	470	470	287	2004	2
Tracat 30450 (Oak Glen Road)	27	27	16	2006	5
Sunny Cal Egg Ranch Development	900	900	549	2007	8
SunCal Fairway Canyon	3,300	3300	2013	2005	8
Curtis Tr 30891	241	241	147	2006	2
Royal Homes Tr 30524	23	23	14	2006	1
Pacific Scene Tr 31426/32020	170	170	104	2006	2
Walmart/Home Depot	20	20	12	2006	1
Cameo Homes Tr 29839	73	73	45	2005	2
Corman Leigh Tr 30779 (formerly Brookfield)	194	194	118	2006	2
TOTALS	27,912	25,432	15,514		
OTHER POTENTIAL UNKNONWN PROJECTS	1,125	1125	686		
ADDED EDUs IN CHERRY VALLEY	2,400	2,400	1,464		
OVERALL POTENTIAL FUTURE DEVELOPMENT TOTALS	31,437	28,957	17,646		

3.2.1.3 Industrial

The District has a small industrial sector, primarily centered on manufacturing and light manufacturing. A Lowes Distribution Center has been constructed and the Cross Roads Logistics industrial park is in design. The industrial sector has not grown much prior to 2003 or so. While there will likely be a few additions to the industrial areas within the District's SOI, the impact on water demands are expected to be small. The industrial development envisioned for Beaumont is low water-using industry.

3.2.1.4 Institutional and Governmental

The District service area has a stable institutional/governmental sector, primarily local government and schools. This sector will keep pace with the growth of the city.

3.2.1.5 Landscape / Open Space

Landscaped areas including parks, medians, schools, green belt areas, and executive golf courses in the District currently consume approximately 2,153 AFY. These will be supplied by recycled water beginning in 2006. In addition to the current water demand, there are three championship golf courses, several ready-mix concrete facilities, and groundwater recharge facilities, within the District's SOI that could be served with recycled water as it becomes available. Landscape and recycled water customer demand is expected to increase to approximately 23% of the District's total demand over the next 25 years. These current and planned increases in landscape areas account for the increase in irrigation demands and represent a viable use of recycled water to offset those demands.

3.2.1.6 Agricultural

Agricultural water demand is projected to decrease in the next 25 years as the agricultural land is developed within the City of Beaumont and Cherry Valley. There will still be some agricultural use on the "Mesa."

3.3 POTENTIAL RECYCLED WATER USERS

Section 8 of this plan discusses in more detail the potential users of recycled water within the District's service area.

3.4 SALES TO OTHER AGENCIES

In 2003 and 2004 the District sold water to the City of Banning in response to an emergency with the City of Banning's water supply. The water was delivered through a temporary connection at Highland Springs Road and First Street.

As part of the development of the Sundance Project on the eastern edge of the District, permanent pipelines have been extended across Highland Springs Road at various locations to provide water to Banning. The water would be pumped by the District through the joint BCVWD-Banning Wells and delivered to Banning. The water which is pumped and delivered would come from Banning's rights in the BSU as stipulated in the Judgment and would not be "charged" against the District's water supply.