

Water Resources Planning Department

Projection Analysis Work Sheets for Westlake District

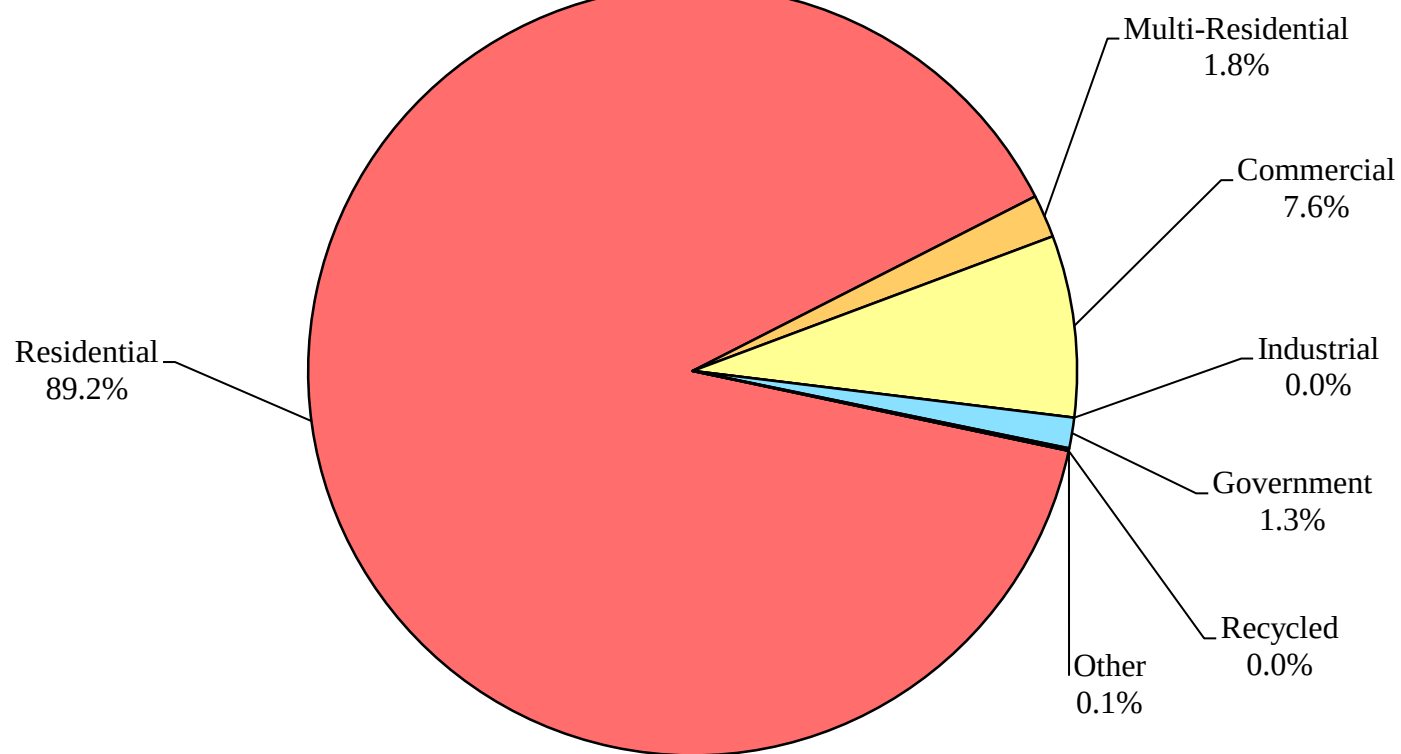
2015



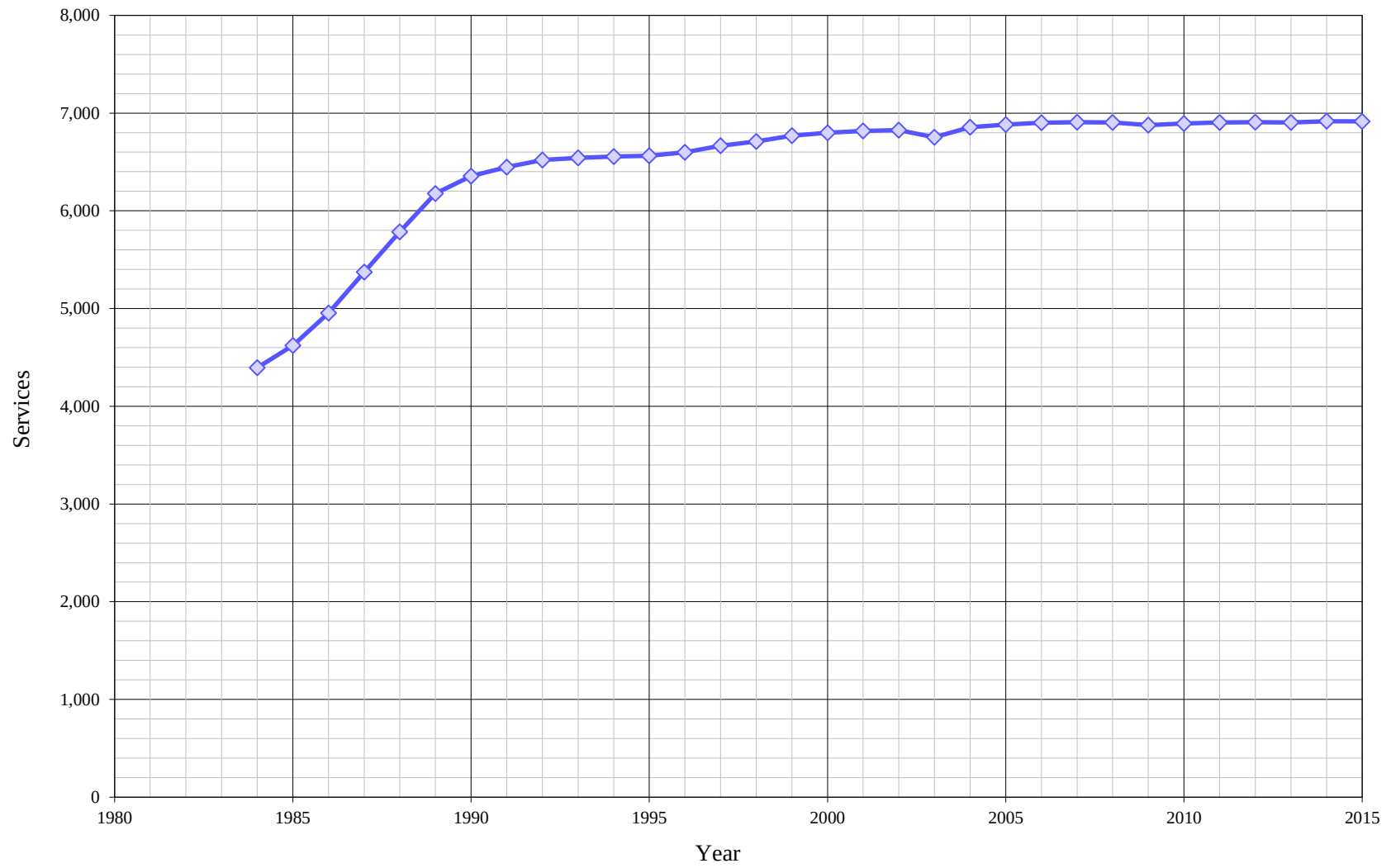
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Distribution of Services (2015)



Historical Services



California Water Service Company - Westlake District
Water Supply and Demand Analysis and Projections
Average Annual Services

Worksheet 1

Year	Single Family (SFR)	Multi Family (MFR)	Commercial (COM)	Industrial (IND)	Government (GOV)	Other (OTH)	Reclaimed (REC)	Total	Annual Change
1980									
1981									
1982									
1983									
1984	4,048	53	211	15	52	15		4,395	4,395
1985	4,246	53	237	14	52	18		4,621	226
1986	4,551	53	264	14	51	22		4,955	335
1987	4,947	54	280	14	51	28		5,373	418
1988	5,353	54	284	14	51	31		5,786	412
1989	5,708	53	318	14	52	31		6,176	390
1990	5,867	53	345	14	53	24		6,356	180
1991	5,934	65	347	14	70	19		6,447	91
1992	5,989	65	348	14	91	13		6,520	73
1993	6,012	65	351	14	91	9		6,542	22
1994	6,027	65	353	15	90	6		6,556	14
1995	6,048	65	343	14	89	4		6,563	7
1996	6,065	65	361	14	84	12		6,600	36
1997	6,097	65	396	14	82	11		6,665	65
1998	6,134	65	413	14	79	5		6,709	44
1999	6,181	65	419	14	81	9		6,768	58
2000	6,116	65	510	14	84	9		6,798	31
2001	6,079	65	565	14	88	8		6,819	20
2002	6,090	65	561	14	87	10		6,827	8
2003	6,031	64	548	15	86	8		6,752	-75
2004	6,117	65	566	15	87	7		6,856	104
2005	6,134	65	576	15	87	6		6,883	27
2006	6,147	65	580	15	87	8		6,901	19
2007	6,149	100	549	10	88	10		6,907	6
2008	6,142	120	542	1	90	9		6,903	-3
2009	6,121	125	535	0	89	7		6,877	-26
2010	6,139	125	536	0	89	5		6,895	18
2011	6,156	125	530	0	89	6		6,905	11
2012	6,158	125	530	0	89	5		6,906	1
2013	6,155	125	532	0	89	4		6,906	-1
2014	6,163	125	532	0	89	8		6,917	11
2015	6,166	125	528	0	89	7		6,915	-2
5 Yr Avg.	6,159	125	530	0	89	6		6,910	4
10 Yr Avg.	6,150	116	539	3	89	7		6,903	3
15 Yr Avg.	6,130	99	547	7	88	7		6,878	8
20 Yr Avg.	6,127	90	515	8	87	8		6,835	18

Note: Reclassification occurred between categories from 2007 to 2009

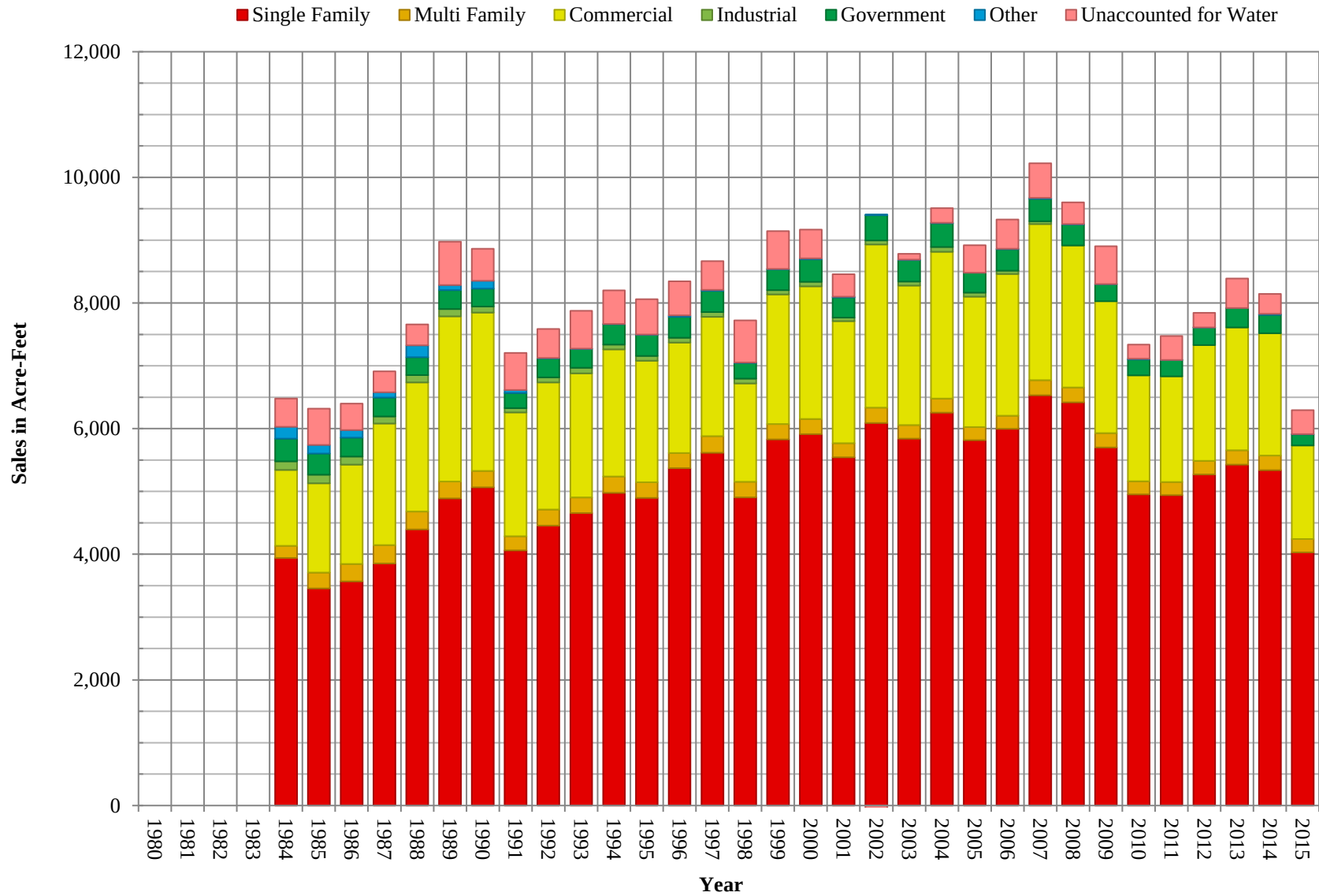
California Water Service Company - Westlake District
Water Supply and Demand Analysis and Projections
Service Growth Percentage

Worksheet 2

Year	Single Family (SFR)	Multi Family (MFR)	Commercial (COM)	Industrial (IND)	Government (GOV)	Other (OTH)	Recycled (REC)	Total
1981								
1982								
1983								
1984								
1985	4.89%	0.00%	12.12%	-3.45%	0.00%	20.22%		5.14%
1986	7.17%	0.47%	11.58%	0.00%	-2.54%	21.36%		7.24%
1987	8.71%	1.41%	6.12%	0.00%	-0.16%	23.85%		8.44%
1988	8.21%	0.00%	1.31%	0.00%	-0.82%	11.59%		7.68%
1989	6.64%	-1.85%	11.89%	0.00%	3.29%	2.17%		6.75%
1990	2.78%	0.00%	8.58%	0.00%	1.44%	-22.28%		2.91%
1991	1.14%	21.86%	0.46%	0.00%	31.76%	-23.30%		1.44%
1992	0.92%	0.65%	0.48%	0.60%	30.79%	-30.14%		1.13%
1993	0.39%	0.26%	0.86%	1.18%	-0.18%	-33.12%		0.34%
1994	0.25%	-0.26%	0.57%	1.75%	-0.91%	-27.62%		0.21%
1995	0.35%	0.00%	-2.83%	-4.02%	-1.38%	-31.58%		0.11%
1996	0.28%	0.00%	5.05%	0.60%	-5.99%	176.92%		0.55%
1997	0.54%	0.00%	9.89%	0.00%	-2.09%	-12.50%		0.99%
1998	0.60%	0.00%	4.25%	0.00%	-3.46%	-56.35%		0.67%
1999	0.77%	0.00%	1.39%	-1.79%	1.79%	85.45%		0.87%
2000	-1.05%	0.00%	21.77%	1.82%	4.34%	5.88%		0.45%
2001	-0.61%	0.00%	10.72%	0.00%	4.36%	-11.11%		0.30%
2002	0.18%	0.00%	-0.68%	1.19%	-0.47%	18.75%		0.12%
2003	-0.97%	-1.54%	-2.27%	5.29%	-1.15%	-18.42%		-1.10%
2004	1.42%	1.56%	3.21%	0.00%	0.77%	-12.90%		1.54%
2005	0.29%	0.00%	1.89%	-1.68%	0.00%	-16.50%		0.39%
2006	0.21%	0.00%	0.56%	2.27%	0.00%	38.98%		0.27%
2007	0.03%	53.72%	-5.19%	-33.33%	1.53%	29.79%		0.08%
2008	-0.12%	20.10%	-1.32%	-87.50%	1.32%	-11.48%		-0.05%
2009	-0.33%	4.17%	-1.25%	-100.00%	-0.56%	-27.78%		-0.38%
2010	0.30%	0.00%	0.09%		0.00%	-17.95%		0.26%
2011	0.26%	0.00%	-1.18%		0.00%	14.06%		0.15%
2012	0.03%	0.00%	0.08%		0.00%	-24.66%		0.01%
2013	-0.04%	0.00%	0.44%		0.00%	-18.18%		-0.01%
2014	0.12%	0.00%	-0.08%		0.00%	113.33%		0.16%
2015	0.05%	0.00%	-0.77%		0.00%	-9.38%		-0.03%
5 Yr. Avg.	0.08%	0.00%	-0.30%		0.00%	15.03%		0.06%
10 Yr. Avg.	0.05%	7.80%	-0.86%		0.23%	8.67%		0.05%
15 Yr. Avg.	0.05%	5.20%	0.28%		0.39%	3.10%		0.11%
20 Yr. Avg.	0.10%	3.90%	2.33%		0.02%	12.30%		0.26%

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Historical Sales

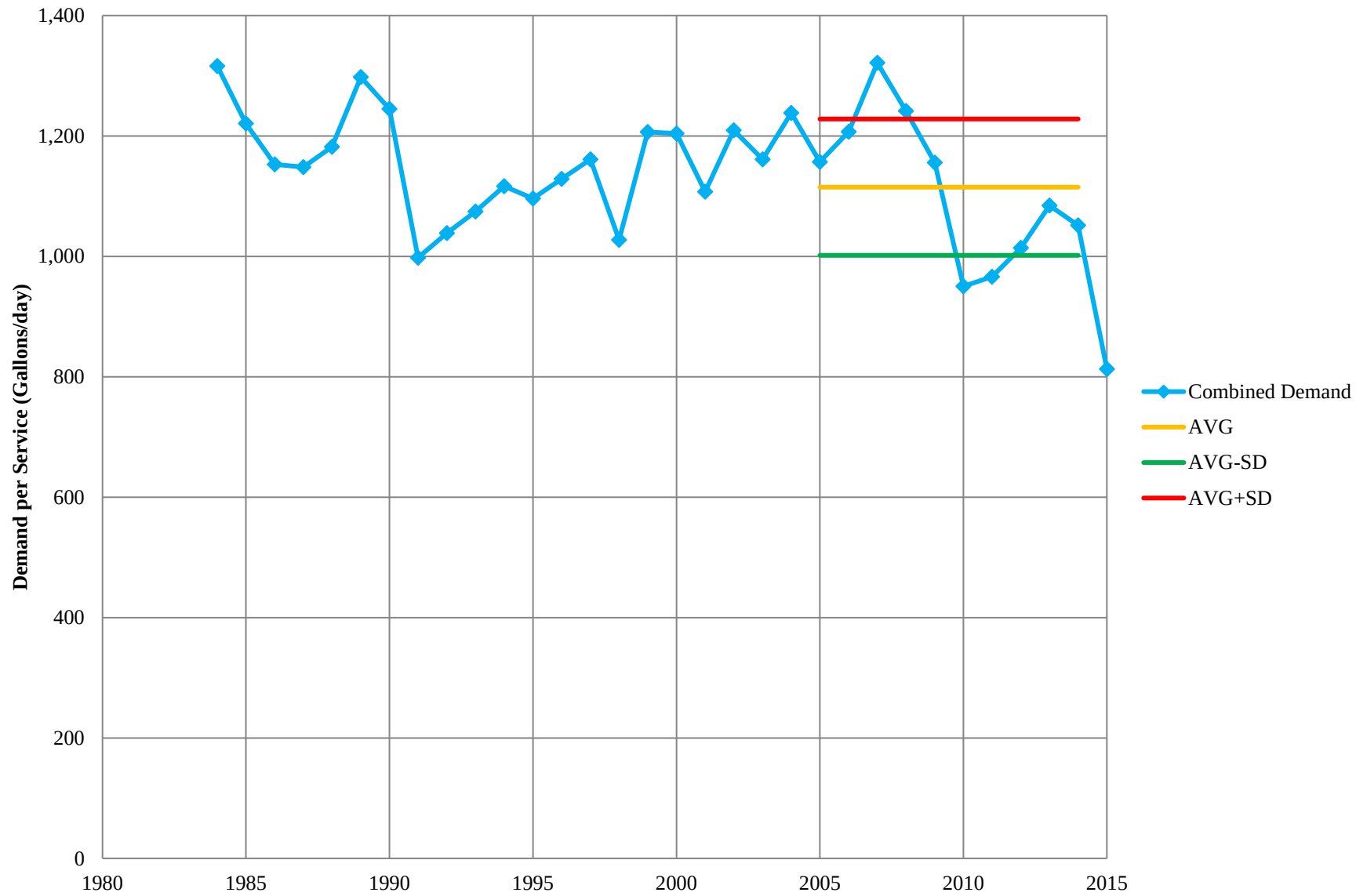


California Water Service Company - Westlake District
Water Supply and Demand Analysis and Projections
Sales (AF)

Worksheet 3

Year	Single Family (SFR)	Multi Family (MFR)	Commercial (COM)	Industrial (IND)	Government (GOV)	Other (OTH)	Unaccounted for Water (UAFW)	Total Sales (AF)	Total Demand (AF)	Total Demand (MGal)
1980										
1981										
1982										
1983										
1984	3,942	194	1,205	137	361	191	450	6,029	6,479	2,111
1985	3,455	254	1,422	137	337	136	576	5,741	6,318	2,059
1986	3,568	277	1,583	129	301	120	420	5,978	6,398	2,085
1987	3,852	294	1,934	111	301	85	333	6,578	6,912	2,252
1988	4,394	285	2,057	117	284	187	336	7,324	7,660	2,496
1989	4,891	267	2,630	114	303	81	692	8,286	8,977	2,925
1990	5,067	262	2,520	94	285	126	509	8,353	8,862	2,888
1991	4,063	226	1,969	71	241	45	594	6,614	7,207	2,348
1992	4,457	256	2,024	81	303	6	460	7,126	7,586	2,472
1993	4,657	247	1,977	86	301	4	602	7,273	7,875	2,566
1994	4,977	260	2,024	74	328	2	534	7,665	8,200	2,672
1995	4,896	252	1,934	76	337	3	560	7,498	8,058	2,626
1996	5,371	242	1,756	76	334	27	540	7,805	8,345	2,719
1997	5,617	262	1,899	75	337	17	460	8,208	8,668	2,824
1998	4,906	246	1,569	75	250	5	672	7,051	7,723	2,516
1999	5,828	243	2,066	67	332	6	602	8,544	9,146	2,980
2000	5,913	241	2,113	70	359	16	458	8,712	9,170	2,988
2001	5,543	225	1,943	55	321	12	359	8,100	8,459	2,756
2002	6,090	243	2,597	64	402	15	-162	9,410	9,248	3,013
2003	5,839	219	2,220	63	340	10	92	8,691	8,782	2,862
2004	6,256	222	2,338	73	380	7	233	9,276	9,509	3,099
2005	5,815	212	2,075	61	318	1	438	8,483	8,920	2,907
2006	5,996	210	2,256	53	339	10	465	8,865	9,329	3,040
2007	6,531	239	2,487	44	358	14	550	9,673	10,223	3,331
2008	6,420	237	2,257	0	337	3	347	9,255	9,602	3,129
2009	5,701	226	2,100	0	273	1	602	8,302	8,904	2,901
2010	4,955	209	1,685	0	251	12	228	7,111	7,339	2,392
2011	4,943	209	1,679	0	261	1	381	7,092	7,473	2,435
2012	5,269	218	1,841	0	281	2	233	7,611	7,844	2,556
2013	5,427	230	1,953	0	310	1	467	7,921	8,388	2,733
2014	5,340	233	1,947	0	292	15	321	7,826	8,146	2,655
2015	4,031	212	1,488	0	176	4	384	5,911	6,295	2,051

Combined Demand per Service

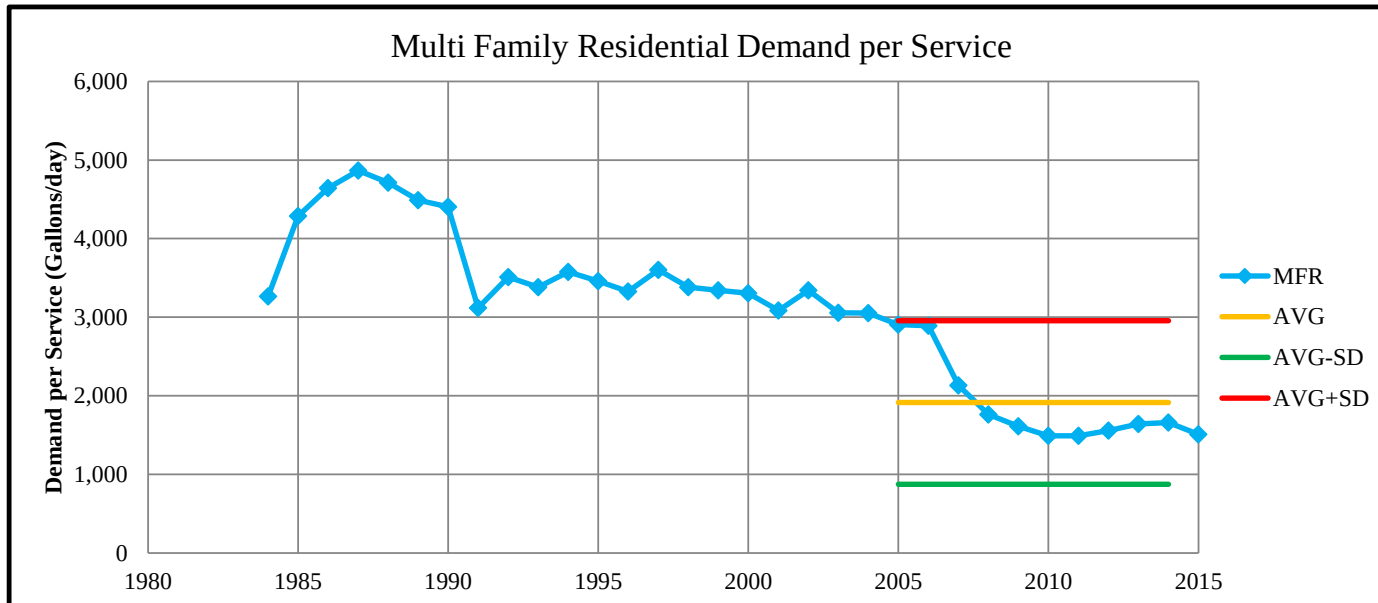
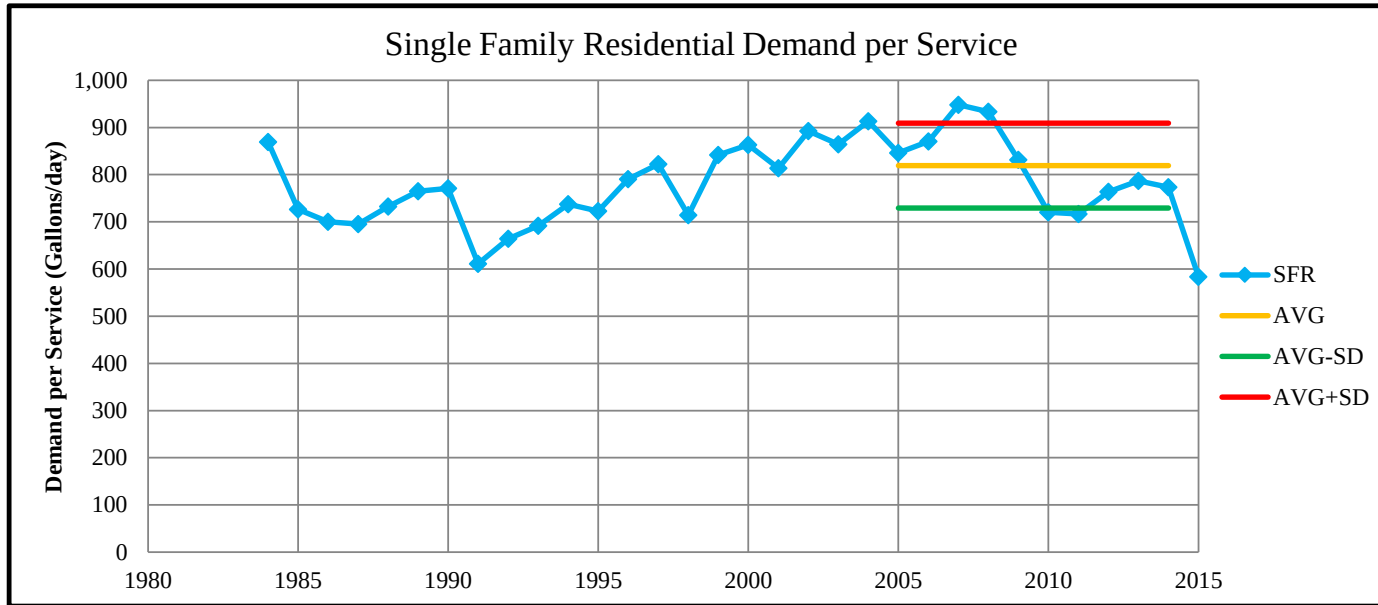


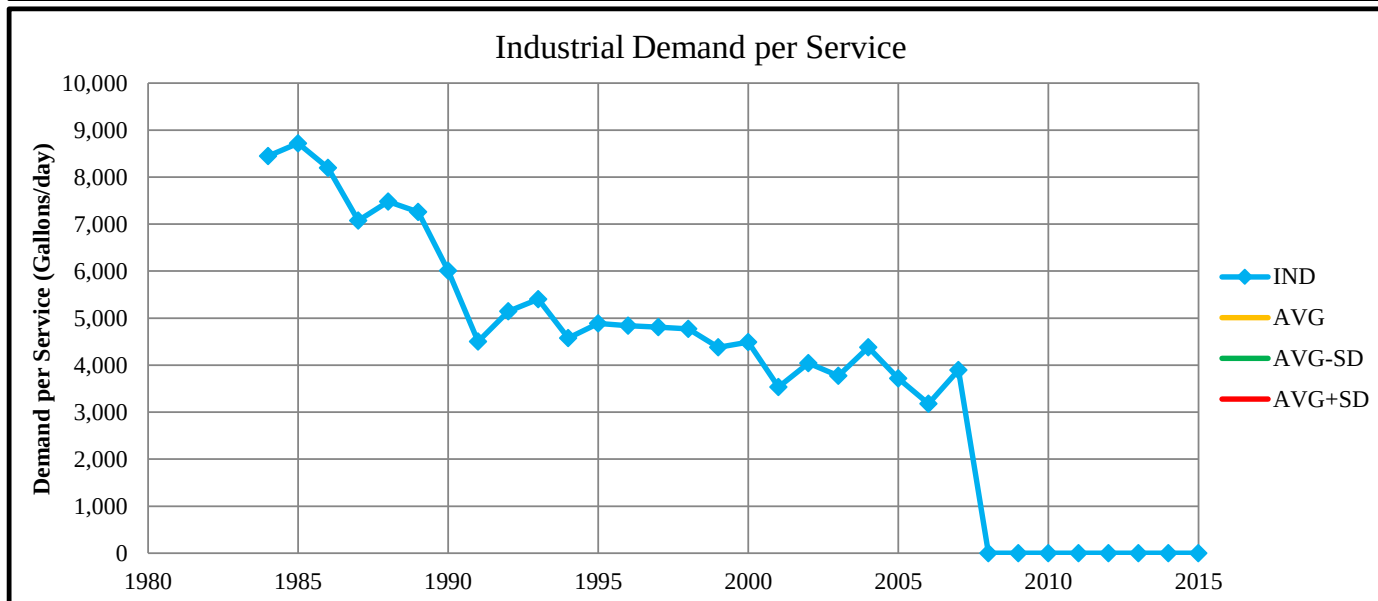
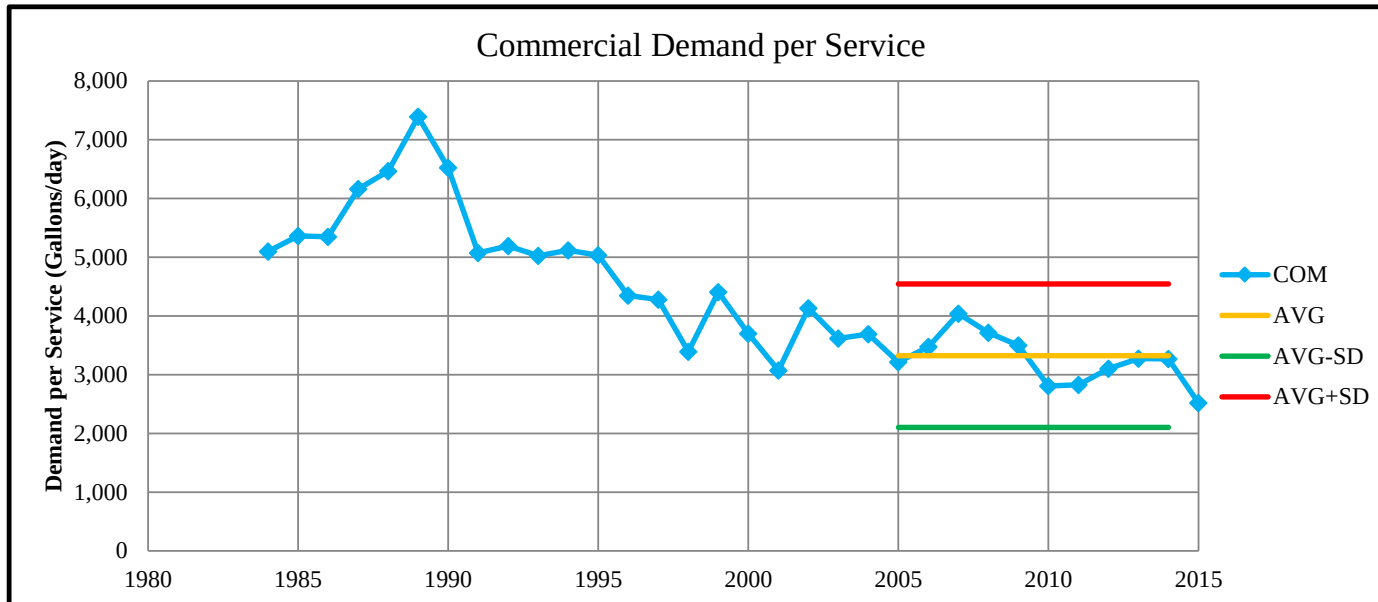
California Water Service Company - Westlake District
Water Supply and Demand Analysis and Projections
Demand per Service (Gallons per Day)

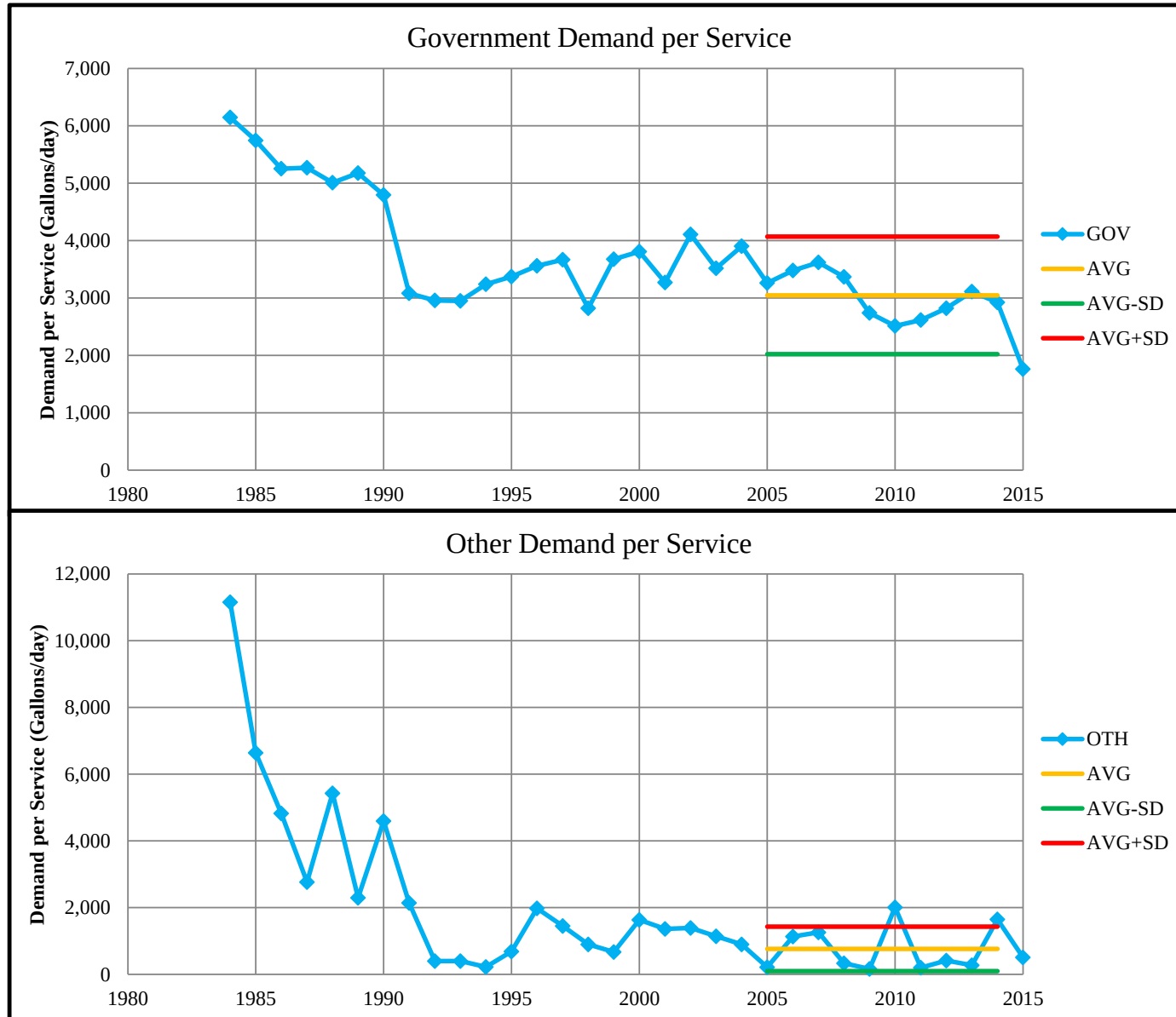
Worksheet 4

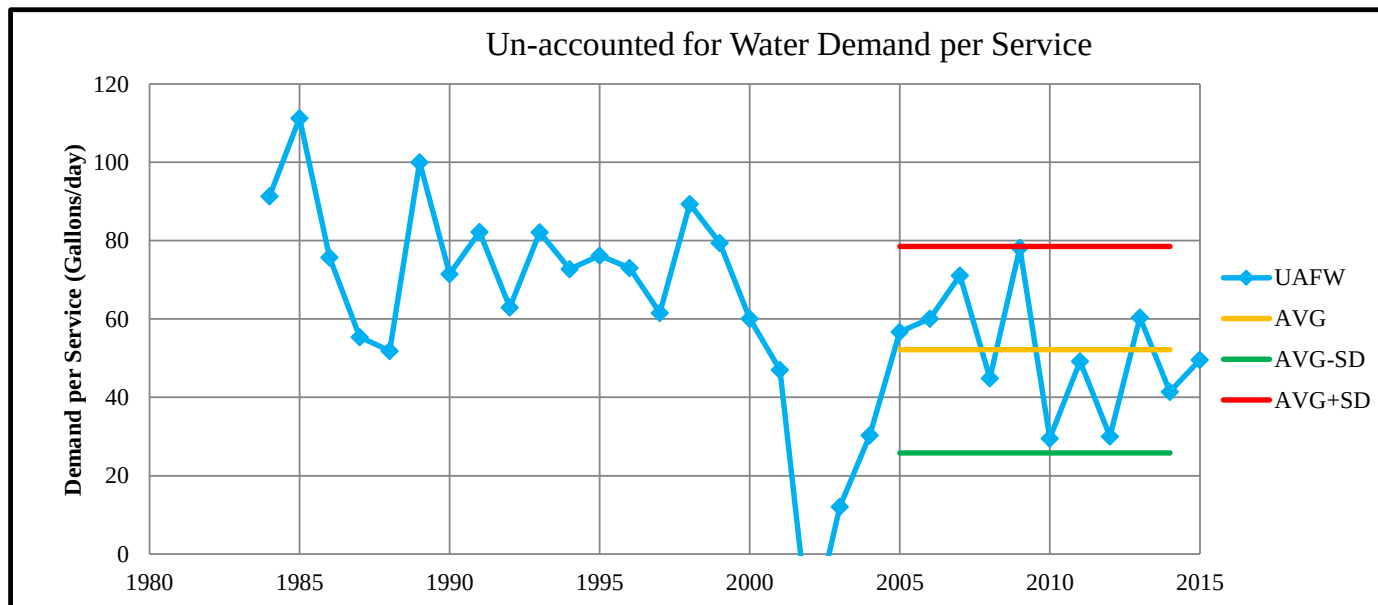
Year	SFR	MFR	COM	IND	GOV	OTH	UAFW	Combined Demand/Serv
1980								
1981								
1982								
1983								
1984	869	3,267	5,096	8,447	6,146	11,154	91	1,316
1985	726	4,286	5,363	8,720	5,744	6,641	111	1,221
1986	700	4,643	5,350	8,198	5,254	4,827	76	1,153
1987	695	4,866	6,162	7,078	5,272	2,767	55	1,148
1988	733	4,713	6,468	7,477	5,011	5,426	52	1,182
1989	765	4,490	7,392	7,258	5,177	2,298	100	1,298
1990	771	4,405	6,523	6,009	4,797	4,599	71	1,245
1991	611	3,118	5,073	4,501	3,080	2,138	82	998
1992	664	3,512	5,189	5,144	2,959	402	63	1,039
1993	692	3,384	5,026	5,400	2,950	400	82	1,075
1994	737	3,576	5,116	4,577	3,239	221	73	1,117
1995	723	3,461	5,032	4,888	3,374	683	76	1,096
1996	791	3,326	4,348	4,836	3,559	1,982	73	1,129
1997	822	3,602	4,280	4,805	3,668	1,448	62	1,161
1998	714	3,384	3,392	4,773	2,820	897	89	1,028
1999	842	3,342	4,406	4,378	3,674	675	79	1,206
2000	863	3,307	3,700	4,493	3,809	1,636	60	1,204
2001	814	3,086	3,072	3,536	3,270	1,364	47	1,108
2002	893	3,344	4,134	4,043	4,107	1,389	-21	1,209
2003	864	3,055	3,616	3,775	3,517	1,144	12	1,161
2004	913	3,054	3,690	4,377	3,903	901	30	1,238
2005	846	2,907	3,215	3,720	3,262	213	57	1,157
2006	871	2,891	3,476	3,178	3,480	1,131	60	1,207
2007	948	2,134	4,041	3,893	3,620	1,257	71	1,321
2008	933	1,763	3,717	0	3,366	330	45	1,242
2009	831	1,614	3,501	0	2,740	163	78	1,156
2010	720	1,491	2,807	0	2,514	2,006	30	950
2011	717	1,491	2,830	0	2,617	198	49	966
2012	764	1,556	3,101	0	2,820	411	30	1,014
2013	787	1,642	3,276	0	3,110	271	60	1,084
2014	774	1,661	3,267	0	2,925	1,650	41	1,051
2015	584	1,511	2,517	0	1,762	510	50	813
AVG	819	1,915	3,323	1,079	3,046	763	52	1,115
SD	90	1,041	1,221	2,736	1,024	666	26	113

AVG based on 10-year period from 2004 to 2013, SD based on all available data except for OTH which is 10-year period from 2006 to 2015.









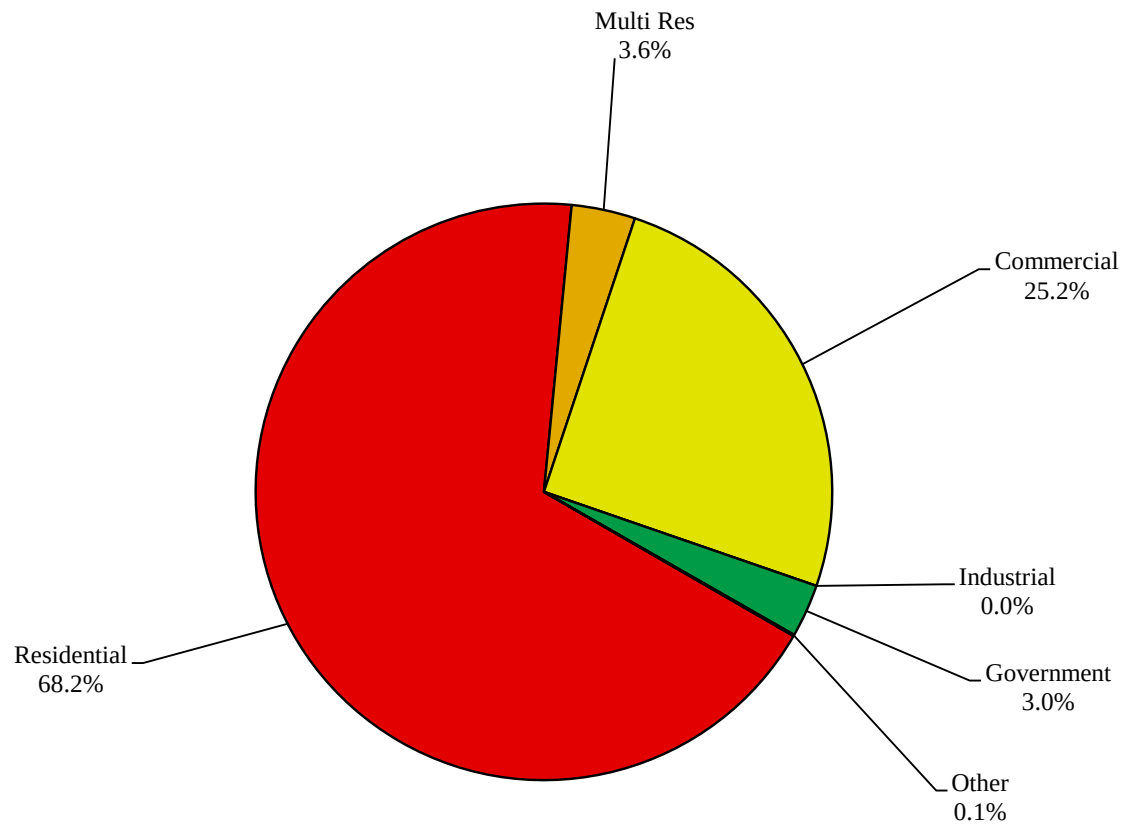
California Water Service Company - Westlake District
Water Supply and Demand Analysis and Projections
Percentage Change in Annual Demand

Worksheet 5

Year	Residential	Multi Res	Commercial	Industrial	Government	Other	Unaccounted	Total
1981								
1982								
1983								
1984								
1985	-12.36%	31.20%	18.01%		-6.53%	-28.42%	28.11%	-4.78%
1986	3.29%	8.84%	11.31%		-10.86%	-11.80%	-27.04%	4.11%
1987	7.95%	6.27%	22.22%		0.17%	-29.00%	-20.69%	10.05%
1988	14.06%	-3.13%	6.33%		-5.73%	118.83%	0.77%	11.33%
1989	11.31%	-6.51%	27.89%		6.72%		105.95%	13.13%
1990	3.59%	-1.88%	-4.19%		-6.02%		-26.45%	0.82%
1991	-19.82%	-13.75%	-21.87%		-15.38%		16.67%	-20.83%
1992	9.71%	13.36%	2.78%		25.62%	-86.88%	-22.50%	7.75%
1993	4.50%	-3.41%	-2.31%		-0.47%	-33.46%	30.86%	2.06%
1994	6.87%	5.41%	2.37%		8.78%	-60.02%	-11.26%	5.39%
1995	-1.64%	-3.22%	-4.42%		2.73%	111.73%	4.81%	-2.18%
1996	9.70%	-3.90%	-9.23%		-0.84%	703.60%	-3.58%	4.09%
1997	4.58%	8.29%	8.18%		0.92%	-36.06%	-14.87%	5.16%
1998	-12.66%	-6.05%	-17.38%		-25.77%	-72.98%	46.13%	-14.10%
1999	18.81%	-1.24%	31.69%		32.61%	39.55%	-10.37%	21.17%
2000	1.45%	-1.05%	2.26%		8.18%	156.75%	-23.98%	1.98%
2001	-6.25%	-6.66%	-8.06%		-10.42%	-25.86%	-21.53%	-7.03%
2002	9.86%	8.34%	33.64%		24.99%	20.92%	-145.16%	16.18%
2003	-4.12%	-10.03%	-14.51%		-15.33%	-32.83%	-156.44%	-7.65%
2004	7.14%	1.53%	5.33%		11.82%	-31.37%	154.15%	6.74%
2005	-7.04%	-4.82%	-11.23%		-16.41%	-80.26%	88.07%	-8.56%
2006	3.10%	-0.56%	8.71%		6.68%	637.37%	6.19%	4.50%
2007	8.93%	13.48%	10.23%		5.60%	44.30%	18.39%	9.12%
2008	-1.70%	-0.80%	-9.24%		-5.77%	-76.73%	-36.87%	-4.32%
2009	-11.19%	-4.59%	-6.97%		-19.06%	-64.44%	73.47%	-10.30%
2010	-13.10%	-7.64%	-19.75%		-8.24%	911.43%	-62.11%	-14.34%
2011	-0.24%	0.02%	-0.39%		4.09%	-88.73%	66.71%	-0.26%
2012	6.60%	4.36%	9.69%		7.75%	56.29%	-38.89%	7.32%
2013	3.00%	5.51%	6.09%		10.27%	-46.03%	100.81%	4.07%
2014	-1.60%	1.12%	-0.34%		-5.94%	1198.59%	-31.28%	-1.21%
2015	-24.50%	-9.03%	-23.56%		-39.74%	-72.01%	19.77%	-24.47%

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Percent of Total Sales by Type of Use (2015)

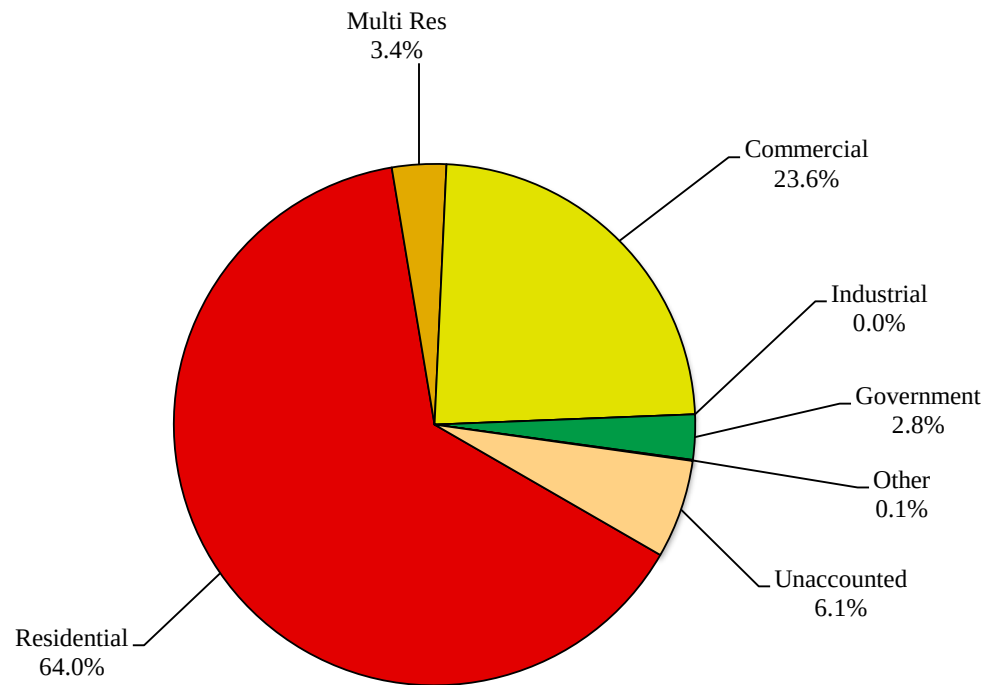


California Water Service Company - Westlake District
Water Supply and Demand Analysis and Projections
Percentage of Total Sales

Worksheet 6

Year	Residential	Multi Res	Commercial	Industrial	Government	Other	Percent Total
1980							
1981							
1982							
1983							
1984	65.38%	3.22%	19.98%	2.28%	5.98%	3.16%	100.00%
1985	60.17%	4.43%	24.76%	2.38%	5.87%	2.38%	100.00%
1986	59.70%	4.63%	26.48%	2.15%	5.03%	2.01%	100.00%
1987	58.56%	4.47%	29.41%	1.69%	4.58%	1.30%	100.00%
1988	59.99%	3.89%	28.08%	1.60%	3.88%	2.55%	100.00%
1989	59.03%	3.22%	31.75%	1.37%	3.66%	0.98%	100.00%
1990	60.66%	3.13%	30.17%	1.13%	3.41%	1.51%	100.00%
1991	61.43%	3.41%	29.77%	1.07%	3.64%	0.68%	100.00%
1992	62.54%	3.59%	28.40%	1.14%	4.25%	0.08%	100.00%
1993	64.04%	3.40%	27.18%	1.19%	4.14%	0.05%	100.00%
1994	64.93%	3.40%	26.40%	0.97%	4.28%	0.02%	100.00%
1995	65.29%	3.36%	25.80%	1.02%	4.49%	0.04%	100.00%
1996	68.81%	3.10%	22.49%	0.97%	4.28%	0.34%	100.00%
1997	68.43%	3.19%	23.14%	0.92%	4.10%	0.21%	100.00%
1998	69.58%	3.49%	22.26%	1.06%	3.55%	0.07%	100.00%
1999	68.22%	2.85%	24.19%	0.79%	3.88%	0.08%	100.00%
2000	67.87%	2.76%	24.26%	0.81%	4.12%	0.19%	100.00%
2001	68.43%	2.77%	23.99%	0.68%	3.97%	0.15%	100.00%
2002	64.71%	2.59%	27.59%	0.68%	4.27%	0.16%	100.00%
2003	67.18%	2.52%	25.54%	0.73%	3.91%	0.11%	100.00%
2004	67.44%	2.40%	25.20%	0.79%	4.10%	0.07%	100.00%
2005	68.55%	2.50%	24.47%	0.72%	3.75%	0.02%	100.00%
2006	67.64%	2.37%	25.45%	0.60%	3.83%	0.11%	100.00%
2007	67.52%	2.47%	25.71%	0.45%	3.70%	0.15%	100.00%
2008	69.37%	2.56%	24.39%	0.00%	3.65%	0.04%	100.00%
2009	68.68%	2.72%	25.29%	0.00%	3.29%	0.01%	100.00%
2010	69.67%	2.94%	23.70%	0.00%	3.53%	0.17%	100.00%
2011	69.69%	2.94%	23.67%	0.00%	3.68%	0.02%	100.00%
2012	69.23%	2.86%	24.19%	0.00%	3.69%	0.03%	100.00%
2013	68.51%	2.90%	24.66%	0.00%	3.91%	0.01%	100.00%
2014	68.24%	2.97%	24.88%	0.00%	3.73%	0.19%	100.00%
2015	68.20%	3.58%	25.18%	0.00%	2.97%	0.07%	100.00%

Percent of Total Demand by Type of Use (2015)

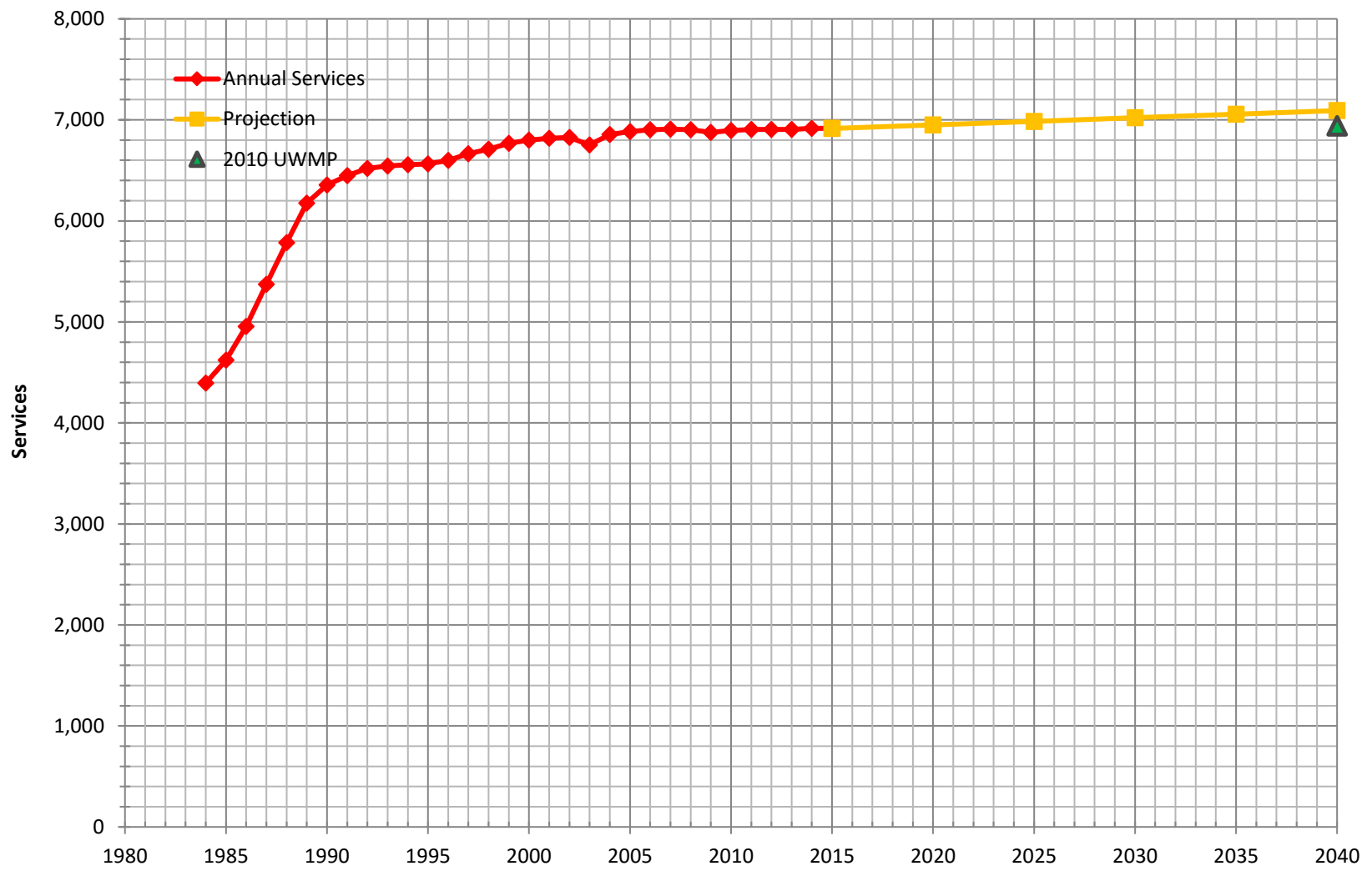


California Water Service Company - Westlake District
Water Supply and Demand Analysis and Projections
Percentage of Total Demand

Worksheet 7

Year	Residential	Multi Res	Commercial	Industrial	Government	Other	Unaccounted	Percent Total
1980								
1981								
1982								
1983								
1984	60.84%	2.99%	18.60%	2.12%	5.57%	2.94%	6.94%	100.00%
1985	54.69%	4.03%	22.51%	2.16%	5.34%	2.16%	9.12%	100.00%
1986	55.78%	4.33%	24.74%	2.01%	4.70%	1.88%	6.57%	100.00%
1987	55.73%	4.26%	27.99%	1.61%	4.36%	1.24%	4.82%	100.00%
1988	57.36%	3.72%	26.85%	1.53%	3.71%	2.44%	4.39%	100.00%
1989	54.48%	2.97%	29.30%	1.27%	3.38%	0.90%	7.71%	100.00%
1990	57.17%	2.95%	28.44%	1.06%	3.21%	1.42%	5.74%	100.00%
1991	56.37%	3.13%	27.32%	0.98%	3.34%	0.62%	8.24%	100.00%
1992	58.75%	3.37%	26.68%	1.07%	3.99%	0.08%	6.07%	100.00%
1993	59.14%	3.14%	25.11%	1.09%	3.83%	0.05%	7.65%	100.00%
1994	60.70%	3.18%	24.68%	0.91%	4.00%	0.02%	6.52%	100.00%
1995	60.75%	3.13%	24.00%	0.95%	4.18%	0.04%	6.95%	100.00%
1996	64.36%	2.90%	21.04%	0.91%	4.00%	0.32%	6.47%	100.00%
1997	64.80%	3.03%	21.91%	0.87%	3.89%	0.20%	5.30%	100.00%
1998	63.52%	3.19%	20.32%	0.97%	3.24%	0.06%	8.70%	100.00%
1999	63.73%	2.66%	22.60%	0.74%	3.63%	0.07%	6.58%	100.00%
2000	64.48%	2.63%	23.04%	0.77%	3.91%	0.18%	4.99%	100.00%
2001	65.53%	2.66%	22.97%	0.66%	3.80%	0.14%	4.25%	100.00%
2002	65.85%	2.63%	28.08%	0.69%	4.34%	0.16%	-1.75%	100.00%
2003	66.48%	2.49%	25.28%	0.72%	3.87%	0.11%	1.04%	100.00%
2004	65.79%	2.34%	24.59%	0.77%	4.00%	0.07%	2.45%	100.00%
2005	65.19%	2.37%	23.27%	0.69%	3.56%	0.02%	4.91%	100.00%
2006	64.27%	2.26%	24.18%	0.57%	3.64%	0.11%	4.98%	100.00%
2007	63.89%	2.34%	24.33%	0.43%	3.50%	0.14%	5.38%	100.00%
2008	66.86%	2.47%	23.51%	0.00%	3.51%	0.03%	3.62%	100.00%
2009	64.03%	2.54%	23.58%	0.00%	3.07%	0.01%	6.77%	100.00%
2010	67.51%	2.84%	22.96%	0.00%	3.42%	0.16%	3.11%	100.00%
2011	66.14%	2.79%	22.46%	0.00%	3.49%	0.02%	5.09%	100.00%
2012	67.17%	2.78%	23.47%	0.00%	3.58%	0.03%	2.96%	100.00%
2013	64.70%	2.74%	23.29%	0.00%	3.70%	0.01%	5.57%	100.00%
2014	65.55%	2.85%	23.90%	0.00%	3.58%	0.18%	3.94%	100.00%
2015	64.04%	3.36%	23.64%	0.00%	2.79%	0.07%	6.11%	100.00%

Historical & Projected Services



California Water Service Company - Westlake District

Worksheet 8

Water Supply and Demand Analysis and Projections

Actual & Projected Annual Average Services

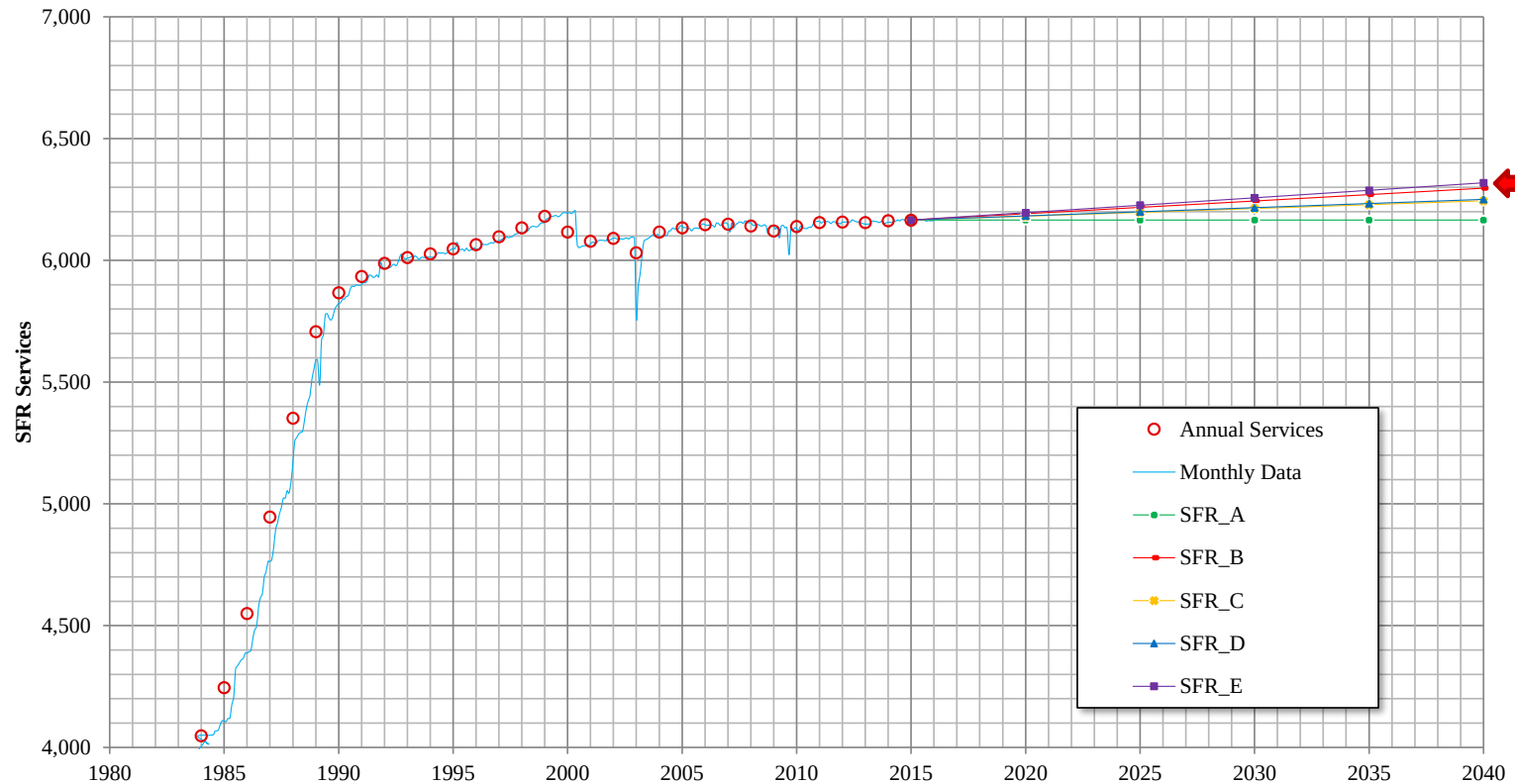
Customer Category		Selected Trend		Growth Rate	Actual Services				Projected Services					
					2000	2005	2010	2015	2015	2020	2025	2030	2035	2040
SFR		SFR_B	5 Yr. Avg.	0.08%	6,116	6,134	6,139	6,166	6,166	6,192	6,218	6,244	6,270	6,296
MFR		MFR_B	SFR 5 Yr. Avg.	0.08%	65	65	125	125	125	126	126	127	127	128
COM		COM_D	15 Yr. Avg.	0.28%	510	576	536	528	528	535	543	551	559	567
IND		IND_A	Zero Growth Rate	0.00%	14	15	0	0	0	0	0	0	0	0
GOV		GOV_C	10 Yr. Avg.	0.23%	84	87	89	89	89	90	91	92	93	94
OTH		OTH_E	20 Yr. Avg.	0.02%	9	6	5	7	7	7	7	7	7	7
REC		REC_B	5 Yr. Avg.	0.00%	0	0	0	0	0	0	0	0	0	0
TOTAL		Average growth rate 2011-2040		0.10%	6,798	6,883	6,895	6,915	6,915	6,950	6,985	7,020	7,056	7,092

California Water Service Company - Westlake District

Worksheet 8a

Water Supply and Demand Analysis and Projections

SFR Historical & Projected Services



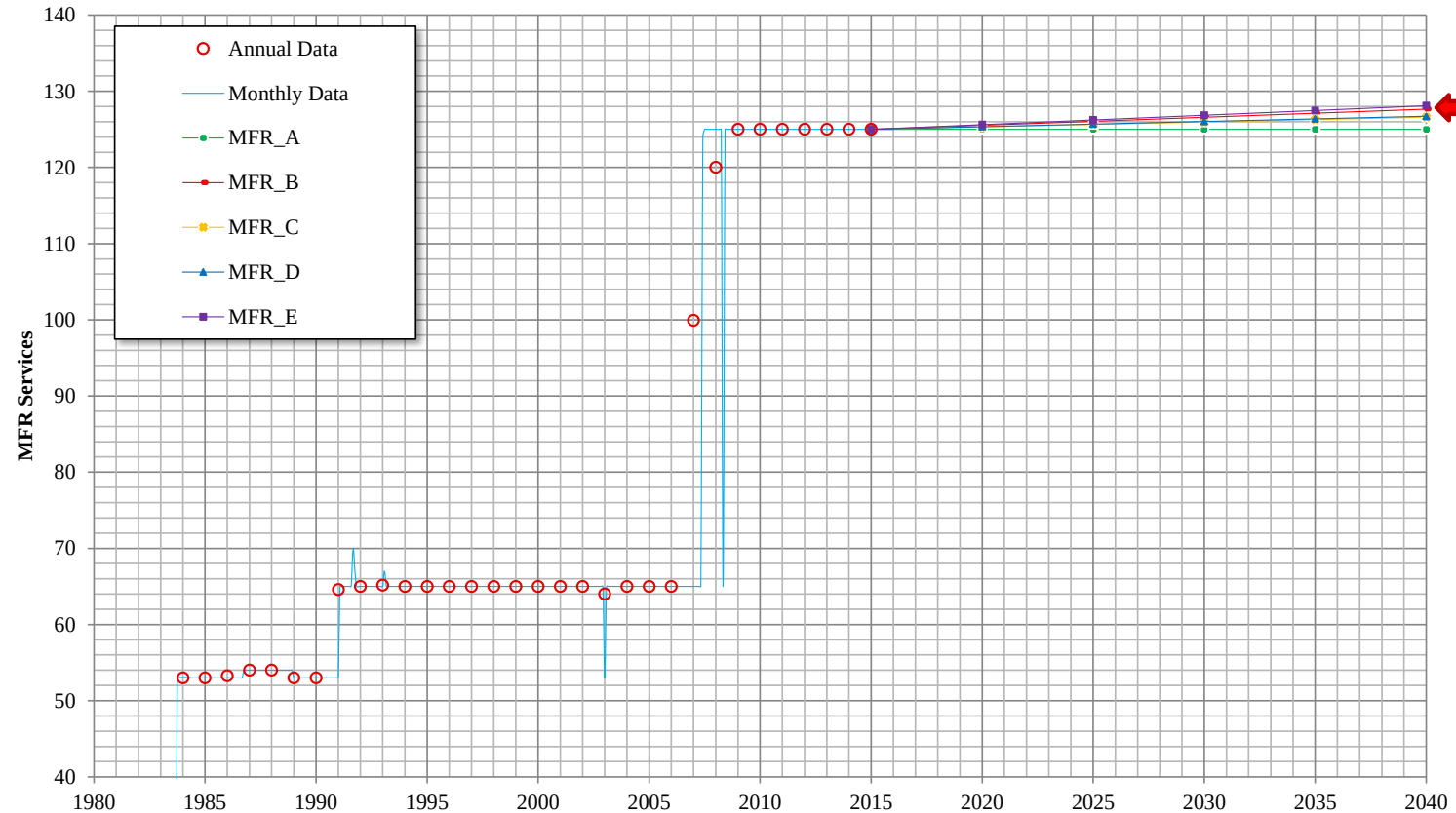
Customer Category	Trend			Growth Rate	Actual			Base Year 2015	Projected					
					2000	2005	2010		Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040
SFR		SFR_A	Zero Growth Rate	0.00%	6,116	6,134	6,139	6,166	6,166	6,166	6,166	6,166	6,166	6,166
	>	SFR_B	5 Yr. Avg.	0.08%				6,166	6,166	6,192	6,218	6,244	6,270	6,296
		SFR_C	10 Yr. Avg.	0.05%				6,166	6,166	6,181	6,197	6,213	6,229	6,245
		SFR_D	15 Yr. Avg.	0.05%				6,166	6,166	6,182	6,199	6,216	6,233	6,250
		SFR_E	20 Yr. Avg.	0.10%				6,166	6,166	6,196	6,226	6,257	6,288	6,318

California Water Service Company - Westlake District

Worksheet 8b

Water Supply and Demand Analysis and Projections

MFR Historical & Projected Services



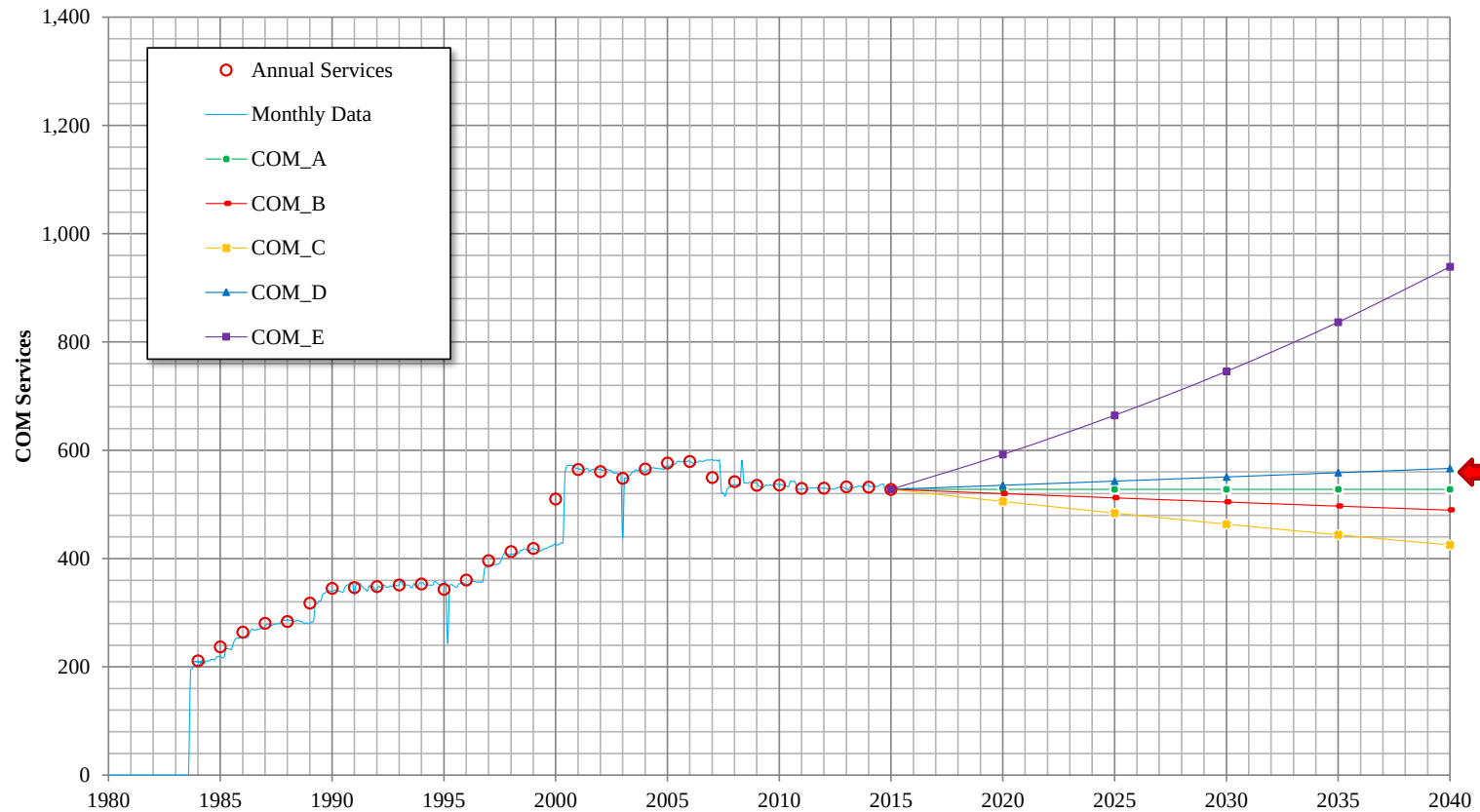
Customer Category	Trend			Growth Rate	Actual			Base Year 2015	Projected					
					2000	2005	2010		Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040
MFR		MFR_A	Zero Growth Rate	0.00%	65	65	125	125	125	125	125	125	125	125
	>	MFR_B	SFR 5 Yr. Avg.	0.08%				125	125	126	126	127	127	128
		MFR_C	SFR 10 Yr. Avg.	0.05%				125	125	125	126	126	126	127
		MFR_D	SFR 15 Yr. Avg.	0.05%				125	125	125	126	126	126	127
		MFR_E	SFR 20 Yr. Avg.	0.10%				125	125	126	126	127	127	128

California Water Service Company - Westlake District

Worksheet 8c

Water Supply and Demand Analysis and Projections

COM Historical & Projected Services



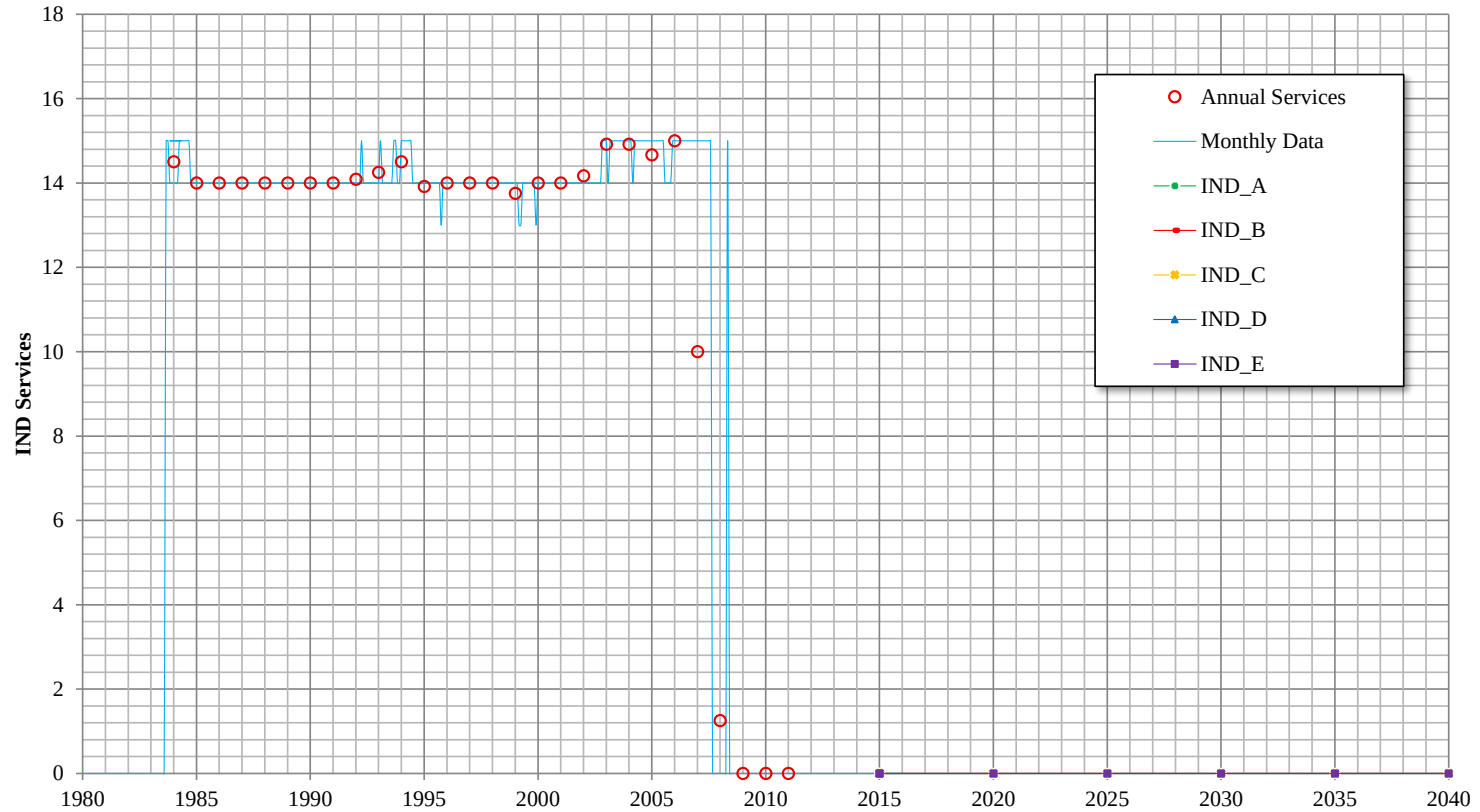
Customer Category	Trend		Growth Rate	Actual			Base Year 2015	Projected					
				2000	2005	2010		Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040
COM		COM_A	Zero Growth Rate	510	576	536	528	528	528	528	528	528	528
		COM_B	5 Yr. Avg.				528	528	520	512	504	497	489
		COM_C	10 Yr. Avg.				528	528	505	484	464	444	425
	>	COM_D	15 Yr. Avg.				528	528	535	543	551	559	567
		COM_E	20 Yr. Avg.				528	528	592	665	746	837	939

California Water Service Company - Westlake District

Water Supply and Demand Analysis and Projections

IND Historical & Projected Services

Worksheet 8d



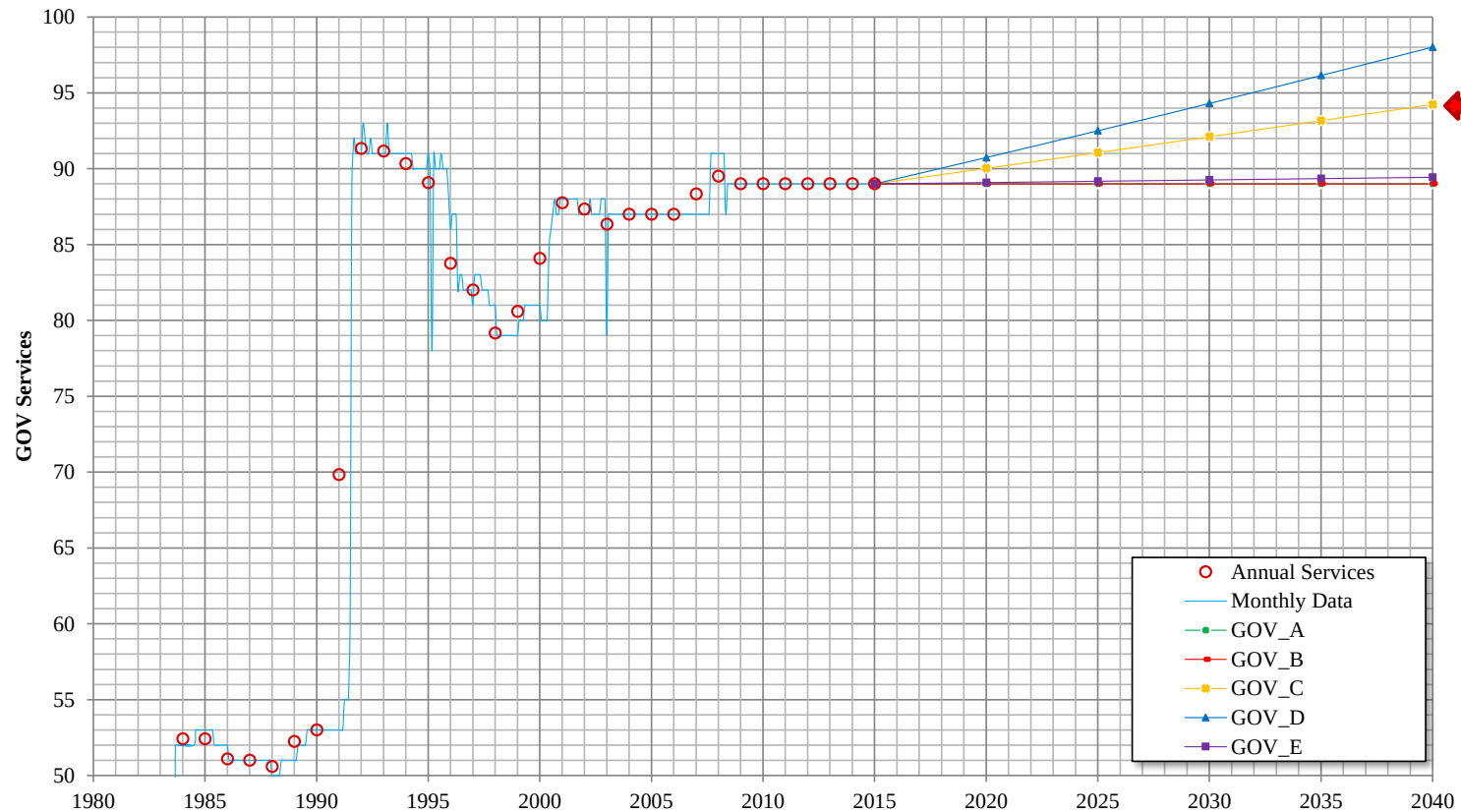
Customer Category	Trend			Growth Rate	Actual			Base Year 2015	Projected					
					2000	2005	2010		Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040
IND	>	IND_A	Zero Growth Rate	0.00%	14	15	0	0	0	0	0	0	0	0
		IND_B	5 Yr. Avg.	0.00%				0	0	0	0	0	0	0
		IND_C	10 Yr. Avg.	0.00%				0	0	0	0	0	0	0
		IND_D	15 Yr. Avg.	0.00%				0	0	0	0	0	0	0
		IND_E	20 Yr. Avg.	0.00%				0	0	0	0	0	0	0

California Water Service Company - Westlake District

Water Supply and Demand Analysis and Projections

GOV Historical & Projected Services

Worksheet 8e



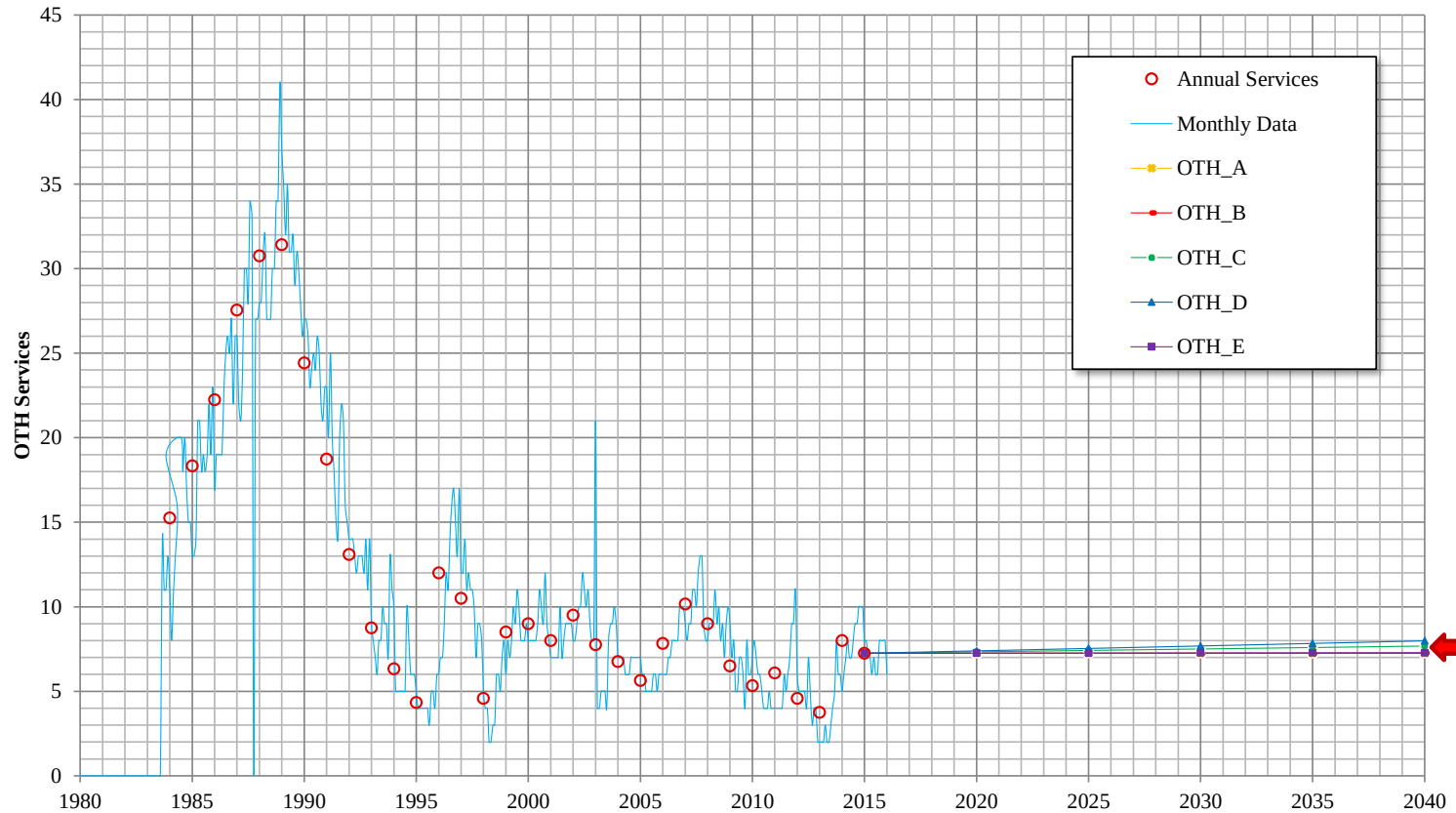
Customer Category	Trend			Growth Rate	Actual				Projected					
					2000	2005	2010	Base Year 2015	Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040
GOV		GOV_A	Zero Growth Rate	0.00%	84	87	89	89	89	89	89	89	89	89
		GOV_B	5 Yr. Avg.	0.00%				89	89	89	89	89	89	89
	>	GOV_C	10 Yr. Avg.	0.23%				89	89	90	91	92	93	94
		GOV_D	15 Yr. Avg.	0.39%				89	89	91	93	94	96	98
		GOV_E	20 Yr. Avg.	0.02%				89	89	89	89	89	89	89

California Water Service Company - Westlake District

Water Supply and Demand Analysis and Projections

OTH Historical & Projected Services

Worksheet 8f



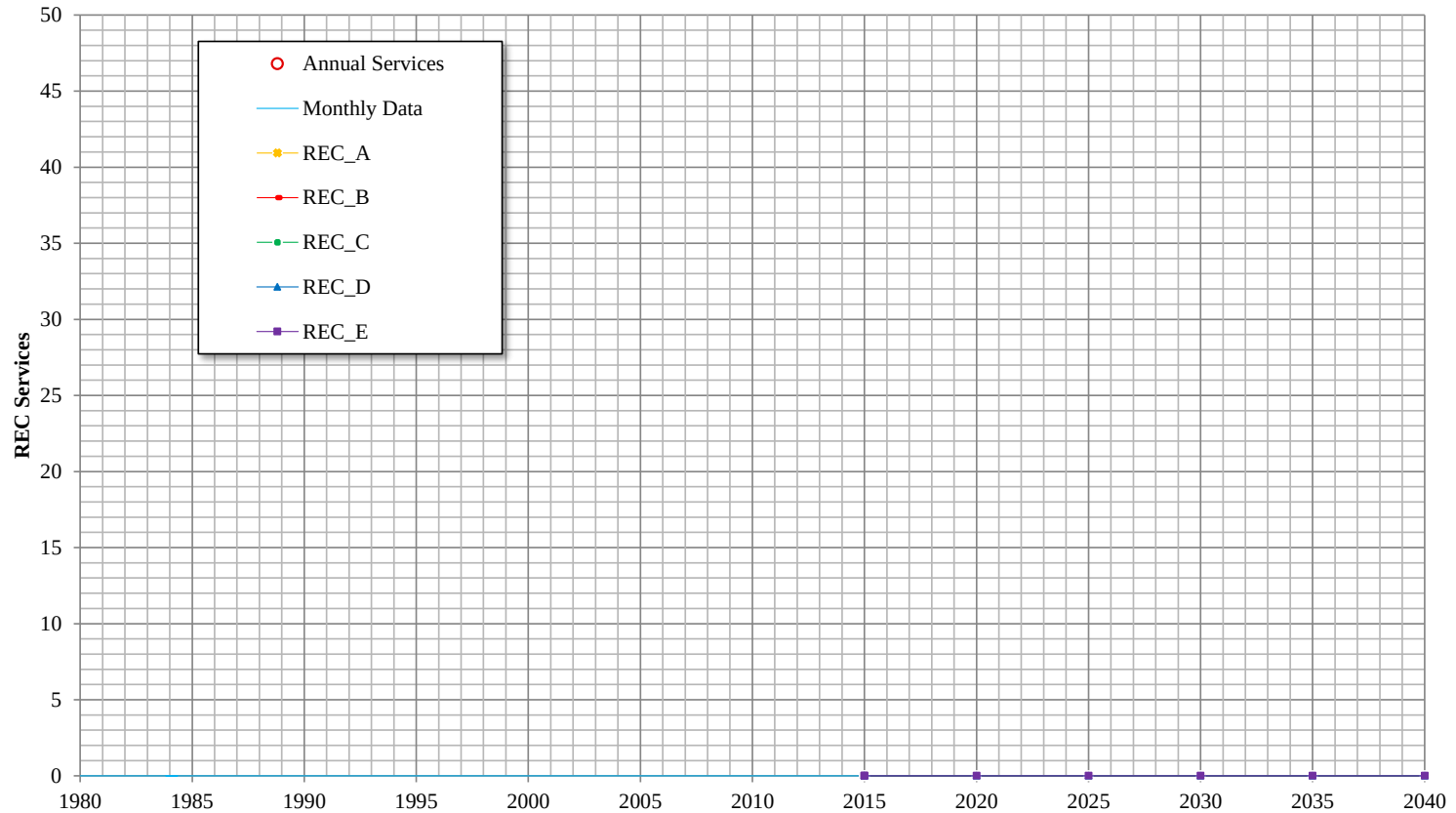
Customer Category	Trend			Growth Rate	Actual				Projected					
					2000	2005	2010	Base Year 2015	Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040
OTH		OTH_A	Zero Growth Rate	0.00%	9	6	5	7	7	7	7	7	7	7
		OTH_B	5 Yr. Avg.					7	7	7	7	7	7	7
		OTH_C	10 Yr. Avg.	0.23%				7	7	7	7	8	8	8
		OTH_D	15 Yr. Avg.	0.39%				7	7	7	8	8	8	8
	>	OTH_E	20 Yr. Avg.	0.02%				7	7	7	7	7	7	7

California Water Service Company - Westlake District

Worksheet 8f

Water Supply and Demand Analysis and Projections

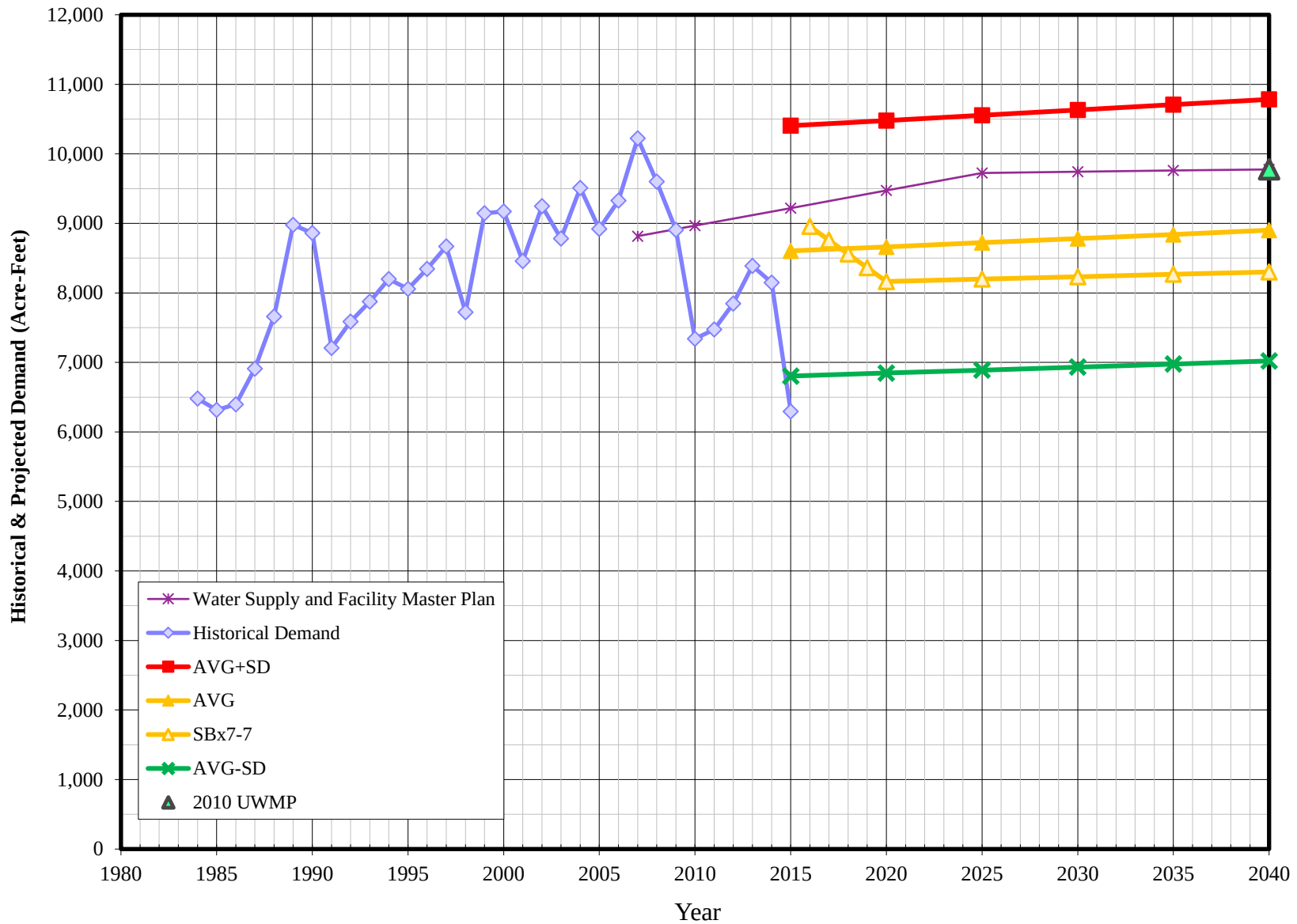
REC Historical & Projected Services



Customer Category	Trend			Growth Rate	Actual			Base Year 2015	Projected					
					2000	2005	2010		Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040
REC		REC_A	Zero Growth Rate	0.00%	0	0	0	0	0	0	0	0	0	0
	>	REC_B	5 Yr. Avg.	0.00%				0	0	0	0	0	0	0
		REC_C	10 Yr. Avg.	0.00%				0	0	0	0	0	0	0
		REC_D	15 Yr. Avg.	0.00%				0	0	0	0	0	0	0
		REC_E	20 Yr. Avg.	0.00%				0	0	0	0	0	0	0

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Historical & Projected Demand (WLK)

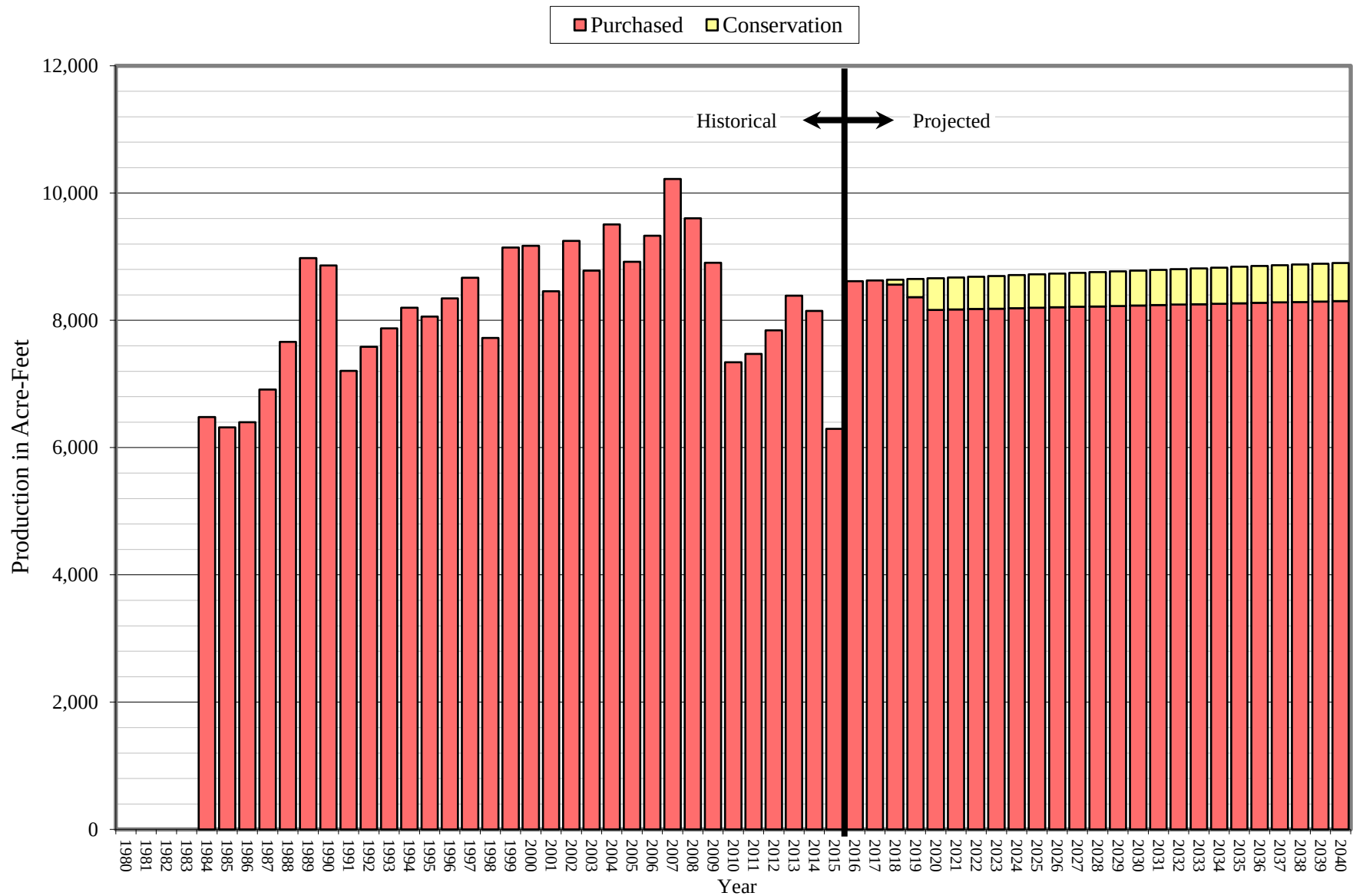


California Water Service Company - Westlake District
Water Supply and Demand Analysis and Projections
Actual & Projected Demand

Worksheet 9

Customer Category	Actual Demand (AFY)								Projected Demand (AFY)					
	1980	1985	1990	1995	2000	2005	2010	2015	2015	2020	2025	2030	2035	2040
SFR	0	3,455	5,067	4,896	5,913	5,815	4,955	4,031	6,279	6,305	6,332	6,358	6,385	6,412
									5,658	5,681	5,705	5,729	5,753	5,778
									5,036	5,057	5,079	5,100	5,122	5,143
MFR	0	254	262	252	241	212	209	212	414	416	417	419	421	423
									268	269	270	272	273	274
									122	123	123	124	125	125
COM	0	1,422	2,520	1,934	2,113	2,075	1,685	1,488	2,687	2,725	2,764	2,803	2,843	2,884
									1,965	1,993	2,021	2,050	2,079	2,109
									1,243	1,260	1,278	1,297	1,315	1,334
IND	0	137	94	76	70	61	0	0	0	0	0	0	0	0
									0	0	0	0	0	0
									0	0	0	0	0	0
GOV	0	337	285	337	359	318	251	176	406	410	415	420	425	430
									304	307	311	314	318	321
									202	204	206	209	211	213
OTH	0	136	126	3	16	1	12	4	12	12	12	12	12	12
									6	6	6	6	6	6
									1	1	1	1	1	1
UAWF	0	576	509	560	458	438	228	384	608	611	614	618	621	624
									404	406	408	410	412	414
									200	201	202	203	204	205
TOTAL (AFY)	0	6,318	8,862	8,058	9,170	8,920	7,339	6,295	10,405	10,479	10,554	10,630	10,706	10,783
									8,604	8,663	8,722	8,781	8,842	8,902
									6,804	6,846	6,890	6,933	6,977	7,021
TOTAL (MGD)	0.000	5.640	7.912	7.194	8.187	7.963	6.552	5.620	9.289	9.355	9.422	9.490	9.558	9.627
									7.681	7.734	7.786	7.840	7.893	7.948
									6.074	6.112	6.151	6.189	6.229	6.268

Historical and Projected Distribution of Demand by Source



California Water Service Company - Westlake District
Water Supply and Demand Analysis and Projections
Historical and Projected Distribution of Demand by Source

Worksheet 10

Year	Purchased Water		Future		Future		Conservation		Total	
	MGD	AFY	MGD	AFY	MGD	AFY	MGD	AFY	MGD	AFY
1980										
1981										
1982										
1983										
1984	5.78	6,479	0.00	0	0.00	0			5.78	6,479
1985	5.64	6,318	0.00	0	0.00	0			5.64	6,318
1986	5.71	6,398	0.00	0	0.00	0			5.71	6,398
1987	6.17	6,912	0.00	0	0.00	0			6.17	6,912
1988	6.84	7,660	0.00	0	0.00	0			6.84	7,660
1989	8.01	8,977	0.00	0	0.00	0			8.01	8,977
1990	7.91	8,862	0.00	0	0.00	0			7.91	8,862
1991	6.43	7,207	0.00	0	0.00	0			6.43	7,207
1992	6.77	7,586	0.00	0	0.00	0			6.77	7,586
1993	7.03	7,875	0.00	0	0.00	0			7.03	7,875
1994	7.32	8,200	0.00	0	0.00	0			7.32	8,200
1995	7.19	8,058	0.00	0	0.00	0			7.19	8,058
1996	7.45	8,345	0.00	0	0.00	0			7.45	8,345
1997	7.74	8,668	0.00	0	0.00	0			7.74	8,668
1998	6.89	7,723	0.00	0	0.00	0			6.89	7,723
1999	8.16	9,146	0.00	0	0.00	0			8.16	9,146
2000	8.19	9,170	0.00	0	0.00	0			8.19	9,170
2001	7.55	8,459	0.00	0	0.00	0			7.55	8,459
2002	8.26	9,248	0.00	0	0.00	0			8.26	9,248
2003	7.84	8,782	0.00	0	0.00	0			7.84	8,782
2004	8.49	9,509	0.00	0	0.00	0			8.49	9,509
2005	7.96	8,920	0.00	0	0.00	0			7.96	8,920
2006	8.33	9,329	0.00	0	0.00	0			8.33	9,329
2007	9.13	10,223	0.00	0	0.00	0			9.13	10,223
2008	8.57	9,602	0.00	0	0.00	0			8.57	9,602
2009	7.95	8,904	0.00	0	0.00	0			7.95	8,904
2010	6.55	7,339	0.00	0	0.00	0			6.55	7,339

Year	Purchased Water		Future		Future		Conservation		Total	
	MGD	AFY	MGD	AFY	MGD	AFY	MGD	AFY	MGD	AFY
2011	6.67	7,473	0.00	0	0.00	0	0.00	0	6.67	7,473
2012	7.00	7,844	0.00	0	0.00	0	0.00	0	7.00	7,844
2013	7.49	8,388	0.00	0	0.00	0	0.00	0	7.49	8,388
2014	7.27	8,146	0.00	0	0.00	0	0.00	0	7.27	8,146
2015	5.62	6,295	0.00	0	0.00	0	0.00	0	5.62	6,295
2016	7.69	8,616	0.00	0	0.00	0	0.00	0	7.69	8,616
2017	7.70	8,628	0.00	0	0.00	0	0.00	0	7.70	8,628
2018	7.64	8,561	0.00	0	0.00	0	0.07	78	7.71	8,639
2019	7.47	8,363	0.00	0	0.00	0	0.26	288	7.72	8,651
2020	7.29	8,164	0.00	0	0.00	0	0.45	499	7.73	8,663
2021	7.29	8,171	0.00	0	0.00	0	0.45	504	7.74	8,675
2022	7.30	8,178	0.00	0	0.00	0	0.45	509	7.75	8,686
2023	7.31	8,185	0.00	0	0.00	0	0.46	514	7.77	8,698
2024	7.31	8,191	0.00	0	0.00	0	0.46	519	7.78	8,710
2025	7.32	8,198	0.00	0	0.00	0	0.47	524	7.79	8,722
2026	7.33	8,205	0.00	0	0.00	0	0.47	529	7.80	8,734
2027	7.33	8,212	0.00	0	0.00	0	0.48	534	7.81	8,746
2028	7.34	8,219	0.00	0	0.00	0	0.48	539	7.82	8,758
2029	7.34	8,226	0.00	0	0.00	0	0.49	544	7.83	8,769
2030	7.35	8,233	0.00	0	0.00	0	0.49	549	7.84	8,781
2031	7.36	8,240	0.00	0	0.00	0	0.49	554	7.85	8,793
2032	7.36	8,247	0.00	0	0.00	0	0.50	559	7.86	8,805
2033	7.37	8,254	0.00	0	0.00	0	0.50	564	7.87	8,817
2034	7.37	8,260	0.00	0	0.00	0	0.51	569	7.88	8,830
2035	7.38	8,267	0.00	0	0.00	0	0.51	574	7.89	8,842
2036	7.39	8,274	0.00	0	0.00	0	0.52	579	7.90	8,854
2037	7.39	8,281	0.00	0	0.00	0	0.52	585	7.91	8,866
2038	7.40	8,288	0.00	0	0.00	0	0.53	590	7.93	8,878
2039	7.41	8,295	0.00	0	0.00	0	0.53	595	7.94	8,890
2040	7.41	8,302	0.00	0	0.00	0	0.54	600	7.95	8,902

^
|
ACTUAL
PROJECTED
|
v

Per Capita Consumption (WLK)



California Water Service Company - Westlake District
Water Supply and Demand Analysis and Projections
Per Capita Water Demand Calculation

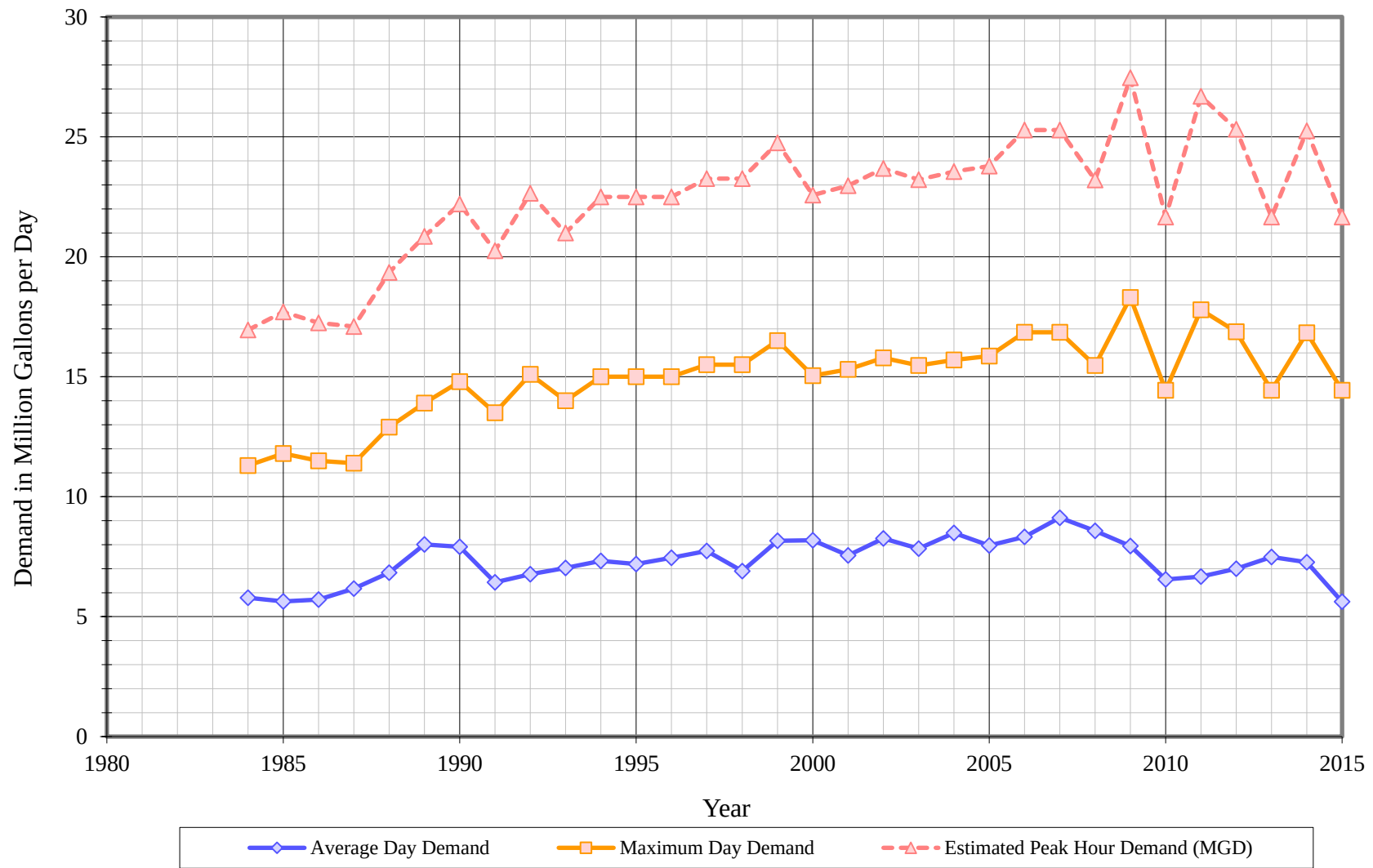
Worksheet 11

Year	POP	Historical				Projected			
		Gross Demand		Residential Only		Avg Demand		Avg Demand w/ Cons	
		Usage (AFY)	Per Capita (GPCPD)	Usage (AFY)	Per Capita (GPCPD)	Demand (AFY)	Per Capita (GPCPD)	Demand (AFY)	Per Capita (GPCPD)
1995	16,553	8,058	435	5,148	278				
1996	16,593	8,345	449	5,613	302				
1997	16,671	8,668	464	5,879	315				
1998	16,758	7,723	411	5,152	274				
1999	16,872	9,146	484	6,072	321				
2000	16,717	9,170	490	6,153	329				
2001	16,899	8,459	447	5,768	305				
2002	17,195	9,248	480	6,333	329				
2003	17,322	8,782	453	6,058	312				
2004	17,790	9,509	477	6,478	325				
2005	18,096	8,920	440	6,027	297				
2006	18,387	9,329	453	6,206	301				
2007	18,651	10,223	489	6,770	324				
2008	18,892	9,602	454	6,657	315				
2009	19,100	8,904	416	5,927	277				
2010	19,397	7,339	338	5,163	238				
2011	19,435	7,473	343	5,152	237				
2012	19,440	7,844	360	5,487	252				
2013	19,434	8,388	385	5,657	260				
2014	19,451	8,146	374	5,572	256				
2015	19,458	6,295	289	4,243	195				
2016	19,474					8,616	395	8,957	411
2017	19,491					8,628	395	8,759	401
2018	19,507					8,639	395	8,561	392
2019	19,523					8,651	396	8,363	382
2020	19,540					8,663	396	8,164	373
2025	19,622					8,722	397	8,198	373
2030	19,704					8,781	398	8,233	373
2035	19,787					8,842	399	8,267	373
2040	19,871					8,902	400	8,302	373

SBx7-7 Targets

2015	420
2020	373

Average Day, Maximum Day, Peak Demand

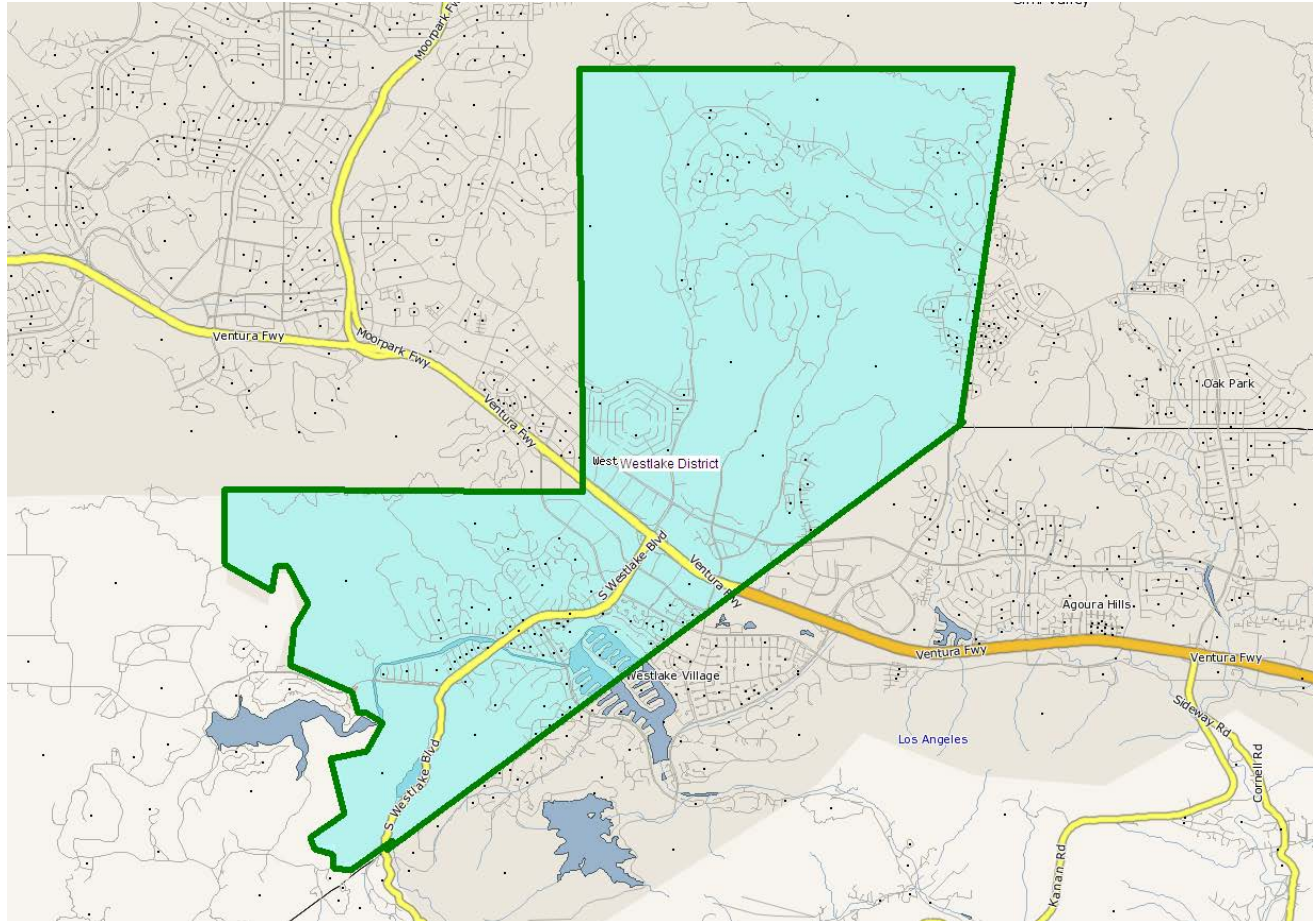


California Water Service Company - Westlake District
Water Supply and Demand Analysis and Projections
Historical and Projected Average Day, Maximum Day, and Peak Demand

Worksheet 12

Year	Historical Annual Demand (AFY)	Annual Demand (MGY)	Average Day Demand Demand (MGD)	Per Service (GPD)	Maximum Day Demand Demand (MGD)	Per Service (GPD)	MDD ADD Ratio	Estimated Peak Hour Demand (MGD)	(GPM)	PHD MDD Ratio	PHD ADD Ratio	Measured Peak Hour Demand (MGD)	(GPM)	PHD MDD Ratio
1980														
1981														
1982														
1983														
1984	6,479	2,111	5.78	1,316	11.30	2,571	1.95	16.95	11,771	1.50	2.93			
1985	6,318	2,059	5.64	1,221	11.80	2,554	2.09	17.70	12,292	1.50	3.14			
1986	6,398	2,085	5.71	1,153	11.50	2,321	2.01	17.25	11,979	1.50	3.02			
1987	6,912	2,252	6.17	1,148	11.40	2,122	1.85	17.10	11,875	1.50	2.77			
1988	7,660	2,496	6.84	1,182	12.90	2,230	1.89	19.35	13,438	1.50	2.83			
1989	8,977	2,925	8.01	1,298	13.90	2,251	1.73	20.85	14,479	1.50	2.60			
1990	8,862	2,888	7.91	1,245	14.80	2,329	1.87	22.20	15,417	1.50	2.81			
1991	7,207	2,348	6.43	998	13.50	2,094	2.10	20.25	14,063	1.50	3.15			
1992	7,586	2,472	6.77	1,039	15.10	2,316	2.23	22.65	15,729	1.50	3.34			
1993	7,875	2,566	7.03	1,075	14.00	2,140	1.99	21.00	14,583	1.50	2.99			
1994	8,200	2,672	7.32	1,117	15.00	2,288	2.05	22.50	15,625	1.50	3.07			
1995	8,058	2,626	7.19	1,096	15.00	2,285	2.09	22.50	15,625	1.50	3.13			
1996	8,345	2,719	7.45	1,129	15.00	2,273	2.01	22.50	15,625	1.50	3.02			
1997	8,668	2,824	7.74	1,161	15.51	2,327	2.00	23.26	16,153	1.50	3.01			
1998	7,723	2,516	6.89	1,028	15.51	2,311	2.25	23.26	16,153	1.50	3.37			
1999	9,146	2,980	8.16	1,206	16.50	2,439	2.02	24.75	17,191	1.50	3.03			
2000	9,170	2,988	8.19	1,204	15.05	2,214	1.84	22.58	15,678	1.50	2.76			
2001	8,459	2,756	7.55	1,108	15.31	2,245	2.03	22.97	15,949	1.50	3.04			
2002	9,248	3,013	8.26	1,209	15.79	2,313	1.91	23.69	16,450	1.50	2.87			
2003	8,782	2,862	7.84	1,161	15.48	2,292	1.97	23.22	16,122	1.50	2.96			
2004	9,509	3,099	8.49	1,238	15.71	2,291	1.85	23.56	16,360	1.50	2.78			
2005	8,920	2,907	7.96	1,157	15.86	2,304	1.99	23.79	16,520	1.50	2.99			
2006	9,329	3,040	8.33	1,207	16.86	2,443	2.02	25.29	17,561	1.50	3.04			
2007	10,223	3,331	9.13	1,321	16.86	2,441	1.85	25.29	17,561	1.50	2.77			
2008	9,602	3,129	8.57	1,242	15.47	2,241	1.80	23.21	16,115	1.50	2.71			
2009	8,904	2,901	7.95	1,156	18.31	2,662	2.30	27.46	19,071	1.50	3.45			
2010	7,339	2,392	6.55	950	14.44	2,094	2.20	21.66	15,042	1.50	3.31			
2011	7,473	2,435	6.67	966	17.79	2,577	2.67	26.69	18,535	1.50	4.00			
2012	7,844	2,556	7.00	1,014	16.88	2,444	2.41	25.32	17,585	1.50	3.62			
2013	8,388	2,733	7.49	1,084	14.44	2,091	1.93	21.66	15,041	1.50	2.89			
2014	8,146	2,655	7.27	1,051	16.84	2,434	2.31	25.25	17,536	1.50	3.47			
2015	6,295	2,051	5.62	813	14.44	2,088	2.57	21.66	15,041	1.50	3.85			
10-Year Average (2006-2015)			7.46	1,080	16.23	2,352	2.21	24.35	16,909	1.50	3.31			
5-Year Average (2011-2015)			6.81	986	16.08	2,327	2.38	24.12	16,748	1.50	3.57			

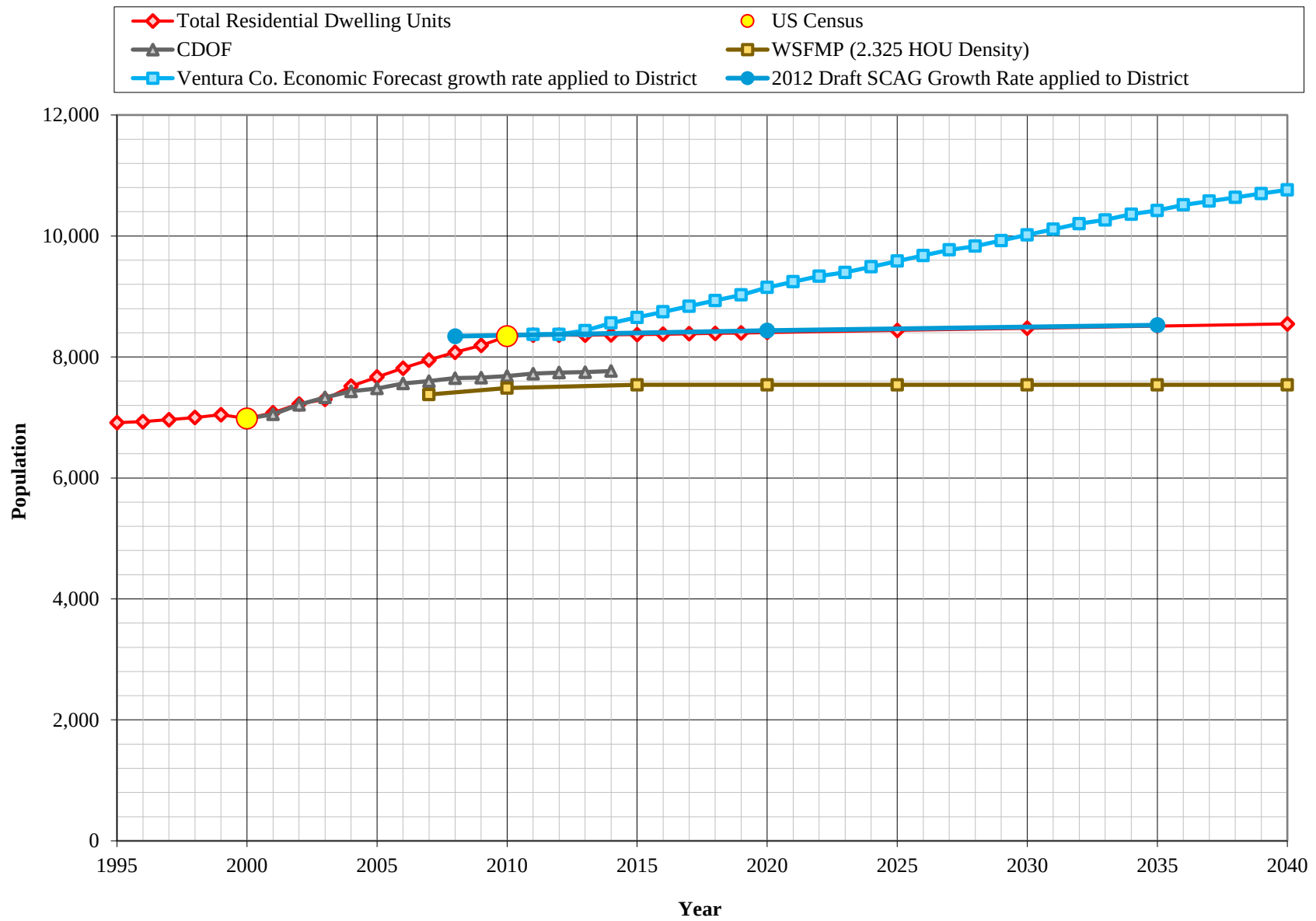
California Water Service Company - Westlake District
Water Supply and Demand Analysis and Projections
MarPlot Summary



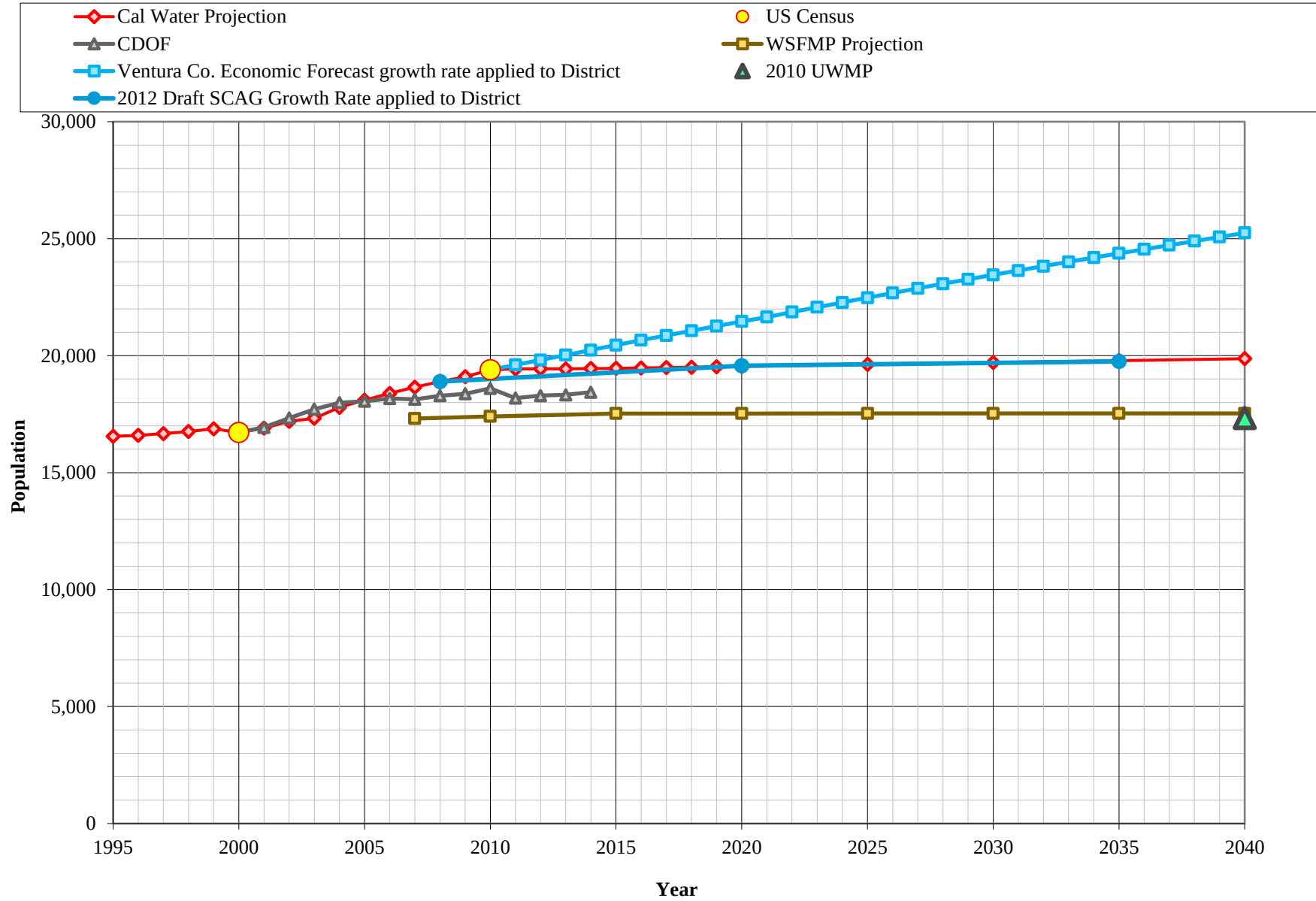
System	US Census 2000 Summary				US Census 2010 Summary				2000-2010 Change		
	Census Tract Blocks	Population	Housing Units (HU)	Density	Census Tract Blocks	Population	Housing Units (HU)	Density	Percentage Population Change	Percentage HU Change	Density Change
Westlake	111	16,717	6,982	2.39	133	19,397	8,343	2.32	16.0%	19.5%	-2.9%
	111	16,717	6,982	2.39	133	19,397	8,343	2.32	16.0%	19.5%	-2.9%

MARPLOT disclaimer: The population and housing number given above are only rough estimates. They are based on the US Census Blocks. Although Census Blocks are polygons, MARPLOT uses the centroid, or center point, rather than the entire polygon. If a Census Block centroid is within any of the MARPLOT selected objects, the population and housing numbers for that block are tallied, even if only part of the block is within the selected object. It is possible for a block not be counted if its centroid is not within selected objects, even though part of the block is within the selected objects.

Housing Projections



Population Projections



California Water Service Company - Westlake District
Water Supply and Demand Analysis and Projections
Population Estimate

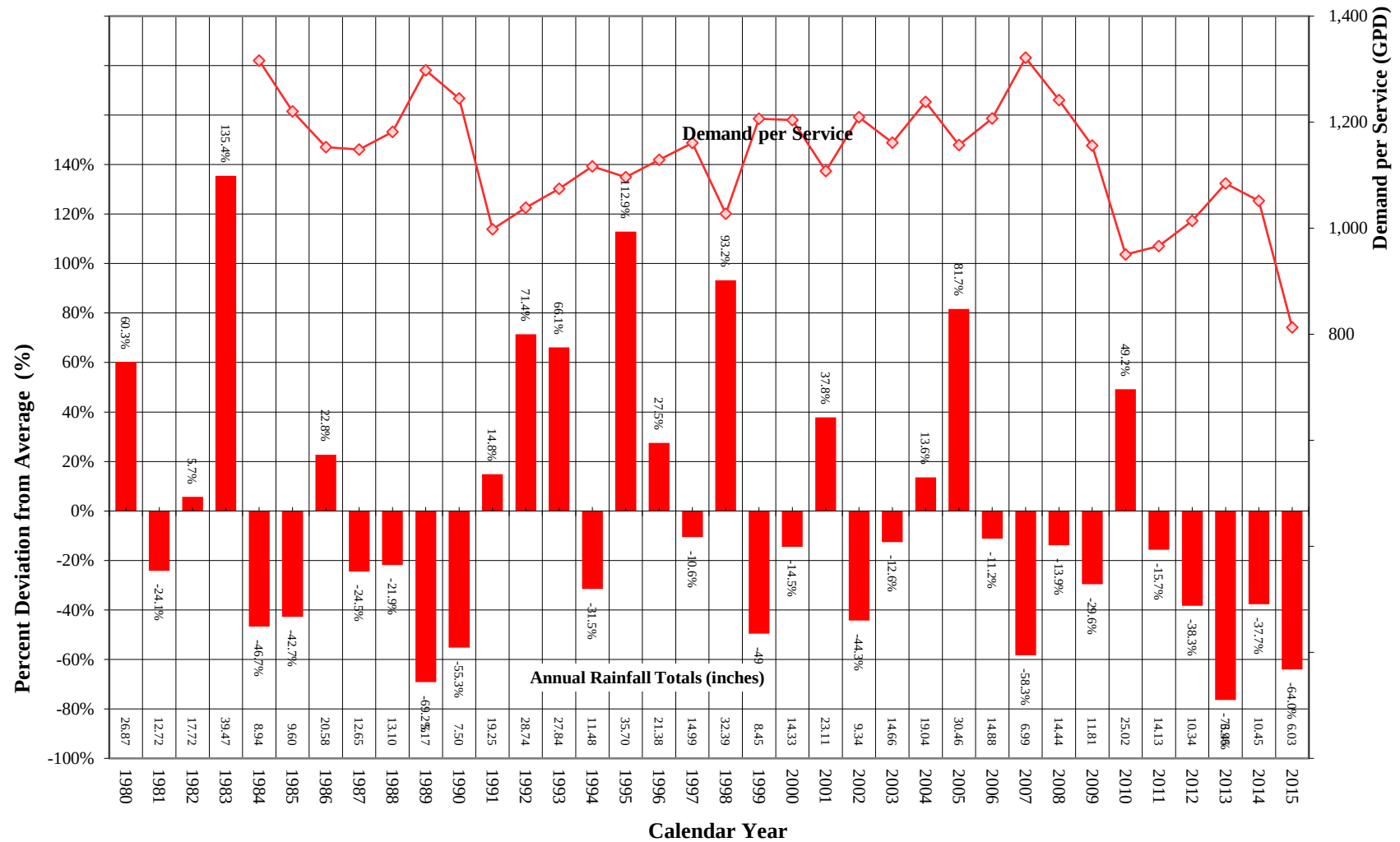
Worksheet 14

Year	US Census		Persons per Housing Unit	Single Family	Multi Family Residential			Flat Rate
	Population	Housing Units		Residential		Residential	Unit	Residential
				Services (DU)	Services	Units (DU)	Density	Services (DU)
2000	16,717	6,982	2.394	6,116	65	866	13.3	0
2010	19,397	8,343	2.325	6,139	125	2,204	17.6	0
	16.0%	19.5%	-2.9%	0.4%	92.3%	154.6%	32.4%	0.0%

Year	Single Family Residential Services (DU)	Multi Family Residential			Flat Rate Residential Services (DU)	Total Residential Dwelling Units	Persons per Housing Unit	Estimated District Population	
		Services	Residential Units (DU)	Unit Density					
1995	6,048	65	866	13.3	0	6,913	2.394	16,553	
1996	6,065	65	866	13.3	0	6,930	2.394	16,593	
1997	6,097	65	866	13.3	0	6,963	2.394	16,671	
1998	6,134	65	866	13.3	0	6,999	2.394	16,758	
1999	6,181	65	866	13.3	0	7,047	2.394	16,872	
2000	6,116	65	866	13.3	0	6,982	2.394	16,717	
2001	6,079	65	999	15.4	0	7,079	2.387	16,899	
2002	6,090	65	1,133	17.4	0	7,223	2.380	17,195	
2003	6,031	64	1,267	19.8	0	7,298	2.373	17,322	
2004	6,117	65	1,401	21.6	0	7,517	2.367	17,790	
2005	6,134	65	1,535	23.6	0	7,669	2.360	18,096	
2006	6,147	65	1,668	25.7	0	7,815	2.353	18,387	
2007	6,149	100	1,802	18.0	0	7,951	2.346	18,651	
2008	6,142	120	1,936	16.1	0	8,077	2.339	18,892	
2009	6,121	125	2,070	16.6	0	8,191	2.332	19,100	
2010	6,139	125	2,204	17.6	0	8,343	2.325	19,397	
2011	6,156	125	2,204	17.6	0	8,359	2.325	19,435	
2012	6,158	125	2,204	17.6	0	8,361	2.325	19,440	
2013	6,155	125	2,204	17.6	0	8,359	2.325	19,434	
2014	6,163	125	2,204	17.6	0	8,366	2.325	19,451	
2015	6,166	125	2,204	17.6	0	8,369	2.325	19,458	
2016	6,171	125	2,205	17.6	0	8,376	2.325	19,474	
2017	6,176	125	2,207	17.6	0	8,383	2.325	19,491	
2018	6,181	125	2,209	17.6	0	8,390	2.325	19,507	
2019	6,186	125	2,211	17.6	0	8,397	2.325	19,523	
2020	6,192	126	2,213	17.6	0	8,404	2.325	19,540	
2025	6,218	126	2,222	17.6	0	8,440	2.325	19,622	
2030	6,244	127	2,232	17.6	0	8,475	2.325	19,704	
2035	6,270	127	2,241	17.6	0	8,511	2.325	19,787	
2040	6,296	128	2,250	17.6	0	8,547	2.325	19,871	

Notes: linear extrapolation used to estimated MFR-DU from 2000. Estimate extend until 2010 due to reclassification, afterwards a constant MFR Unit Density is used.

Comparison of Annual Rainfall to Historical Average



California Water Service Company - Westlake District
Water Supply and Demand Analysis and Projections
 Temperature & Rainfall History

Worksheet 15

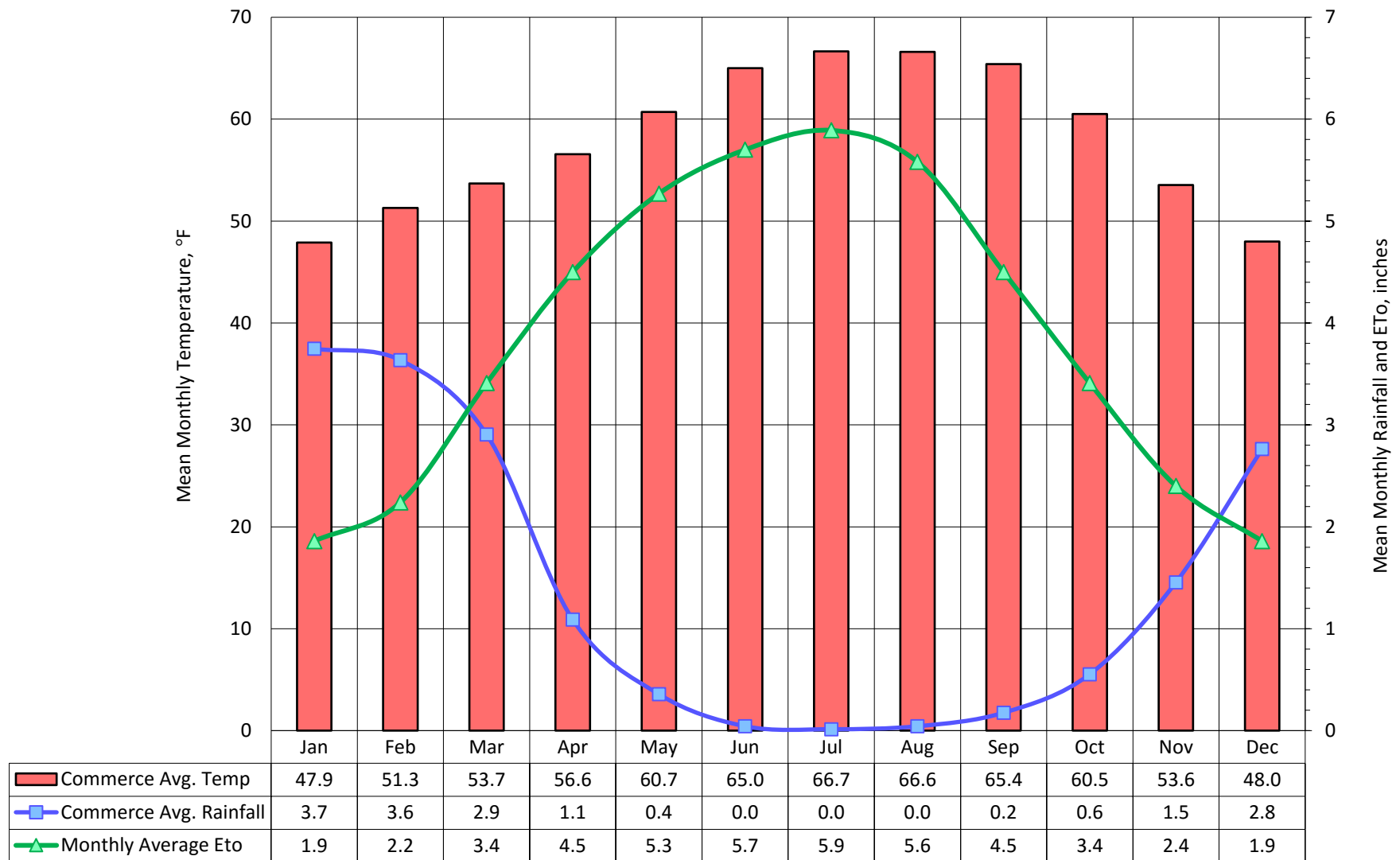
Year	Precipitation		Temperature			Demand per Service (gpd)	Percent of Average Demand
	Annual (in)	Percent Variation	Tmax (°F)	Tmin (°F)	Mean (°F)		
1980	27	60%	84.9	43.6	64.3		
1981	13	-24%	87.2	44.2	65.7		
1982	18	6%	84.8	42.1	63.5		
1983	39	135%	85.6	44.2	64.9		
1984	9	-47%	88.7	42.6	65.7	1,316	16%
1985	10	-43%	86.6	41.2	63.9	1,221	8%
1986	21	23%	85.2	43.9	64.6	1,153	2%
1987	13	-25%	82.8	41.4	62.1	1,148	1%
1988	13	-22%	83.1	43.4	63.3	1,182	4%
1989	5	-69%	84.3	40.5	62.4	1,298	14%
1990	8	-55%	85.9	41.1	63.5	1,245	10%
1991	19	15%	83.0	41.7	62.4	998	-12%
1992	29	71%	87.5	40.8	64.2	1,039	-8%
1993	28	66%	82.6	43.2	62.9	1,075	-5%
1994	11	-32%	87.6	41.6	64.6	1,117	-2%
1995	36	113%	86.4	46.0	66.2	1,096	-3%
1996	21	28%	86.9	44.8	65.9	1,129	0%
1997	15	-11%	86.2	44.9	65.6	1,161	2%
1998	32	93%	86.4	43.2	64.8	1,028	-9%
1999	8	-50%	85.1	43.1	64.1	1,206	6%
2000	14	-15%	83.5	45.4	64.5	1,204	6%
2001	23	38%	82.1	43.0	62.6	1,108	-2%
2002	9	-44%	83.4	44.2	63.8	1,209	7%
2003	15	-13%	84.5	45.5	65.0	1,161	2%
2004	19	14%	82.9	44.5	63.7	1,238	9%
2005	30	82%	82.7	47.0	64.9	1,157	2%
2006	15	-11%	89.0	41.2	65.1	1,207	6%
2007	7	-58%	84.2	43.5	63.9	1,321	17%
2008	14	-14%	82.6	43.5	63.1	1,242	9%
2009	12	-30%	85.5	44.1	64.8	1,156	2%
2010	25	49%	80.6	45.4	63.0	950	-16%
2011	14	-16%	81.5	42.3	61.9	966	-15%
2012	10	-38%	85.7	44.8	65.3	1,014	-11%
2013	4	-76%	83.2	44.6	63.9	1,084	-4%
2014	10	-38%	85.5	48.0	66.8	1,051	-7%
2015	6	-64%	85.8	44.6	65.2	813	-28%
2016							
2017							
2018							
2019							
2020							

Precipitation (1895 - present)						Monthly Average Eto
	Mean	High	Year	Low	Year	
	in.	in.	-	in.	-	
Jan	3.7	21.32	1995	0.00	2014	1.9
Feb	3.6	18.73	1998	0.00	1974	2.2
Mar	2.9	11.92	1991	0.00	1997	3.4
Apr	1.1	7.19	1965	0.00	1909	4.5
May	0.4	4.20	1921	0.00	1903	5.3
Jun	0.0	0.53	1995	0.00	2015	5.7
Jul	0.0	0.86	2015	0.00	2014	5.9
Aug	0.0	1.69	1977	0.00	2013	5.6
Sep	0.2	3.70	1939	0.00	2015	4.5
Oct	0.6	5.29	2004	0.00	2014	3.4
Nov	1.5	11.95	1965	0.00	2009	2.4
Dec	2.8	14.48	1921	0.00	2000	1.9
Annual	16.8	39.47	1983	3.42	1947	46.6

Temperature (1895 - present)			
	Tmax	Tmin	Mean
	°F	°F	°F
Jan	57.3	38.5	47.9
Feb	61.2	41.4	51.3
Mar	64.3	43.1	53.7
Apr	68.4	44.7	56.6
May	72.9	48.5	60.7
Jun	77.4	52.6	65.0
Jul	78.4	54.9	66.7
Aug	78.5	54.7	66.6
Sep	78.2	52.6	65.4
Oct	73.0	48.0	60.5
Nov	64.4	42.7	53.6
Dec	57.8	38.2	48.0
Annual	69.3	46.7	58.0

- 1) Eto values based on California Irrigation Management Information System (CIMIS), <http://www.cimis.water.ca.gov/cimis/welcome.jsp>, EvapoTranspiration (Eto) Zones Map, Zone 6
- 2) PPT, Tmax, Tmin obtained from PRISM where, PPT is total monthly rainfall, Tmax is average of maximum temperatures for given month, and Tmin is average of minimum temperatures for given month
- 3) Percent variation based on average of 1980 to present values

Average Monthly Temperature, Rainfall, and Monthly Eto

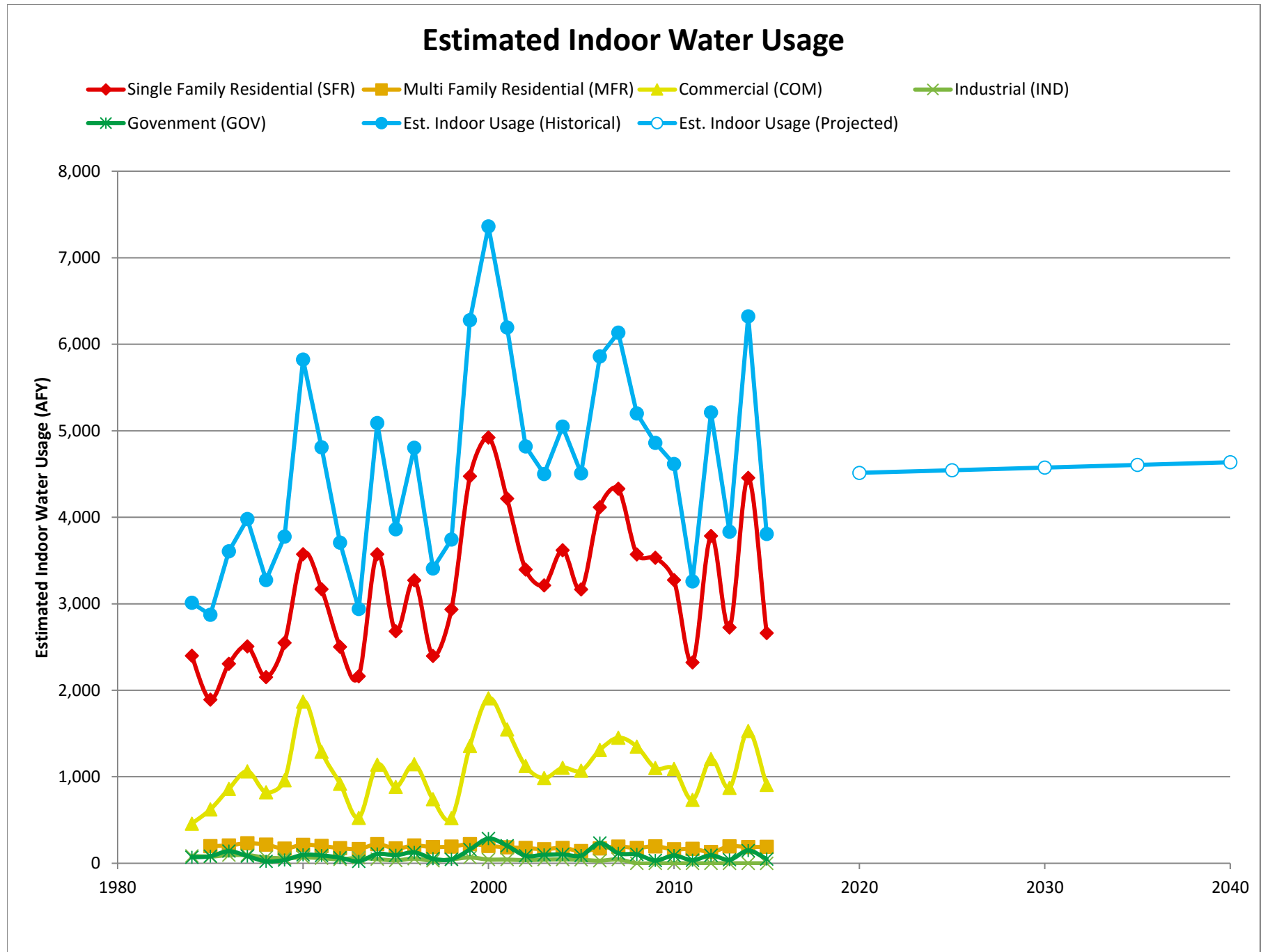


California Water Service Company - Westlake District Water Supply and Demand Analysis and Projections

Worksheet 16

Groundwater Production Facilities

District does not have groundwater production facilities



California Water Service Company - Westlake District

Water Supply and Demand Analysis and Projections

Estimated Indoor/Outdoor Water Usage

Year	Single Family Residential (SFR)							Multi Family Residential (MFR)				Commercial (COM)			
	SFR Jan Usage	Metered SFR Indoor Use (Annualized 90% of January Total)		Indoor Flat Rate Usage (AFY)	Total SFR Indoor Usage			MFR Jan Usage	MFR Indoor Use (Annualized 90% of January Total)			COM Jan Usage	COM Indoor Use (Annualized 90% of January Total)		
	JAN (CCF)	AFY	GPD/Serv		AFY	GPD/Serv	%	(CCF)	AFY	GPD/Serv	%	(CCF)	AFY	GPD/Serv	%
1980															
1981															
1982															
1983															
1984	96,779	2,399	0.593	0	2,399	529	61%					18,488	458	1,939	38%
1985	76,329	1,892	0.446	0	1,892	398	55%	7,973	198	3,330	78%	25,090	622	2,347	44%
1986	93,006	2,306	0.507	0	2,306	452	65%	8,329	207	3,462	75%	34,682	860	2,907	54%
1987	101,108	2,507	0.507	0	2,507	452	65%	9,344	232	3,830	79%	42,901	1,064	3,388	55%
1988	86,745	2,151	0.402	0	2,151	359	49%	8,664	215	3,551	75%	33,074	820	2,578	40%
1989	102,753	2,548	0.446	0	2,548	398	52%	6,884	171	2,875	64%	38,754	961	2,700	37%
1990	144,099	3,573	0.609	0	3,573	544	71%	8,654	215	3,614	82%	75,402	1,869	4,839	74%
1991	127,838	3,170	0.534	0	3,170	477	78%	8,074	200	2,767	89%	52,013	1,290	3,323	65%
1992	100,892	2,501	0.418	0	2,501	373	56%	7,061	175	2,404	68%	37,056	919	2,356	45%
1993	87,207	2,162	0.360	0	2,162	321	46%	6,679	166	2,269	67%	21,202	526	1,336	27%
1994	144,142	3,574	0.593	0	3,574	529	72%	8,867	220	3,019	84%	45,988	1,140	2,882	56%
1995	108,128	2,681	0.443	0	2,681	396	55%	6,900	171	2,350	68%	35,586	882	2,295	46%
1996	131,954	3,272	0.539	0	3,272	482	61%	8,258	205	2,812	85%	46,239	1,146	2,839	65%
1997	96,699	2,397	0.393	0	2,397	351	43%	7,572	188	2,578	72%	29,863	740	1,668	39%
1998	118,397	2,935	0.479	0	2,935	427	60%	7,800	193	2,656	78%	21,111	523	1,131	33%
1999	180,419	4,473	0.724	0	4,473	646	77%	8,952	222	3,048	91%	54,717	1,357	2,892	66%
2000	198,553	4,923	0.805	0	4,923	719	83%	8,133	202	2,769	84%	76,977	1,909	3,341	90%
2001	170,040	4,216	0.693	0	4,216	619	76%	7,429	184	2,530	82%	62,389	1,547	2,446	80%
2002	136,962	3,396	0.558	0	3,396	498	56%	7,121	177	2,425	73%	45,336	1,124	1,790	43%
2003	129,517	3,211	0.532	0	3,211	475	55%	6,567	163	2,271	74%	39,708	984	1,604	44%
2004	145,938	3,618	0.592	0	3,618	528	58%	7,194	178	2,450	80%	44,487	1,103	1,741	47%
2005	127,745	3,167	0.516	0	3,167	461	54%	5,648	140	1,923	66%	43,151	1,070	1,657	52%
2006	165,966	4,115	0.669	0	4,115	598	69%	6,911	171	2,353	81%	52,814	1,309	2,017	58%
2007	174,610	4,329	0.704	0	4,329	629	66%	7,803	193	1,729	81%	58,543	1,451	2,358	58%
2008	143,998	3,570	0.581	0	3,570	519	56%	7,186	178	1,325	75%	54,385	1,348	2,220	60%
2009	142,422	3,531	0.577	0	3,531	515	62%	7,917	196	1,402	87%	44,377	1,100	1,835	52%
2010	132,055	3,274	0.533	0	3,274	476	66%	6,487	161	1,149	77%	44,028	1,092	1,818	65%
2011	93,607	2,321	0.377	0	2,321	337	47%	6,775	168	1,200	80%	29,588	734	1,237	44%
2012	152,642	3,785	0.615	0	3,785	549	72%	5,302	131	939	60%	48,541	1,203	2,027	65%
2013	109,922	2,725	0.443	0	2,725	395	50%	7,856	195	1,391	85%	35,157	872	1,462	45%
2014	179,682	4,455	0.723	0	4,455	645	83%	7,617	189	1,349	81%	61,714	1,530	2,568	79%
2015	107,346	2,661	5.042	0	2,661	385	66%	7,651	190	1,355	90%	36,529	906	1,532	61%
2016					3,195	462			175	1,247			1,047	1,765	
2017					3,198	462			175	1,247			1,050	1,765	
2018					3,201	462			175	1,247			1,053	1,765	
2019					3,203	462			175	1,247			1,055	1,765	
2020					3,206	462			175	1,247			1,058	1,765	
2025					3,219	462			176	1,247			1,074	1,765	
2030					3,233	462			177	1,247			1,089	1,765	
2035					3,247	462			178	1,247			1,104	1,765	
2040					3,260	462			178	1,247			1,120	1,765	

Note: GPD/Service is estimated as the average of the last 5 years for given customer class.

California Water Service Company - Westlake District

Water Supply and Demand Analysis and Projections

Estimated Indoor/Outdoor Water Usage

Year	Industrial (IND)				Govenment (GOV)			
	IND Jan Usage	IND Indoor Use (Annualized 90% of January Total)			GOV Jan Usage	GOV Indoor Use (Annualized 90% of January Total)		
	(CCF)	AFY	GPD/Serv	%	(CCF)	AFY	GPD/Serv	%
1980								
1981								
1982								
1983								
1984	3,407	84	5,201	62%	2,808	70	1,186	19%
1985	3,145	78	4,972	57%	3,284	81	1,387	24%
1986	3,816	95	6,033	74%	5,671	141	2,457	47%
1987	3,790	94	5,992	85%	3,332	83	1,446	27%
1988	2,660	66	4,205	56%	920	23	403	8%
1989	2,373	59	3,752	52%	1,563	39	662	13%
1990	2,744	68	4,338	72%	3,933	98	1,643	34%
1991	2,409	60	3,809	85%	3,654	91	1,158	38%
1992	1,838	46	2,889	56%	2,626	65	636	22%
1993	2,562	64	3,979	74%	910	23	221	7%
1994	1,915	47	2,923	64%	4,354	108	1,067	33%
1995	1,368	34	2,176	45%	3,772	94	937	28%
1996	2,165	54	3,423	71%	5,083	126	1,343	38%
1997	1,193	30	1,886	39%	2,162	54	584	16%
1998	1,851	46	2,926	61%	1,812	45	507	18%
1999	2,712	67	4,366	100%	6,449	160	1,771	48%
2000	1,754	43	2,773	62%	11,536	286	3,037	80%
2001	1,729	43	2,734	77%	8,206	203	2,070	63%
2002	1,460	36	2,281	56%	3,490	87	885	22%
2003	1,709	42	2,536	67%	3,951	98	1,013	29%
2004	1,799	45	2,669	61%	4,154	103	1,057	27%
2005	1,605	40	2,422	65%	3,605	89	917	28%
2006	1,197	30	1,766	56%	9,450	234	2,404	69%
2007	1,771	44	3,920	101%	4,680	116	1,173	32%
2008	0	0	0	0%	4,126	102	1,020	30%
2009	0	0	0	0%	1,318	33	328	12%
2010	0	0	0	0%	3,610	90	898	36%
2011	0	0	0	0%	1,440	36	358	14%
2012	0	0	0	0%	3,747	93	932	33%
2013	0	0	0	0%	1,605	40	399	13%
2014	0	0	0	0%	5,950	148	1,480	51%
2015	0	0	0	0%	2,013	50	501	28%
2016		0	0			73	734	
2017		0	0			74	734	
2018		0	0			74	734	
2019		0	0			74	734	
2020		0	0			74	734	
2025		0	0			75	734	
2030		0	0			76	734	
2035		0	0			77	734	
2040		0	0			77	734	

Estimated Indoor/Outdoor Usage			
Est. Indoor Usage	Est. Outdoor Usage	Est. Indoor Usage	Est. Outdoor Usage
AFY	AFY	%	%
3,012	3,467	46%	54%
2,872	3,446	45%	55%
3,608	2,790	56%	44%
3,979	2,933	58%	42%
3,274	4,385	43%	57%
3,777	5,201	42%	58%
5,822	3,040	66%	34%
4,810	2,398	67%	33%
3,706	3,880	49%	51%
2,940	4,935	37%	63%
5,089	3,110	62%	38%
3,862	4,197	48%	52%
4,802	3,543	58%	42%
3,409	5,259	39%	61%
3,743	3,979	48%	52%
6,279	2,867	69%	31%
7,362	1,808	80%	20%
6,193	2,266	73%	27%
4,819	4,429	52%	48%
4,499	4,283	51%	49%
5,047	4,462	53%	47%
4,506	4,414	51%	49%
5,860	3,470	63%	37%
6,134	4,089	60%	40%
5,199	4,403	54%	46%
4,860	4,044	55%	45%
4,616	2,723	63%	37%
3,258	4,215	44%	56%
5,212	2,632	66%	34%
3,832	4,557	46%	54%
6,321	1,825	78%	22%
3,807	2,488	60%	40%
4,490	4,126	52%	48%
4,496	4,132	52%	48%
4,502	4,138	52%	48%
4,508	4,143	52%	48%
4,514	4,149	52%	48%
4,544	4,178	52%	48%
4,574	4,207	52%	48%
4,605	4,237	52%	48%
4,636	4,266	52%	48%

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