2009 WATER RESOURCES

AND

SERVICE RELIABILITY REPORT

El Dorado Irrigation District
2890 Mosquito Road
Placerville, California 95667

Presented to the EID Board of Directors
July 13, 2009

TABLE OF CONTENTS

1 EXECUTIVE SUMMARY 1

2 BACKGROUND 1

3 SUMMARY OF WATER METER AVAILABILITY 2
- 3.1 El Dorado Hills Supply Area 2
- 3.2 Western / Eastern Supply Area 4
- 3.3 Calculation of Water Meter Availability 4

4 METHODOLOGY 16
- 4.1 EID Policies and Regulations Pertaining to EDU Allocations 17

5 SYSTEM FIRM YIELD ANALYSIS 18
- 5.1 Water Rights Permit 21112 18
- 5.2 Rediversion of Existing Water Rights to Folsom Reservoir 18
- 5.3 Fazio Water Supply (Public Law 101-514) 19
- 5.4 Infrastructure Based Yield 19

6 TOTAL POTENTIAL DEMAND 20
- 6.1 Average Demand by User Category 20
- 6.2 Active Demand 20
  - 6.2.1 Active Accounts 20
  - 6.2.2 Active Meters 21
- 6.3 Latent Demand 21
  - 6.3.1 Inactive Accounts 21
  - 6.3.2 Uninstalled Meters 21
- 6.4 Other System Demand 22
  - 6.4.1 Historical Diversions, Demands, and Losses 22
  - 6.4.2 Authorized Uses 23
  - 6.4.3 Potable Water Supplement to Recycled System 23

7 COMMITMENTS 23
- 7.1 El Dorado Hills Supply Area 24
  - 7.1.1 Assessment District No. 3 24
  - 7.1.2 Buy-ins to AD3 24
  - 7.1.3 Monte Vista Parcels 24
  - 7.1.4 Weber Dam Advanced Funding Agreement 25
  - 7.1.5 Wetsel-Oviatt 25
  - 7.1.6 Carson Creek Agreement 26
- 7.2 Western / Eastern Supply Area 28

7.2.1 Apple Mountain 28
7.2.2 Bell Ranch 28

8 RECYCLED WATER SYSTEM 31

8.1 2008 Supply and Demand Summary 31
8.1.1 2008 Supply 31
8.1.2 2009 Demand 31

8.2 Projected 2009 Recycled Water Supply and Demand 32

8.3 Planned Recycled Water System Improvements 32

9 GLOSSARY – Terms and Definitions 38

LIST OF TABLES

TABLE 1 Water Meter Availability 5
TABLE 2 System Firm Yield 6
TABLE 3 Infrastructure Based Yield 7
TABLE 4A Projected 2009 Demand, El Dorado Hills Supply Area 8
TABLE 4B Projected 2009 Demand, Western/Eastern Supply Area 9
TABLE 5 Active Demand, El Dorado Hills Supply Area 10
TABLE 6 Latent Demand, El Dorado Hills Supply Area 11
TABLE 7 Active Demand, Western/Eastern Supply Area 12
TABLE 8A Western Latent Demand 13
TABLE 8B Eastern Latent Demand 14
TABLE 9 Other System Demand 15
TABLE 10 Status of Commitments, El Dorado Hills Supply Area 27
TABLE 11 Status of Commitments, Western/Eastern Supply Area 29
TABLE 12 Active Demand, Recycled Water System 33
TABLE 13 Latent Demand, Recycled Water System 34
TABLE 14 Recycled Water Supply and Demand Summary 35
TABLE 15 Projected Recycled Water Supply / Demand 36

LIST OF FIGURES

FIGURE A Water Supply and Infrastructure Boundaries 3
FIGURE B Service Zones 30
FIGURE C Recycled Water System 37

APPENDICES

APPENDIX A El Dorado Hills Historical Trends 44
APPENDIX B Western Region Historical Trends 45
APPENDIX C Eastern Region Historical Trends 46
APPENDIX D Historical Diversions, Demands and Losses 47

1 EXECUTIVE SUMMARY

The *Water Resources and Service Reliability Report* is updated annually to determine current water supply and water meter availability within the El Dorado Irrigation District (EID or District). Board Policy 5010, Water Supply Management, states that the District will not issue any new water meters if there is insufficient water supply. Administrative Regulation 5010, Water Availability and Commitments, outlines the responsibilities for annual reporting, shortages, and new meter restrictions. This policy and regulation provide the means to ensure that meter sales do not exceed water supply and infrastructure capacity. To determine the amount of water that will be available in the coming year for new meter sales, the District uses the firm yield of the water supply sources minus the total demand for all uses of this water.

The District's overall system firm yield is approximately 60,550 acre-feet. For purposes of calculating meter availability for the District, two water supply areas have been identified, one that primarily receives water pumped from Folsom Reservoir, and one that receives water by gravity flow from the eastern supply sources – Project 184 and Jenkinson Lake.

The supply areas are divided into the El Dorado Hills supply area and the Western/Eastern supply area. The available supply in El Dorado Hills is currently restricted by infrastructure, which includes the capacity of the El Dorado Hills Water Treatment Plant and other conveyance facilities; whereas the supply in the Western/Eastern area is not restricted by infrastructure.

The demands of the District have been divided into three regions: 1) El Dorado Hills; 2) Western Region, which includes the communities of Bass Lake, Cameron Park, Shingle Springs, Logtown, El Dorado and Diamond Springs; and 3) Eastern Region, which includes Pleasant Valley, Sly Park, Pollock Pines, Camino, Placerville, and Lotus/Coloma. Water customers in each region are then further sub-divided into user categories depending upon the type of use for the water, such as residential or commercial, turf or agricultural irrigation, or wholesale delivery to the City of Placerville. A new 2011 projected unit demand has been developed for the 2009 Report for all user categories in each demand region.

The following table reflects the current water meter availability for the District.

2009 WATER METER AVAILABILITY	
EL DORADO HILLS SUPPLY AREA	WESTERN/EASTERN SUPPLY AREA
Water supply = 15,163 AF	Water Supply = 36,000 AF
Total Potential Demand = 12,070 AF	Total Potential Demand = 35,224 AF
Unallocated Water Supply = 3,093 AF	Unallocated Water Supply = 776 AF
Water Meter Availability = 3,597 EDUs	**Water Meter Availability = 1,315 EDUs**

This report also includes recycled water data, which is a valuable water resource for the District. The 2008 recycled water supply and demand data are presented, along with a projection of the 2009 recycled supply and anticipated demands for either dry year or normal/wet year conditions.

2 BACKGROUND

The El Dorado Irrigation District (EID or District) Board of Directors adopted Regulation No. 2, Water Supply Reliability, on July 24, 1989. On March 12, 1990 the Board adopted Resolution No. 90-39, "Declaring an Emergency Condition of Water Shortage under Water Code Section 350." As a result of the declaration, a Water Advisory Group was appointed to "establish a systematic, consistent, and factual basis for determining supply and demand for the EID system." The group consisted of Doug Leisz, Howard Kastan, Ed Murray, and Albert Hazbun. Hydrologist Charles E. Abraham and District staff members assisted the group in their efforts to analyze the water supply and total potential demand of EID, using demand data from 1984 through 1990. The original Water Supply & Demand Report presented the group's findings and was adopted by the District Board of Directors in September of 1991.

With the accurate data compiled by the Water Advisory Group, it was determined that there was indeed adequate water supply to meet the potential demands of EID, and subsequently, the "water emergency" was lifted. The 1991 report has since been updated annually, based upon established EID policies, review and direction from the Board of Directors, analysis by staff, and input from the community.

When the 2003 Update was adopted on June 2, 2003, the Board appointed a new Citizens Water Advisory Committee to revisit the original methodology used in determining EID's water supply and meter availability. The Committee consisted of previous members Doug Leisz, Ed Murray, and Albert Hazbun, along with new members Bill Hetland and Nate Rangel. Two ex-officio members were also invited to attend the Committee meetings - Carl Lischeske from the California Department of Health Services, and Charlie Paine, El Dorado County Supervisor. Hydrologists Charles E. Abraham and Harold Meyer, along with District staff members, assisted the Committee in their efforts to analyze the methodology used to determine the total potential demand and available water supply. The Committee met regularly for six months while analyzing the 2003 Update, which culminated in the presentation of their findings to the District Board of Directors on January 19, 2004.

Subsequently, District staff prepared an analysis for implementation of the Committee recommendations and presented their findings to the Board on April 5, 2004. At that time, staff recommended renaming this report the "Water Resources and Service Reliability Report." Most of the Committee's suggested changes were implemented with the completion of the 2005 Report, but staff continues to work toward identifying and implementing further improvements each year.

3 SUMMARY OF WATER METER AVAILABILITY

The water meter availability for EID is tracked within two distinct water supply areas, the El Dorado Hills supply area and the Western/Eastern supply area, which are illustrated in Figure A on Page 3. The unallocated water supply is calculated as annual acre-feet (AF), and then converted to equivalent dwelling units (EDUs).[1]

Table 1 on Page 5 summarizes the respective water meter availability for these two water supply areas. The subsequent Tables 2 through 9 are used to calculate the system firm yield and potential demand for both areas in order to determine the water meter availability for 2009.

3.1 El Dorado Hills Supply Area

The available supply in the El Dorado Hills supply area is currently restricted by infrastructure, which includes the capacity of the El Dorado Hills Water Treatment Plant and other conveyance facilities. The supply has increased due to an expanded El Dorado Hills Water Treatment Plant from a capacity of 19.5 million gallons per day (mgd) to a new capacity of 26 mgd.

The infrastructure based yield (Table 3) for the El Dorado Hills Supply Area is 15,163 AF. The total potential demand as of December 31, 2008 included 9,240 AF of active demand (Table 5), 297 AF of latent demand (Table 6), and 2,533 AF of other system demand (Table 9), for a total of 12,070 AF. The resulting unallocated water supply for the year 2009 is therefore 3,093 AF.

To convert the available water supply to meter availability, a unit demand was projected out for three years. This per EDU demand was based on a historical trend (1999-2008) for single-family residential dwellings in the El Dorado Hills supply area. The trend was extended out to 2011, resulting in 0.86 AF per EDU unit demand (Table 4A and Appendix Table A). The water meter availability for the El Dorado Hills supply area is thus a total of 3,597 EDUs for 2009.

Based on the difference between available supply and potential demand, the District currently has the ability to serve an additional 3,597 EDUs in the El Dorado Hills supply area. In each supply area, there are several contractual commitments that have been established. As has been the case in all but one of the last several years, meter availability in El Dorado Hills is limited to those parties with contractual commitments. These commitments total 4,192 EDUs in El Dorado Hills (Table 10) and are further described in Section 7, Commitments. The District's overall system firm yield of 60,550 AF is adequate to serve all commitments, however continued infrastructure expansions are needed to increase meter availability.

[1] An EDU corresponds to a single-family residential dwelling served by a 3/4-inch water meter. Larger water meters, such as those for commercial applications, require additional EDUs.

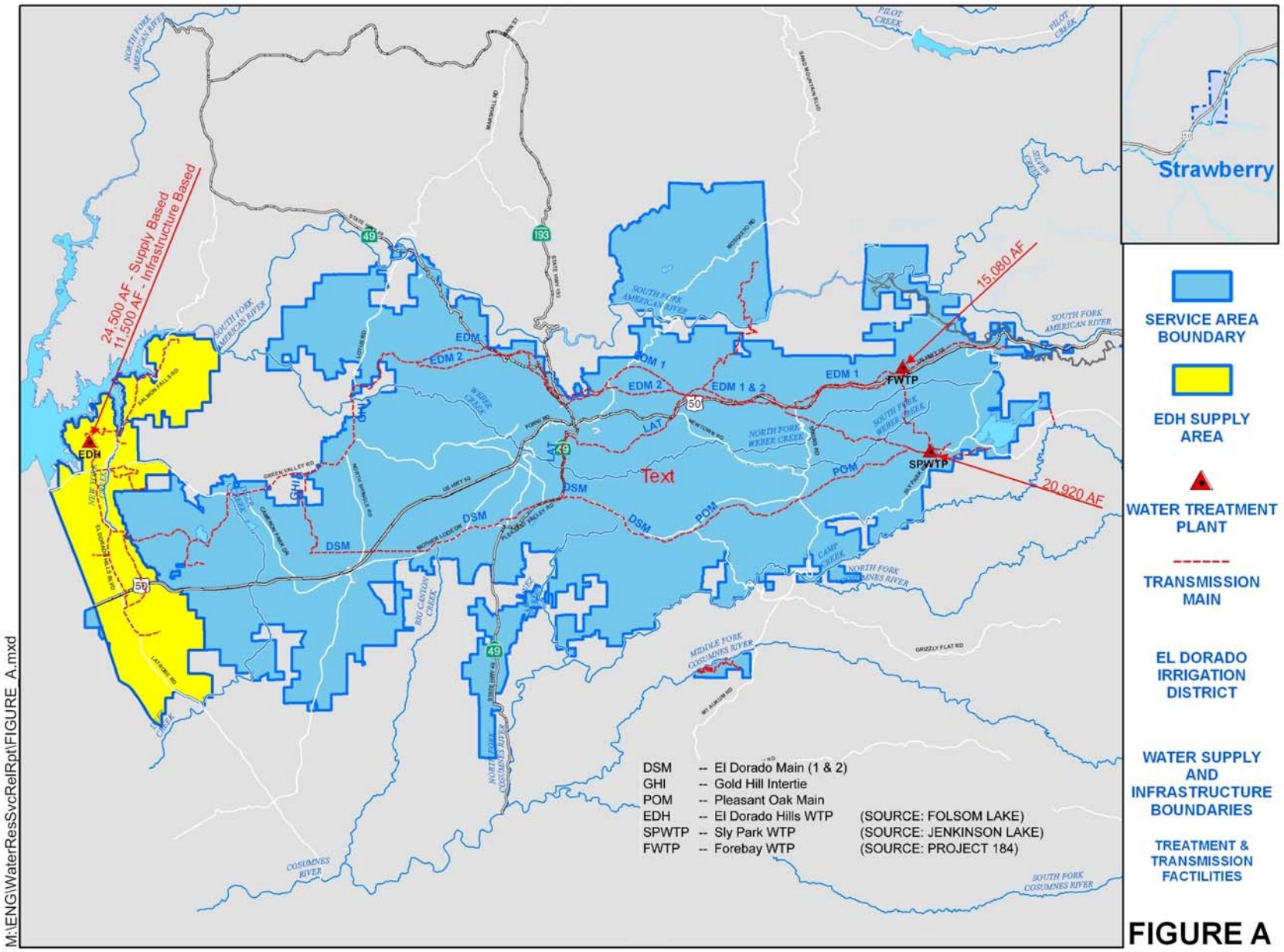
24,500 AF - Supply Based
11,500 AF - Infrastructure Based
15,080 AF
20,920 AF
EDH
FWTP
SPWTP
EDM 1
EDM 2
EDM 1 & 2
LAT
DSM
POM
GHI
Text
Strawberry
DSM -- El Dorado Main (1 & 2)
GHI -- Gold Hill Intertie
POM -- Pleasant Oak Main
EDH -- El Dorado Hills WTP (SOURCE: FOLSOM LAKE)
SPWTP -- Sly Park WTP (SOURCE: JENKINSON LAKE)
FWTP -- Forebay WTP (SOURCE: PROJECT 184)
SERVICE AREA BOUNDARY
EDH SUPPLY AREA
WATER TREATMENT PLANT
TRANSMISSION MAIN
EL DORADO IRRIGATION DISTRICT
WATER SUPPLY AND INFRASTRUCTURE BOUNDARIES
TREATMENT & TRANSMISSION FACTILITIES
M:\ENG\WaterResSvcRelRpt\FIGURE_A.mxd

FIGURE A

3.2 Western / Eastern Supply Area

The available supply in the Western / Eastern supply area is not restricted by infrastructure. The water supply (Table 2) for the Western / Eastern supply area is 36,000 AF for 2009. The total potential demand as of December 31, 2008 included 27,918 AF of active demand (Table 7), 549 AF of latent demand (Tables 8A and 8B), and 6,757 AF of other system demand (Table 9), for a total of 35,224 AF. The resulting unallocated water supply for the year 2009 is therefore 776 AF.

To convert the available water supply to meter availability, a demand was projected out for three years. This per EDU demand was based on a historical trend (1999-2008) in the Western/Eastern supply area. The trend was extended out to 2011, resulting in 0.59 AF per EDU unit demand (Table 4B and Appendix Tables B and C). The water meter availability for the Western/Eastern supply area is thus a total of 1,315 EDUs for 2009.

The District has several contractual commitments within the Western/Eastern supply area from existing water supplies. These commitments total 907 EDUs (Table 11) and are further described in Section 6, Commitments.

3.3 Calculation of Water Meter Availability

The following Tables 1 through 9 describe the system firm yield and calculate the potential demands of the two supply areas. Water meter availability is the difference between the available water supply and the total potential demand for each respective area. Total potential demand is the sum of active demand, latent demand, and other system demand. The active and latent demands have been determined using the 3-year projection of active meter demand to the year 2011, multiplied by the number of active and latent accounts as of December 31, 2008. The other system demand uses a fixed 13% loss rate applied to the infrastructure and supply yields, along with a 5-year historical average of recycled supplementation and other authorized uses.

TABLE 1
WATER METER AVAILABILITY

EL DORADO HILLS SUPPLY AREA		
Infrastructure Based Yield of Folsom Reservoir (Table 3) ……	15,163	Acre-Feet
Calculated Potential Demand		
Active Demand (Table 5) ……	9,240	
Latent Demand (Table 6) ……	297	
Other System Demand (Table 9) ……	2,533	
Total Potential Demand	12,070	Acre-Feet
2009 Unallocated Water Supply ……	3,093	Acre-Feet
Supply minus Total Potential Demand		
Conversion to Equivalent Dwelling Units (EDUs) ……	0.86	Acre-Feet
Projected 2011 per EDU demand from 10-year historical trend for single-family residential dwellings in the El Dorado Hills Supply Area. (Table 4A and Appendix Table A)		per EDU
2009 Water Meter Availability …….	**3,597**	**EDUs [1]**
2009 Unallocated Water Supply divided by 0.86		
Acre-Feet per EDU conversion factor		
[1] These EDUs are subject to the El Dorado Hills Contractual Commitments described in Section 6 and summarized in Table 10.		

WESTERN / EASTERN SUPPLY AREA		
Supply Based Yield of Eastern Sources (Table 2) ……	36,000	Acre-Feet
Calculated Potential Demand		
Active Demand (Table 7) ……	27,918	
Latent Demand (Tables 8A and 8B) ……	549	
Other System Demand (Table 9) ……	6,757	
Total Potential Demand	35,224	Acre-Feet
2009 Unallocated Water Supply ……	776	Acre-Feet
Supply minus Total Potential Demand		
Conversion to Equivalent Dwelling Units (EDUs) ……	0.59	Acre-Feet
Projected 2011 per EDU demand from 10-year historical trend for single-family residential dwellings in the Western / Eastern Supply Area. (Table 4B, and Appendix Tables B and C)		per EDU
2009 Water Meter Availability …….	**1,315**	**EDUs [1]**
2009 Unallocated Water Supply divided by 0.59		
Acre-Feet per EDU conversion factor		
[1] These EDUs are subject to the Western / Eastern Contractual Commitments described in Section 6 and summarized in Table 11.		

TABLE 2
SYSTEM FIRM YIELD
El Dorado Hills and Western / Eastern Supply Areas

OVERALL SYSTEM FIRM YIELD	
Supply Based System Firm Yield -No Infrastructure Restrictions- Determined using the OASIS Model [1]	60,550 Acre-Feet [2]

EL DORADO HILLS SUPPLY AREA	
Supply Based Yield of Folsom Reservoir -No Infrastructure Restrictions- Determined using the OASIS Model	24,550 Acre-Feet [3]
El Dorado Hills Infrastructure Capacity and the Gold Hill Intertie **-Infrastructure Based Yield-**	**15,163 Acre-Feet [4]**

WESTERN / EASTERN SUPPLY AREA	
Supply Based Yield of Eastern Sources -No Infrastructure Restrictions- Determined using the OASIS Model	36,000 Acre-Feet [5]

[1] The OASIS Model is a computer software package developed by HydroLogics, Inc. to model hydrologic conditions in conjunction with certain input parameters. The OASIS Model determines the firm yield of the integrated system, which includes Project 184, Jenkinson Lake, Folsom USBR contracts, and Permit 21112. The overall system firm yield determined by the OASIS Model is for planning level purposes.

[2] The overall system firm yield for the District consists of the following sources, restricted by contractual commitments and supply: 7,550 AF from USBR Folsom Contract; 15,080 AF from Project 184; 20,920 AF from Jenkinson Lake; and 17,000 AF from Permit 21112. During a critical dry year such as 1977, the annual supply would be reduced pursuant to Board Policy 5010, and would include a 25% cutback to 5,660 AF for the USBR Folsom contract.

[3] The supply based yield of the El Dorado Hills Supply Area consists of 7,550 AF from the USBR Folsom Contract and 17,000 AF from Permit 21112. During a critical dry year such as 1977, the annual Folsom supply would be reduced pursuant to Board Policy 5010, and would include a 25% cutback to 5,660 AF of the USBR Folsom Contract.

[4] The El Dorado Hills infrastructure capacity considers the capacity of the EDHWTP, the eastern transmission system, and the Gold Hill Intertie as determined in Table 3.

[5] The supply based yield of the Western / Eastern Supply Area consists of 15,080 AF from Project 184; and 20,920 AF from Jenkinson Lake. During a critical dry year such as 1977, the annual supply from Jenkinson Lake would be reduced pursuant to Board Policy 5010.

TABLE 3
INFRASTRUCTURE BASED YIELD
El Dorado Hills Supply Area

EL DORADO HILLS WATER TREATMENT PLANT (EDHWTP) CAPACITY Calculation of Annual Acre-Feet				
Year	Maximum Day WTP Capacity in MGD	Maximum Day Peaking Factor	Calculated Average Day WTP Capacity in MGD	Calculated Annual Acre-Feet
2009	26	2.0	13.00	**14,563**

GOLD HILL INTERTIE (GHI) CAPACITY Calculation of Annual Acre-Feet				
Year	Available Maximum Day Capacity in GPM	Maximum Day Peaking Factor	Calculated Average Day Capacity in GPM	Calculated Annual Acre-Feet
2009	750	2.0	375	**600**

TOTAL INFRASTRUCTURE BASED YIELD in Acre-Feet	**15,163**

TABLE 4A
PROJECTED 2011 DEMAND PER METER
El Dorado Hills Supply Area
In Acre-Feet

User Categories	Demand per Active Meter or Unit for the Previous 3-Years [1]			**Projected 2011** Unit Demand from 10-Year [2] Historical Trend
	2006	2007	2008	
EL DORADO HILLS SUPPLY AREA				
Commercial / Industrial	3.45	3.81	2.92	3.40
Domestic Irrigation	2.00	2.05	2.19	2.19
Multi-Family Residential (Units)	0.22	0.22	0.21	0.23
Recreational Turf Services	11.75	10.90	11.16	12.03
Single-Family Dual Potable	0.17	0.17	0.17	0.19
Single-Family Residential	0.78	0.83	0.83	0.86
Small Farm Irrigation	1.27	3.81	4.63	4.63

SERVICE ZONES WITHIN SUPPLY AREA (Zone #):

El Dorado Hills (02)

[1] Only active meters with recorded usage have been included in the average, excluding those active billing accounts with no usage.

[2] Refer to Appendix Table A for the historical data used to calculate the Projected 2011 Demands, which are based on a linear trend using the least squares method.

TABLE 4B
PROJECTED 2011 DEMAND PER METER
Western / Eastern Supply Area
In Acre-Feet

User Categories	Demand per Active Meter or Unit for the Previous 3-Years [1]			**Projected 2011** Unit Demand from 10-Year [2] Historical Trend
	2006	2007	2008	
WESTERN REGION				
Agricultural Metered Irrigation	10.96	13.90	16.07	13.65
Commercial / Industrial	1.70	1.64	1.42	1.50
Ditches	14.58	15.27	14.58	19.54
Domestic Irrigation	1.78	1.80	1.88	1.75
Multi-Family Residential (Units)	0.24	0.25	0.25	0.23
Recreational Turf Services	16.18	16.40	15.70	15.95
Single-Family Dual Potable	0.17	0.19	0.19	0.22
Single-Family Residential	0.63	0.65	0.66	0.69
Small Farm Irrigation	4.12	3.55	3.85	4.00
EASTERN REGION				
Agricultural Metered Irrigation	20.31	21.22	21.39	19.29
Commercial / Industrial	2.27	2.46	2.38	2.19
Ditches	29.11	24.10	26.47	29.38
Domestic Irrigation	1.88	2.33	1.95	1.98
Multi-Family Residential (Units)	0.23	0.23	0.23	0.22
Municipal (City of Placerville)	152.02	150.73	102.21	116.65
Recreational Turf Services	10.70	9.39	9.65	8.23
Single-Family Residential	0.44	0.45	0.45	0.47
Small Farm Irrigation	4.02	4.71	3.77	4.41

SERVICE ZONES WITHIN SUPPLY AREA (Zone #):

Western Region

Bass Lake (01), Cameron Park (04), Shingle Springs (05), Logtown (06), Diamond Springs/El Dorado (07)

Eastern Region

Lotus/Coloma (03), Swansboro (09), Camino (10), Pleasant Valley (11), Sly Park (12), Pollock Pines (13), North Placerville (18), South Placerville (28)

[1] Only active meters with recorded usage have been used in calculating the average demands, excluding those active billing accounts with no usage in 2008.

[2] Refer to Appendix Tables B and C for the historical data used to calculate the Projected 2011 Demands, which are based on a linear trend using the least squares method.

TABLE 5
ACTIVE DEMAND
El Dorado Hills Supply Area

ACTIVE DEMAND			
Active Account Categories	Projected Demand from Historical Trend AF per Acct / Unit	2008 Active Accounts or Units	Calculated Active Demand in AF
Commercial / Industrial	3.40	433	1,473
Domestic Irrigation	2.19	28	61
Mulit-Family Residential (Units)	0.23	1,383	311
Recreational Turf Services	12.03	35	421
Single-Family Dual Potable	0.19	1,407	260
Single-Family Residential	0.86	7,826	6,700
Small Farm	4.63	3	14
		Calculated Active Acre-Feet	9,240

EL DORADO HILLS - ACTIVE DEMAND in Acre-Feet	**9,240**

TABLE 6
LATENT DEMAND
El Dorado Hills Supply Area

INACTIVE ACCOUNTS			
Inactive Account Categories	Projected Demand from Historical Trend AF per Acct / Unit	2008 *Inactive* Accounts or Units	Calculated *Inactive* Demand in AF
Single-Family Residential	0.86	8	7
Single-Family Dual Potable	0.19	5	1
		Subtotal *Inactive* Acre-Feet	8

UNINSTALLED METERS			
Uninstalled Meter Categories	Projected Demand from Historical Trend AF per Acct / Unit	2008 *Uninstalled* Meters or Units	Calculated *Uninstalled* Demand in AF
Commercial / Industrial	3.40	14	48
Single-Family Dual Potable	0.19	712	132
Multi-Family Residential	0.23	9	2
Single-Family Residential	0.86	125	107
		Subtotal *Uninstalled* Acre-Feet	289

Calculated Inactive and Uninstalled Acre-Feet	297

EL DORADO HILLS - LATENT DEMAND in Acre-Feet	**297**

TABLE 7
ACTIVE DEMAND
Western / Eastern Supply Area

WESTERN ACTIVE DEMAND			
User Categories for Active Accounts	Projected Demand from Historical Trend AF per Acct / Unit	2008 Active Accounts or Units	Calculated Active Demand in AF
Agricultural Metered Irrigation	13.65	22	300
Commercial / Industrial	1.50	829	1,242
Ditches	19.54	2	39
Domestic Irrigation	1.75	783	1,373
Mulit-Family Residential (Units)	0.23	4,167	960
Recreational Turf Services	15.95	49	781
Single-Family Dual Potable	0.22	2,345	525
Single-Family Residential	0.69	12,673	8,782
Small Farm Irrigation	4.00	55	220
	Calculated WESTERN Active Acre-Feet		14,222

EASTERN ACTIVE DEMAND			
User Categories for Active Accounts	Projected Demand from Historical Trend AF per Acct / Unit	2008 Active Accounts or Units	Calculated Active Demand in AF
Agricultural Metered Irrigation	19.29	201	3,878
Commercial / Industrial	2.19	334	733
Ditches	29.38	22	646
Domestic Irrigation	1.98	542	1,075
Mulit-Family Residential (Units)	0.22	1,948	430
Municipal (City of Placerville)	116.65	16	1,866
Recreational Turf Services	8.23	29	239
Single-Family Residential	0.47	9,252	4,308
Small Farm Irrigation	4.41	118	521
	Calculated EASTERN Active Acre-Feet		13,696

WESTERN / EASTERN - ACTIVE DEMAND in Acre-Feet	**27,918**

TABLE 8A
WESTERN LATENT DEMAND
Western / Eastern Supply Area

WESTERN INACTIVE ACCOUNTS			
Inactive Account Categories	Projected Demand from Historical Trend AF per Acct / Unit	2008 *Inactive* Accounts or Units	Calculated *Inactive* Demand in AF
Commercial / Industrial	1.50	7	10
Ditches	19.54	1	20
Single-Family Dual Potable	0.22	2	0
Single-Family Residential	0.69	45	31
		Subtotal WESTERN *Inactive* Acre-Feet	61

WESTERN UNINSTALLED METERS			
Uninstalled Meter Categories	Projected Demand from Historical Trend AF per Acct / Unit	2008 *Uninstalled* Meters or Units	Calculated *Uninstalled* Demand in AF
Commercial / Industrial	1.50	65	97
Mulit-Family Residential (Units)	0.23	32	7
Single-Family Dual Potable	0.22	6	1
Single-Family Residential	0.69	81	56
		Subtotal WESTERN *Uninstalled* Acre-Feet	161

Calculated Inactive and Uninstalled Acre-Feet	222

WESTERN - LATENT DEMAND in Acre-Feet	**222**

TABLE 8B
EASTERN LATENT DEMAND
Western / Eastern Supply Area

EASTERN INACTIVE ACCOUNTS			
Inactive Account Categories	Projected Demand from Historical Trend AF per Acct or Unit	2008 *Inactive* Accounts or Units	Calculated *Inactive* Demand in AF
Agricultural Metered Irrigation	19.29	6	116
Commercial / Industrial	2.19	3	7
Ditches	29.38	3	88
Mulit-Family Residential (Units)	0.22	2	0
Recreational Turf Services	8.23	1	8
Single-Family Residential	0.47	93	43
		Subtotal EASTERN *Inactive* Acre-Feet	262

EASTERN UNINSTALLED METERS			
Uninstalled Meter Categories	Projected Demand from Historical Trend AF per Acct / Unit	2008 *Uninstalled* Meters or Units	Calculated *Uninstalled* Demand in AF
Agricultural Metered Irrigation	19.29	2	39
Commercial / Industrial	2.19	2	4
Single-Family Residential	0.47	47	22
		Subtotal EASTERN *Uninstalled* Acre-Feet	65

Calculated Inactive and Uninstalled Acre-Feet	327

EASTERN - LATENT DEMAND in Acre-Feet	**327**

TABLE 9
OTHER SYSTEM DEMAND
El Dorado Hills and Western / Eastern Supply Areas
In Acre-Feet

OVERALL DISTRICT				
Overall Supply Based System Firm Yield	Historical Real and Apparent Losses (13%) [1]	5-Year Average Other Authorized Uses [2]	5-Year Average Recycled System Supplement	Estimated Other System Demands
60,550	7,900	2,075	564	10,539
			OVERALL - OTHER SYSTEM DEMAND in Acre-Feet	**10,539**

EL DORADO HILLS SUPPLY AREA				
El Dorado Hills Infrastructure Restricted Yield	Historical Real and Apparent Losses (13%) [1]	5-Year Average Other Authorized Uses [2]	5-Year Average Recycled System Supplement	Calculated Other System Demands
15,163	1,971	415	147	2,533
			EL DORADO HILLS - OTHER SYSTEM DEMAND in Acre-Feet	**2,533**

WESTERN / EASTERN SUPPLY AREA				
Western / Eastern Supply Based Yield	Historical Real and Apparent Losses (13%) [1]	5-Year Average Other Authorized Uses [2]	5-Year Average Recycled System Supplement	Calculated Other System Demands
36,000	4,680	1,660	417	6,757
			WESTERN / EASTERN - OTHER SYSTEM DEMAND in Acre-Feet	**6,757**

[1] The estimated real and apparent losses of 13% have been applied to the infrastructure and supply based yields for each supply area.

[2] The other authorized uses have been distributed between the Western/Eastern and El Dorado Hills supply areas based on place of use for the 2008 uses.

[3] The recycled supplement calculation excludes water that was delivered when Sly Park was spilling, and has been distributed between service areas based on the location of the supplementation.

4 METHODOLOGY

The District has developed a method of reporting two numbers that are relevant to the availability of water supply: 1) a supply based yield; and 2) an infrastructure based yield. The supply based yield establishes water availability based on the hydrology of water rights, permits, and contracts that include Jenkinson Lake, FERC Project 184, Permit 21112, and USBR Folsom contracts; while the infrastructure based yield establishes water availability based on the maximum day constraints of infrastructure. In a supply area such as El Dorado Hills, in which infrastructure like the water treatment plant capacity rather than water supply is the limiting factor in delivering water, the infrastructure based yield will be used to determine EDU availability. The meter sales in that supply area are limited to that which the infrastructure is currently capable of delivering on the maximum demand day of the year.

The method used in this report distinguishes the EDU availability for El Dorado Hills versus the remainder of the District, while at the same time ensuring that EDU allocations overall do not outpace either infrastructure capacity or available water supplies.

The OASIS modeling software was used to perform the firm yield modeling, based on historic hydrology. The model determines a “supply based” firm yield, which assumes that no infrastructure restrictions exist. This assumption provides the benefit of reporting a consistent firm yield number year after year, which only changes when additional supplies are added to the system. This number also gives the Board and the public a sense of the District’s potential to deliver additional water as needed infrastructure projects are completed. It is also used to calculate meter availability in areas where water supply, rather than infrastructure, is the limiting factor.

A separate calculation of infrastructure capacity was used to determine an “infrastructure-based” yield for the El Dorado Hills supply area. This calculation is now accomplished by using the capacity of the El Dorado Hills Water Treatment Plant, plus a calculated capacity of the Gold Hill Intertie. This method compares maximum day demands against treatment and transmission capacities to determine meter availability for infrastructure-restricted areas such as El Dorado Hills.

With the addition of 17,000 AF of Permit 21112 water to the District’s supplies, water availability from Folsom Reservoir is clearly restricted by the El Dorado Hills water treatment plant capacity. In other words, there is more water supply available from Folsom Reservoir than this infrastructure can treat on a maximum day basis. By contrast, the District’s Western/Eastern supply area is restricted by available supplies, not infrastructure. Infrastructure capacity exists to treat and deliver the annual allotment of FERC Project 184 of 15,080 AF, and the approximate annual yield of Jenkinson Lake of 21,000 AF.

Therefore, to fully account for these differing conditions within the District, the water supply yield has been divided into the following two supply areas:

1) El Dorado Hills supply area – This area receives both water pumped from Folsom Lake combined with water provided by gravity flow from the Gold Hill Intertie (GHI).

2) Western/Eastern supply area – This area includes the remaining higher elevation areas of the District that currently receive gravity water supply from the District's eastern sources - Project 184 and Jenkinson Lake.

These two supply areas are shown in Figure A on Page 4. This method provides an accurate way to analyze water availability that matches the capability and configuration of the District's water system.

4.1 EID Policies and Regulations Pertaining to EDU Allocations

The District is governed by both Board Policies and Administrative Regulations that were developed during 2006 from previous board regulations. Board Policy 5010 – Water Supply Management states that the District will not issue any new water meters if there is insufficient water supply. Administrative Regulation 5010 – Water Availability and Commitments outlines the responsibilities for annual reporting, shortages, and new meter restrictions. This policy and regulation provide a means to ensure that meter sales do not exceed supply or infrastructure capacity.

Board Policy 9020 – Establishing New Service and Administrative Regulation 9021 – Eligibility for New Service outline the process an applicant must comply with in order to purchase a water meter. As part of the application process for a project, an applicant must request a Facility Improvement Letter (FIL) from the District, which describes the existing system and any improvements that will be needed in order to receive service. For more complicated projects, the applicant must have a licensed engineer prepare a Facility Plan Report (FPR) for District review and approval. The FIL and FPR both assess the adequacy of the water system to provide service to the applicant and thereby identify the necessary improvements that must be constructed prior to the issuance of water meters. These facility improvements range from distribution facilities that must be funded and constructed by the developer, to District financed capital improvement projects such as transmission mains and storage tanks.

The applicant can receive service only when the required facilities are completed and accepted by the District. These regulations and service procurement procedures, coupled with the guidelines in this report of meter availability, provide a solid basis to ensure that both adequate supply and infrastructure are in place to serve existing and new connections throughout the District.

5 SYSTEM FIRM YIELD ANALYSIS

Table 2 summarizes the overall system firm yield of 60,550 AF as calculated by the OASIS computer model. This number represents an overall water demand that cannot be exceeded until new supplies are added. The overall system firm yield is then broken down into the two supply areas to calculate meter availability. The Folsom Reservoir supply based yield is 24,550 AF, which includes the water service contract with the United States Bureau of Reclamation (USBR) for 7,550 AF, and 17,000 AF of Permit 21112 water as described below. The Western/Eastern supply based yield is 36,000 AF, consisting of 15,080 AF from FERC Project 184 and approximately 20,920 AF from Sly Park's Jenkinson Lake.

5.1 Water Rights Permit 21112

The State Water Resources Control Board (SWRCB) issued Water Right Permit 21112 to the District [2] on October 16, 2001. Beginning with the *2004 Report*, 11,000 AF of the permit water was incorporated in the system firm yield to meet the estimated annual demand necessitated by the build-out of approved projects allowed under the General Plan Writ of Mandate. The El Dorado County General Plan has since been adopted and is now legally effective instead of the mandate. Therefore, beginning with the *2006 Report* the full 17,000 AF of water supply was incorporated into the system firm yield.

The District originally submitted an application for a multiple-year Warren Act Contract[3] (WAC) with the USBR for 11,000 AF of the 17,000 AF water right. The contract was then amended to 17,000 AF after the County General Plan was adopted. Prior to signing the previously negotiated 40-year Warren Act contract, the USBR must prepare an Environmental Assessment (EA) and make a Finding of No Significant Impact (FONSI) under the provisions of the National Environmental Policy Act (NEPA). The District is currently working with USBR to prepare the EA, and the USBR may be in a position to execute a Long-term Warren Act Contract in late 2009 or early 2010.

With the expansion of the EDHWTP to 26 mgd, a portion of the 17,000 AF supply can be used subject to execution of the WAC. Additional capacity expansions in El Dorado Hills will be needed to use the full water right.

5.2 Rediversion of Existing Water Rights to Folsom Reservoir

The District also anticipates the execution of a previously negotiated 40-year Warren Act contract for up to 4,560 AF of water from the rediversion of pre-1914 ditch water rights, plus water storage rights from Weber Reservoir. The EA was circulated for public review in 2008 and EID is waiting for USBR to make a FONSI so that the contract

[2] The El Dorado Irrigation District and the El Dorado County Water Agency jointly submitted the application for diversion and consumptive use of the 17,000 acre-feet of water from FERC Project 184.
[3] The execution of a Warren Act Contract, either single or multiple year, is required before a federal facility such as Folsom Reservoir can be used to store non-federal water.

can be executed. In the meantime, the District has been and will continue to divert this water from Folsom Reservoir under approved one-year Warren Act Contracts. Since 2003, this water has been treated by the El Dorado Hills water treatment plant and used in the El Dorado Hills supply area pending the permanent transfer.

5.3 Fazio Water Supply (Public Law 101-514)

On behalf of EID and Georgetown Divide Public Utility District (GDPUD), the El Dorado County Water Agency (EDCWA) is pursuing a water supply service contract with the United States Bureau of Reclamation (USBR). Public Law 101-514 transferred unallocated Central Valley Project (CVP) supply to local water purveyors, allocating 15,000 acre-feet to El Dorado County. Under this new contract, up to 15,000 acre-feet of CVP M&I water would be made available for diversion from Folsom Reservoir, or from an exchange on the American River upstream from Folsom Reservoir between GDPUD and Placer County Water Agency. EDCWA would make this new CVP water available to EID and GDPUD for use within their respective service areas. P.L. 101-514 does not specify how much of the 15,000 acre-feet would be allocated to each district, however it has been tentatively assumed that the new CVP allocation would be split equally between EID and GDPUD. For EID, water would be diverted from the Folsom Lake intake and delivered to the El Dorado Hills and Cameron Park service areas.

A Draft EIS/EIR has been prepared by USBR and the EDCWA and is currently out for public review and comment. At this time it is anticipated the contract between EDCWA and USBR can be executed in late 2009 or early 2010 following completion of the state and federal environmental review processes. EDCWA would then execute subcontracts with EID and GDPUD.

5.4 Infrastructure Based Yield

As previously noted, the El Dorado Hills supply area based yield is restricted by infrastructure. During 2007/2008, significant improvements were made to the El Dorado Hills water system infrastructure. A filter up-rating study was completed that showed the existing filters could reliably treat water at a higher filtration rate corresponding to approximately 26 mgd. Also, improvements have been recently completed at the plant to eliminate hydraulic restrictions. Additional improvements are scheduled in 2009/2010 to increase the reliability of various processes at the water treatment plant.

In addition, the Oak Ridge pump station and Serrano transmission main are currently being designed to aid in delivery of Folsom water supplies to the Cameron Park service area. Design of the Oak Ridge pump station will be completed in 2009; however, construction of this project has been deferred due to budgetary constraints and the slowdown in growth. Construction is tentatively scheduled for 2010.

Based on the new expansions to the infrastructure capacity in combination with the capacity of the GHI, the total water supply for El Dorado Hills supply area has been calculated in the amount of 15,163 AF. This calculation is shown in Table 3, which uses

the maximum day peaking factor of 2.0 from the District's design standards, along with the infrastructure capacity of the EDHWTP and GHI.

6 TOTAL POTENTIAL DEMAND

The 2009 total potential demand has been calculated for each class of service using historical demands to determine a 3-year projection of unit demands to the year 2011 based on a linear trend.

6.1 Average Demand by User Category

Tables 4A and 4B summarize the average demand per active meter for each user category over the last three years – 2006, 2007, 2008 – for the two designated supply areas of El Dorado Hills and Western/Eastern. The tables also show the projected 2011 unit demand using a historical trend for each category. The user categories include: single-family and multi-family residential, single-family dual plumbed dwellings (potable), small farm irrigation, agricultural metered irrigation, ditches, recreational turf services, domestic irrigation, commercial/industrial, and municipal water sales to the City of Placerville.

6.2 Active Demand

Table 5 summarizes the active demand for the El Dorado Hills supply area, and Table 7 the active demand for the Western/Eastern supply area. The 2008 active accounts, or dwelling units for multi-family, have been multiplied by the projected 2011 demand from the historical trend for each user category from Tables 4A and 4B, respectively. The result is a calculated active demand as of December 31, 2008 of 9,249 AF for the El Dorado Hills supply area; and 27,918 AF for the Western/Eastern supply area.

6.2.1 Active Accounts

This category includes water meters that are installed in the ground, have an active billing status, and are charged a minimum bi-monthly billing regardless of recorded water use during the prior year. Pursuant to Article 3, Section 22280 of the California State Water Code, the Board of Directors adopted a policy on September 23, 1987 that requires all metered accounts to be billed from the date the water meter is installed. Therefore, any meters installed after 1987, or any meters that have changed ownership since 1987, are considered to be active accounts and are included in this category.

6.2.2 Active Meters

Tables 4A and 4B summarize the average demand per active meter for 2006, 2007 and 2008. An active meter is defined as an active billing account with water usage recorded during the year, thus eliminating from the calculation those active accounts without usage. Table 4A reports the average demand per active meter for the El Dorado Hills supply area; and Table 4B reports the average demand per active meter for the Western/Eastern supply area. A unit demand has been estimated for each user category, based on a historical trend projected to 2011 using the least squares method. In the case of multi-family residential, the projected 2011 demand is calculated per dwelling unit rather than per bulk meter to better represent the unit demands.

6.3 Latent Demand

Table 6 summarizes the latent demand for the El Dorado Hills supply area, and Tables 8A and 8B summarize the latent demand for the Western/Eastern supply area. The latter area has been further separated into the Western and Eastern demand regions in order to more accurately calculate unit demands. Table 4B lists the individual service zones for these demand regions, and Figure B illustrates the service zones. The 2008 inactive accounts and uninstalled meters have been multiplied by the projected 2011 demand from the historical trend for each user category from Tables 4A and 4B. The result is a calculated latent demand as of December 31, 2008 of 297 AF for the El Dorado Hills supply area; and 549 AF for the Western/Eastern supply area.

6.3.1 Inactive Accounts

This category includes water meters that are installed in the ground but idle as of December 31, 2008. Meters may be idle due to changes in ownership, disconnection for non-payment of a bill, or seasonal irrigation accounts with no usage during the reporting year. This category also includes water meters purchased prior to 1987 that were then allowed to remain inactive, and have had no changes in ownership or recorded water use since 1987.

6.3.2 Uninstalled Meters

This category includes water meters that have been purchased to serve a parcel of land, but have not yet been installed nor has an account been set up for minimum billing purposes. This category also includes those meters purchased under the “Crawford Allocation” during the declared Water Emergency in 1990, which are not required to be installed until needed.

6.4 Other System Demand

Table 9 summarizes the other system demand for the El Dorado Hills supply area and the Western/Eastern supply area. The other system demand includes real losses of water into the ground due to leaks and breaks, apparent or paper losses such as meter inaccuracies, supplementation of potable water to the recycled system, and other authorized uses of water such as operational flushing or environmental flows. A fixed 13% rate for real and apparent losses has been applied to the available water supply, both infrastructure and supply based yields. This percentage of loss has been fairly consistent over the past 9 years, independent of annual diversions (Appendix Table D).

Real and apparent losses are a major component of the calculation to determine the District's "Other System Demand." Minor components include supplementation to the recycled system and other authorized uses. Five years of historical data are now available for these demands which allows for a 5-year average to be calculated in order to minimize yearly variations. Therefore, the calculated other system demand for this report includes 2,533 AF in the El Dorado Hills supply area; and 6,757 AF in the Western/Eastern supply area.

6.4.1 Historical Diversions, Demands, and Losses

Appendix Table D summarizes the historical raw water diversions, authorized uses, and resulting losses of the main water system. Diversions are made from three surface water sources: Sly Park's Jenkinson Lake, Folsom Reservoir, and FERC Project 184 at the El Dorado Forebay. Authorized uses include billed and unbilled, metered and unmetered, potable and raw water. System losses are comprised of both real losses of water into the ground through leaks and line breaks, and apparent losses on paper such as meter inaccuracies, billing errors or unauthorized use (theft).

In 2004 the District underwent a full system water audit using the now adopted American Water Works Association (AWWA) standard water balance. The water audit included extensive analysis of real and apparent loss components, and the resulting EID performance benchmarks can now be compared nationally with other utilities. Several recommendations for the District to reduce real and apparent losses were outlined in the water audit report.

The District also converted its paper accounting of water use and loss to the AWWA standard method. The terminology for the potable water demands in Appendix D reflects the new AWWA standards. The footnotes in Appendix D and the following sections describe the types of demand on the piped water system – authorized uses and potable supplementation to the recycled system.

6.4.2 Authorized Uses

The majority of authorized uses include potable water that is metered and billed to EID customers, and raw water that is both metered and unmetered, but billed to EID customers. Both of these categories are classified as revenue water and include not only the metered residential, commercial, and irrigation customers, but also private fire service connections and construction meters. In addition, EID receives assessments from Improvement District No. 97 – metered raw water releases to Clear Creek for aesthetics flow maintenance; and the Knolls Reservoir Assessment District – metered potable water releases for reservoir level maintenance.

Authorized use of water also includes EID operational uses that are classified as non-revenue water because they are unbilled, but include both metered and unmetered uses. Examples of non-revenue water would include water quality and operational flushing, reservoir operational overflows, water meter testing, and the flushing and cleaning of sewage lift stations and the sewage collection system.

6.4.3 Potable Water Supplement to Recycled System

Potable water has been used to supplement the recycled water system since 2002. This historic demand is listed in Appendix Table D, and is also used to calculate the District's "Other System Demand" in Table 9. Recycled water is used for residential and commercial landscape and turf irrigation. Bass Lake Reservoir is the primary receiving point for supplemental potable water.

Other points of supplementation include the Village C, Bridlewood, and 940 recycled water tanks, as well as the Serrano Golf Course. With the closing of the Executive Golf Course, recycled water supplementation at the Highway 50 vault has been eliminated, although the capability still exists. It is usually necessary to make releases to these receiving points during the summertime but during off-peak hours at night.

The potable water system will continue to supplement the recycled system until seasonal storage is available for recycled water. The District is in the process of locating and designing a seasonal storage facility for the recycled system. Refer to Section 7, Recycled Water System, for information regarding the 2008 recycled water supply and demand, plus projections of available supply and demand in 2009.

7 COMMITMENTS

The District has several contractual commitments for water supply in both the El Dorado Hills and Western/Eastern supply areas. Below is a description of each of these commitments, along with their impact upon the District's existing and future water supplies. The methodology used in allocating EDUs under the board policies and administrative regulations ensures that the required infrastructure is built prior to the purchase of meters for the remaining commitments. Refer to Section 4.1, "EID Policies and Regulations Pertaining to EDU Allocations," for a description of this governance.

7.1 El Dorado Hills Supply Area

The contractual commitments for the El Dorado Hills supply area total 4,192 EDUs for 2009 (Table 10). The water meter availability as of December 31, 2008 is 3,597 EDUs (Table 1), based on the available water supply determined by infrastructure restrictions. As has been the case in all but one of the last several years, meter availability in El Dorado Hills is limited to those parties with contractual commitments. For 2009, the water meter availability based on the infrastructure restricted yield is less than the contractual commitments; however, meter availability will increase once the El Dorado Hills Water Treatment Plant undergoes further expansion.

7.1.1 Assessment District No. 3

In May of 1985, Assessment District No. 3 (AD3) was formed as a means to finance expansions and improvements to the El Dorado Hills water and sewer systems and related facilities.[4] The ultimate capacity of AD3 was based on 9,074 annual AF of water supply because of the likelihood that EID would be able to contract for additional water supplies beyond the current (1985) contracted amount of 7,550 AF. Using 600 gallons per dwelling unit per day or 0.67 AF/year,[5] the 9,074 AF was estimated to support 13,543 dwelling units or the equivalent.[6] At the time AD3 was formed, EID was estimated to be serving or committed to serve 2,563 EDUs. Consequently, there was additional water capacity for approximately 10,980 EDUs.

7.1.2 Buy-ins to AD3

Subsequent "buy-ins" to AD3 were then allowed for both water and sewer service for parcels that were not participants in the original formation. In October of 1989, however, the District Board of Directors adopted Resolution No. 89-167 that revoked the ability of parcels to buy into AD3 for water service, until such time as the District determined that additional water supply was available to land already within the current boundaries of AD3.

7.1.3 Monte Vista Parcels

In April of 1994, the District Board of Directors took action to "grandfather" the existing parcels within the Monte Vista area into AD3 when this area was connected to the El Dorado Hills water system by a pipeline extension. This area had previously been

[4] Tax Free Municipal Bonds, El Dorado Irrigation District, El Dorado County, California, Assessment District No. 3, Phase Two, Final Offering Statement dated May 30, 1985.

[5] From a 1981 EID water system analysis of El Dorado Hills.

[6] The formation of AD3 was based on dwelling units, also known as equivalent dwelling units (EDUs). An EDU corresponds to a single-family residential dwelling served by a 3/4-inch water meter. Larger water meters, such as those for commercial applications, required additional EDUs.

served directly from Folsom Reservoir through a small water treatment plant. Water quality issues required EID to either upgrade the treatment plant or connect the Monte Vista water system to the El Dorado Hills system. The pipeline extension was the preferred solution and the connection was made.

7.1.4 Weber Dam Advanced Funding Agreement

In December of 2000, the District entered into an "Advanced Funding Agreement" (AFA) with Serrano Associates LLC, Russell-Promontory LLC (AKT Development), El Dorado Hills Investors LTD, and Lennar Renaissance Inc., known in the agreement as the "Interested Parties." These investors were willing to provide advanced funding to the District to reconstruct Weber Dam in exchange for the guarantee of 540 AF of water supply from existing District supplies. The water supply was to be used solely for and upon those properties owned by the Interested Parties, located within AD3, and that were annexed to EID on or before the effective date of the AFA. The District also made available under this agreement an additional 140 AF of existing water supply for individual parcels known as the "Benefited Parties." These specific parcels were entitled to purchase water connections for their properties on a "first-come, first-served" basis, consistent with District policies, procedures, and regulations.

7.1.5 Wetsel-Oviatt

In September of 2003, the District entered into a "Settlement Agreement" with Wetsel-Oviatt, Inc., (Wetsel) which established a pool of 1,900 AF/yr of water supply available solely to Wetsel from new water sources, of which not less than 1,600 AF/yr would be potable water and the remainder would be recycled water.

The new water supplies were defined as any water supply that increased the system-wide firm yield above 43,280 AF/yr; and the available water supplies to the El Dorado Hills region above 10,976 AF/yr. The new water supplies included Water Rights Permit 21112 for 17,000 AF/yr; the District's share of the prospective water service contract for 15,000 AF/yr contemplated by Public Law 101-514 (Fazio Water); and the permanent transfer in point of diversion to Folsom Reservoir of the water rights associated with the District's Farmer's Free Ditch, Gold Hill Ditch, Summerfield Ditch, and Weber Reservoir.

The new water supply that has been added to the system-wide firm yield found in Table 2 includes only the 17,000 AF/yr from Permit 21112. With the expansion of the EDHWTP to 26 mgd, the new supplies made available from Folsom, taking into account infrastructure restrictions total 14,563 AF/yr. The incremental new water supply made available above 10,976 AF/yr is therefore 3,587 AF/yr.

The agreement also states that for so long as the cumulative total of new water supplies is less than 3,800 AF/yr, then 50% shall be dedicated to the Wetsel pool and 50% shall become part of EID's generally available supplies. Accordingly, 1,794 AF/yr has been established for the "Wetsel" pool, consisting of 1,494 AF/yr of potable water and 300

AF/yr of recycled water. Therefore, the cumulative total potable water dedicated to the "Wetsel" pool is 1,494 AF or 1,737 EDUs at 0.86 AF/EDU.

7.1.6 Carson Creek Agreement

In December of 2007, the District entered into an agreement with AKT Carson Creek Investors, LLC for provision of services and advance partial purchase of Facility Capacity Charges (FCCs). Under the agreement, AKT Carson Creek Investors, LLC made an advance deposit of $4,337,500 against future FCC liability. In exchange, the District provided assurance of future water, recycled water, and wastewater service for up to 1,250 dual-plumbed residential units, which equates to 625 water EDUs. The agreement benefited the District financially by "smoothing" the dramatic fluctuation in FCC revenues the District would otherwise experience. The agreement benefited the developer of the property by making the property eligible to purchase service, as available, on a par with the beneficiaries of other contractual commitments.

Table 10 shows a summary of the aforementioned commitments.

TABLE 10
STATUS OF COMMITMENTS
El Dorado Hills Supply Area

EQUIVALENT DWELLING UNITS (EDUs)					
Type of Commitment	Zone	Original Commitments	EDUs Sold in Zone 2[1]	EDUs Sold in Zone 1[2]	Remainder of Commitments Zone 1 and/or 2[1]
Considered in the Formation of AD3 Existing Dwelling Units - 2,563 New Dwelling Units - 10,980	1, 2	13,543	10,289	1,837	1,417
Buy-ins Allowed to AD3	2	568	568	0	0
Monte Vista Parcels	2	112	63	---	49
Advanced Funding Agreement	1, 2	1,000	621	15	364
Wetsel-Oviatt Agreement [3]	2	1,737	--	--	1,737
Carson Creek Agreement [4]	2	625	0	--	625
TOTAL EDU COMMITMENTS		17,585	11,541	1,852	4,192

EL DORADO HILLS COMMITMENTS in EDUs	**4,192**

[1] Zone 2 is the El Dorado Hills Service Zone

[2] Zone 1 is the Bass Lake Service Zone

[3] This commitment is conditional upon certain augmentations to the District's water supply. With another increase in supply to EDH in 2008, 1,494 AF of potable water has been assigned to this pool, which converts to 1,737 EDUs at 0.86 AF/EDU.

[4] This agreement secures 1,250 dual-plumbed residential units (625 water EDUs) for the Carson Creek property.

7.2 Western / Eastern Supply Area

The total contractual commitments for the Western/Eastern supply area total 918 EDUs for 2009 (Table 11). The water meter availability as of December 31, 2008 of 1,315 EDUs (Table 1) exceeds the contractual commitments.

7.2.1 Apple Mountain

In April of 2001, the District entered into a "Water Service Agreement" with Apple Mountain, LP for property known as the Apple Mountain Golf Course. The District committed to provide up to 270 AF/yr of water for golf course irrigation and non-potable uses. The annual amount is further restricted with no more than 240 AF between May 15 and October 15; and no more than 60 AF in each of the months of July and August.

7.2.2 Bell Ranch

In June of 2002, the District entered into a "Settlement Agreement" with Bell Ranch Properties, LTD in order to acquire approximately 4.83 acres of Bell Ranch Property for the purpose of constructing the Bass Lake water storage tanks. The Bass Lake Tanks project is part of the District's distribution system for potable water that serves portions of the Cameron Park and Bass Lake areas. In exchange for the 4.83 acres of land, the District guaranteed, from existing supplies, 113 water and sewer connections, subject to terms and conditions, annexation of Bell Ranch property, and payment of all Facility Connection Charges (FCCs) and fees in effect at the time application for service is made.

Table 11 shows a summary of the aforementioned commitments.

TABLE 11
STATUS OF COMMITMENTS
Western / Eastern Supply Area

COMMITMENTS - EQUIVALENT DWELLING UNITS (EDUs)				
Type of Commitment	Zone	Original Commitments	EDUs Sold	Remainder of Commitments
Advanced Funding Agreement	1	167	15	152
Bell Ranch Settlement Agreement	1	113	0	113
Apple Mountain Water Service Agreement [1]	10	574	0	574
City of Placerville - Crawford Allocation	18, 28	79	---	79
			TOTAL COMMITMENTS in EDUs	918

WESTERN / EASTERN COMMITMENTS in EDUs	**918**

[1] The Apple Mountain EDU commitment represents a conversion of the 270 Acre-Feet commitment. For 2009, the projected 2011 demand of 0.47 AF/YR for the Eastern Region (Table 4B) has been used to make the conversion. (270/0.47 = 574 EDUs)

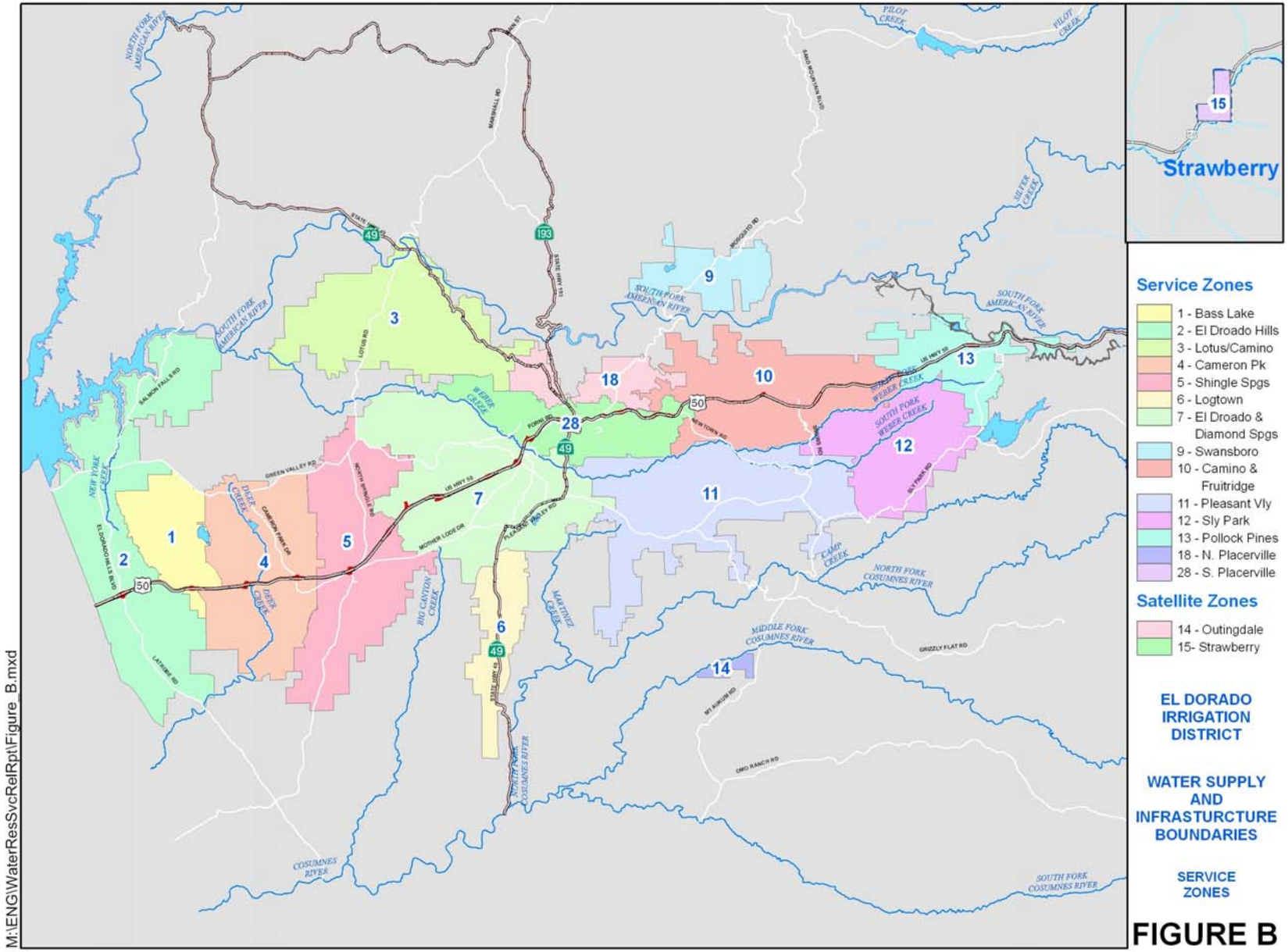
Strawberry
Service Zones
1 - Bass Lake
2 - El Droado Hills
3 - Lotus/Camino
4 - Cameron Pk
5 - Shingle Spgs
6 - Logtown
7 - El Droado & Diamond Spgs
9 - Swansboro
10 - Camino & Fruitridge
11 - Pleasant Vly
12 - Sly Park
13 - Pollock Pines
18 - N. Placerville
28 - S. Placerville
Satellite Zones
14 - Outingdale
15- Strawberry
EL DORADO IRRIGATION DISTRICT
WATER SUPPLY AND INFRASTURCTURE BOUNDARIES
SERVICE ZONES
M:\ENG\WaterResSvcRelRpt\Figure_B.mxd

FIGURE B

8 RECYCLED WATER SYSTEM

A summary of the recycled water supply for the District has been included in the water supply and demand reporting since 2000. The following sections document the current (2008) and projected (2009) recycled water supply and demand data for the District.

8.1 2008 Supply and Demand Summary

For 2008, the total recycled water supply was 3,957 AF, which includes supply from the El Dorado Hills Wastewater Treatment Plant (EDHWWTP), the Deer Creek Wastewater Treatment Plant (DCWWTP), Bass Lake Reservoir supplementation, and direct potable supplementation to the recycled system. The 2008 demand for recycled water included 2,904 AF of authorized metered and billed uses, and 137 AF of authorized unbilled uses such as filter backwash water, cleaning, and irrigation uses at the EDHWWTP. The total 2008 active demand was 3,041 AF. The real and apparent losses for 2008 were calculated to be 916 AF. There was also a latent demand of 370 AF as of December 31, 2008 that includes 5 AF for inactive accounts and 365 AF for uninstalled meters (Table 13).

8.1.1 2008 Supply

The supply to the recycled water system is dependent upon wastewater treatment plant influent flow and storage. The sources of recycled supply include: 1) the EDHWWTP influent and storage; 2) the DCWWTP influent; and 3) points of direct potable water supplementation, including Bass Lake. The WWTP sources provide supply through facilities that were built in accordance with the *Water Reclamation Master Plan*. The location of these facilities is illustrated in Figure C on Page 36.

During 2008, the recycled water supply included 2,258 AF from the EDHWWTP, which includes water taken from storage; 1243 AF from the DCWWTP; 128 AF from Bass Lake Reservoir; and 328 AF from direct supplementation for a total of 3,957 AF. Table 14 contains a summary of the 2008 supply.

8.1.2 2009 Demand

The 2009 demand for recycled water is based upon the actual usage of active meters as of December 31, 2008. The total potential demand includes the active demand (Table 12), plus a calculated demand for inactive accounts and uninstalled recycled water meters (Table 13).

The following user categories existed in 2008: Commercial / Industrial Recycled turf and landscaping irrigation; Construction Meters Recycled for various construction activities; Recreational Turf Recycled irrigation for parks, ball fields, and school turf; and Single-Family Dual Recycled irrigation of front and back yards.

For the Commercial / Industrial Recycled user category, the average unit demand was 5.21 AF per account. The Construction Meter average unit demand was 3.75 AF per meter. For the Single-Family Dual Recycled category, the average was 0.51 AF per dwelling unit. The Recreational Turf Recycled usage was 42.78 AF per active meter, which includes golf courses and large turf areas.

8.2 Projected 2009 Recycled Water Supply and Demand

For 2009, the recycled water supply is projected to be 4,336 AF, while the demand is projected to be within a range of 3,478 AF for a normal/wet year; to 4,139 AF for a dry year. The deficit of recycled water will be met by potable water supplementation until additional recycled water supply is available. The source for the projected supply and demand projections is the annual water balance prepared by District engineering staff. Table 15 contains a summary of the projected 2009 supply and demand.

8.3 Planned Recycled Water System Improvements

EID has completed preliminary design and is underway with environmental review of a seasonal storage reservoir. The plan is to build a reservoir of sufficient size to be able to meet all of EID's recycled water demands with recycled water, therefore eliminating the use of potable water supplementation and Bass Lake water to meet demands. The schedule for construction of the seasonal storage reservoirs is dependent upon many factors, including land availability, regulatory permits, and funding. The earliest a seasonal storage reservoir may be available is 2012.

The Average Dry Weather Flow (ADWF) at the DCWWTP in 2008 was 3.01 million gallons a day (MGD). The ADWF at EDHWWTP in 2008 was 2.93 MGD. The current rated capacity at DCWWWTP is 3.6 MGD and EDHWWTP is 3.0 MGD. EDHWWTP is currently going under a plant expansion that will increase the plant capacity to 4.0 MGD. This expansion will be complete in 2010. At full build-out (per El Dorado County's General Plan) the capacity at DCWWTP will be 3.6 MGD and EDHWWTP will be 5.4 MGD. These are the maximum production rates; actual production rates depend upon the daily influent to the plants and the availability of water in the 202 acre-feet (66 MG) reservoir at the EDHWWTP. Even with plant expansion, peak summer recycled water demands cannot be met solely with recycled water, and thus will require potable supplementation or construction of seasonal storage.

TABLE 12
2008 ACTIVE DEMAND
Recycled Water System

ACTIVE DEMANDS				
Active Account Categories	2008 Active Accounts	2008 Active Meters with Usage	2008 Demand in Acre-Feet	Acre-Feet per Active Meter
Commercial / Industrial Recycled [1]	152	136	708.94	5.21
Construction Meters Recycled	4	2	7.50	3.75
Multi-Family Dual Recycled [2]	NA	NA	NA	NA
Recreational Turf Recycled [3]	12	12	513.41	42.78
Single-Family Dual Recycled [4]	3,755	3,311	1,673.86	0.51
TOTALS	3,923	3,461	2,904	0.74

[1] The Commercial / Industrial Recycled accounts include outside irrigation of commercial landscaping and street medians.

[2] A correction in the billing system was implemented in 2006 that affected the four Multi-Family Dual Recycled accounts previously reported. These accounts are now correctly billed as Single-Family Dual Recycled, and at this time, there are no other Multi-Family Dual Recycled accounts.

[3] The Recreational Turf Recycled accounts serve publicly or privately owned property that may accommodate organized recreational activities, and for which the primary use of the recycled water is for turf irrigation and associated landscaping (i.e. parks, ball fields, and school turf).

[4] Not all Single-Family Dual Recycled accounts have a full year of usage.

TABLE 13
2008 LATENT DEMAND
Recycled Water System

INACTIVE ACCOUNTS			
Inactive Account Categories	Projected Demand Acre-Feet per Account	2008 *Inactive* Accounts	Calculated *Inactive* Demand in Acre-Feet
Commercial / Industrial Recycled	5.21	1	5
Single-Family Dual Recycled	0.51	0	0
		Subtotal *Inactive* Acre-Feet	5

UNINSTALLED METERS			
Uninstalled Meter Categories	Projected Demand Acre-Feet per Meter	2008 *Uninstalled* Meters	Calculated *Uninstalled* Demand in Acre-Feet
Commercial / Industrial Recycled	5.21	1	5
Single-Family Dual Recycled	0.51	712	360
		Subtotal *Uninstalled* Acre-Feet	365

Calculated Inactive and Uninstalled Acre-Feet	370

RECYCLED WATER SYSTEM - LATENT DEMAND in Acre-Feet	**370**

TABLE 14
2008 SUPPLY and DEMAND SUMMARY
Recycled Water System
In Acre-Feet

2008 SUPPLY					
Wastewater Treatment Plant Supply[1]		Reservoir Storage Supply		Direct Potable Supplementation to Recycled System[4]	TOTAL SUPPLY
El Dorado Hills	Deer Creek	El Dorado Hills[2]	Bass Lake[3]		
2,258	1,243	202	128	328	3,957

2008 DEMAND					
ACTIVE DEMAND			LATENT DEMAND		
Authorized Metered and Billed	Authorized Unbilled Uses[5]	TOTAL	Inactive	Uninstalled	TOTAL
2,904	137	3,041	5	365	370

2008 REAL AND APPARENT LOSSES		
Total 2008 Supply	Total 2008 Active Demand	2006 Real and Apparent Losses
3,957	3,041	916

[1] Sources of data are Master Reclamation Permit 5-01-146 and 2008 actual operations.

[2] The 202 acre-feet (66 MG) of storage is the revised reservoir capacity, with the actual supply used from storage being included in the El Dorado Hills Wastewater Treatment Plant supply of 1,910 acre-feet.

[3] Actual raw water supply pumped out of Bass Lake Reservoir into the recycled water system.

[4] Direct supplementation includes potable water supplied to the Bridlewood and Village C recycled water storage tanks, and to the Executive Golf Course.

[5] Other authorized uses include metered filter backwash water, plus estimated cleaning and irrigation uses at the EDHWWTP.

TABLE 15
PROJECTED 2009 SUPPLY and DEMAND
Recycled Water System
In Acre-Feet

SUPPLY PROJECTIONS FOR 2009					
SUPPLY YEAR	Treatment Plant Supply		Reservoir Storage Supply		TOTAL SUPPLY
	El Dorado Hills	Deer Creek	El Dorado Hills[3]	Bass Lake[4]	
2009 Projected Supply [1]	1,555	1,879	202	700	4,336

DEMAND PROJECTIONS FOR 2009				
TYPE OF DEMAND YEAR	Filter Backwash Water	WWTP Irrigation & Operational Uses	Delivered to Distribution System	TOTAL DEMAND [5]
Projected 2009 Normal/Wet Year [2A]	137	347	2,994	3,478
Projected 2009 Dry Year [2B]	163	413	3563	4,139

[1] Source for the 2009 projected supply is the annual water balance prepared by District engineering staff.

[2A] [2B] Source for the 2009 projected demands is the annual water balance prepared by District engineering staff.

[3] The 202 acre-feet (66 mg) of storage is the revised capacity for the reservoir at the El Dorado Hills Wastewater Treatment Plant.

[4] The 700 acre-feet of storage is the total reservoir capacity, with the actual amount needed from Bass Lake dependant upon demands.

[5] The demand that cannot currently be met by recycled water will be met by supplementation from the potable water system.

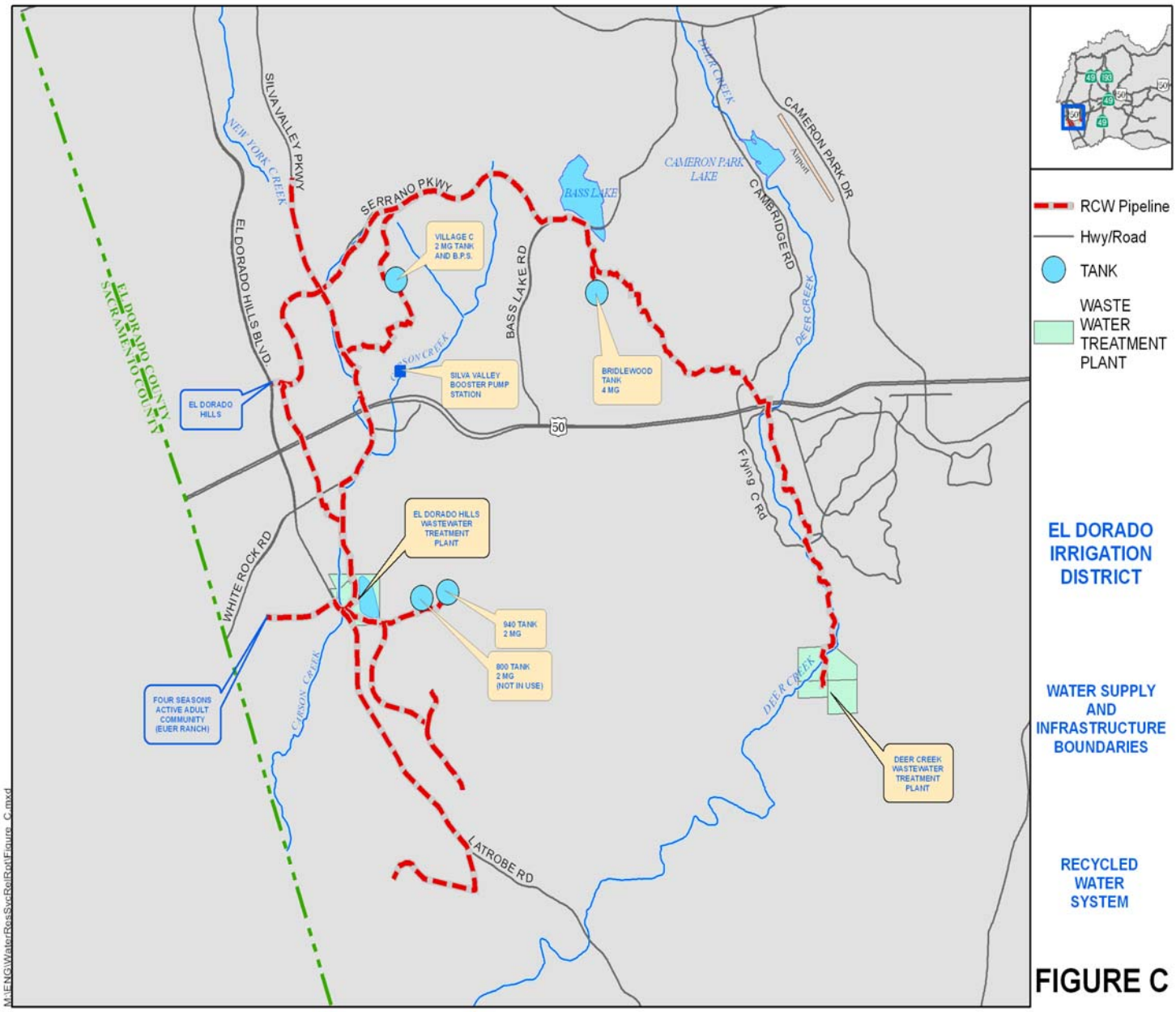
SILVA VALLEY PKWY
NEW YORK CREEK
SERRANO PKWY
EL DORADO HILLS BLVD
EL DORADO COUNTY SACRAMENTO COUNTY
EL DORADO HILLS
VILLAGE C 2 MG TANK AND B.P.S.
SILVA VALLEY BOOSTER PUMP STATION
CARSON CREEK
BASS LAKE RD
BASS LAKE
BRIDLEWOOD TANK 4 MG
CAMERON PARK LAKE
CAMERON PARK DR
CAMBRIDGE RD
DEER CREEK
Flying C Rd
50
WHITE ROCK RD
EL DORADO HILLS WASTEWATER TREATMENT PLANT
940 TANK 2 MG
800 TANK 2 MG (NOT IN USE)
FOUR SEASONS ACTIVE ADULT COMMUNITY (EUER RANCH)
LATROBE RD
DEER CREEK WASTEWATER TREATMENT PLANT
RCW Pipeline
Hwy/Road
TANK
WASTE WATER TREATMENT PLANT
EL DORADO IRRIGATION DISTRICT
WATER SUPPLY AND INFRASTRUCTURE BOUNDARIES
RECYCLED WATER SYSTEM
M:\ENG\WaterRssSvcRelRpt\Figure_C.mxd

FIGURE C

9 GLOSSARY – Terms and Definitions

The following terms and definitions are tailored to reflect the terminology of the El Dorado Irrigation District (EID). In general terms, the normal water measurements used by EID are as follows: cubic feet (CF) for metered customer demands; acre-feet (AF) for water supplies; cubic feet per second (CFS) or million gallons per day (MGD) for flow rates and treatment plant capacities; and miners inches (MI) for some ditch deliveries.

Active Water Accounts

Any account established after September 1987 where the meter has been installed and the account is charged a minimum bi-monthly billing, regardless of recorded water use; or any account established prior to September 1987 which has recorded water use or has changed ownership since 1987. Excludes those accounts temporarily disconnected for non-payment of a bill or seasonal accounts.

Active Water Meters

Any water meter installed in the ground with recorded water use during the reporting year.

Assessment District No. 3 (AD3)

An assessment district formed on May 30, 1985 that offered tax free municipal bonds to finance the expansion and improvement of the El Dorado Hills water and sewer systems and related facilities.

Authorized Uses

The majority of authorized use generates revenue, and includes both potable water that is metered and billed to EID customers, and raw water that is both metered and unmetered but billed to EID customers. The other minor portion of authorized uses includes District operational uses of potable water that are considered non-revenue water because they are unbilled, and include both metered and unmetered uses.

Contiguous Water System

The main, interconnected transmission and distribution system of the District, generally between the Sly Park and Forebay water treatment plants in the east, and the El Dorado Hills water treatment plant in the west, excluding the satellite water systems in the communities of Outingdale and Strawberry.

Contractual Commitments

Legal obligations of the District to reserve water supply or provide water service to designated parties, entered into by the adoption of a Board resolution, the formation of an assessment district, or the signing of a contract. Refer to Tables 10 and 11.

Crawford Allocation

The EID Board of Directors considered the "Crawford Project Water Allocation Plan," on April 23, 1990, in response to a water emergency declared on March 12, 1990. The Crawford Ditch Project was to net EID nearly 2,800 AF of new water, which equated approximately 3,500 EDUs. Resolution No. 90-87 was adopted on April 30, 1990, adding a surcharge of $2,200 to the Facility Capacity Charge (FCC) for each new water meter sold under the allocation plan. These funds were then used to make improvements to the Crawford Ditch System as well as EID's Reservoir 7 water treatment plant. Water meters purchased under the Crawford Allocation were not required to be installed at the time of purchase, but rather only as needed. These meters are in the latent demand as uninstalled meters. Over time, the number of Crawford Allocation uninstalled meters has steadily diminished as these projects are built and the meters are installed.

Dual Plumbed Dwellings

Single-family dwellings that receive recycled water for front and back yard landscape irrigation, and potable water for domestic household use.

Equivalent Dwelling Unit (EDU)

An EDU pertains to the average water demand for a detached, single-family dwelling unit served by a 3/4-inch water meter, and is referenced within this report as acre-feet per year (AF). This demand is measured at the customer's water meter, and therefore does not include losses in the delivery system. Larger water meters, such as those for commercial applications, required additional EDUs. An EDU should further be defined as a dwelling unit in the El Dorado Hills or Western / Eastern Supply Areas.

Inactive Water Account

Any account with a water meter installed in the ground prior to September 1987 that has no recorded water use and has not changed ownership since 1987; a meter that has been temporarily disconnected because of non-payment of a bill; a meter idle due to a change in ownership; or seasonal accounts with no usage in the prior year.

Infrastructure Based Yield

A reduction in the supply based yield of a supply area, whereas an infrastructure constrained yield is determined by the maximum day capacity of existing facilities rather than hydrology. In El Dorado Hills, the infrastructure based yield is a combination of the water treatment plant capacity and the Gold Hill Intertie transmission main. Refer to Table 3.

Metered Water Demand (Consumption)

The total amount of measured and billed water that is delivered through the customer's meter. This demand is usually measured and billed once every two months, and reported statistically on an annual calendar basis.

Monte Vista

A community along Salmon Falls Road to the northeast of El Dorado Hills, possibly named after the old Monte Vista Campground, and at one time a separate District service zone called the Monte Vista / Salmon Falls (Zone 1) until it was connected and incorporated into the El Dorado Hills Service Zone 2.

OASIS Model

A computer software package developed by HydroLogics, Inc. to model the historic hydrologic conditions in conjunction with certain input parameters to optimize the firm yield of the integrated system, which includes Project 184, Jenkinson Lake, Folsom USBR contracts, and Permit 21112. The overall system firm yield is determined by the OASIS Model for planning level purposes.

Peaking Factor

The difference between an average day of demand, in million gallons per day or MGD, and a maximum day of demand, used in this report to determine the annual capacity of the El Dorado Hills Water Treatment Plant, Gold Hill Intertie and Diamond Springs Main in acre-feet. Refer to Table 3.

Potential Water Demand

A calculated annual amount of water demand that uses a projected 2011 demand based upon a historical trend for each user category to determine the total potential demand, which includes active, latent, and other system demands.

Recycled Water

Tertiary treated and disinfected wastewater effluent meeting the water quality requirements of the Department of Health Services Title 22 regulations that is pure enough for human contact but not for human consumption. Within EID, recycled water is used solely for landscape and turf irrigation, including residential landscaping, golf courses, parks, and other uses where human body contact is a potential occurrence.

Supply Areas

The two areas are the El Dorado Hills supply area and the Western/Eastern supply area as illustrated in Figure A. El Dorado Hills receives water from Folsom Lake, with additional water provided by gravity flow from the Gold Hill Intertie (GHI) and Diamond Springs Main (DSM). The Western/Eastern includes all other service zones (Figure B) that currently receive gravity water supply from the District's eastern sources – Project 184 and Jenkinson Lake.

Service Zones

The individual service zones illustrated in Figure B, consisting of 14 contiguous service zones and 2 satellite water systems. The boundary between service zones is usually a storage tank or reservoir.

Single-Family Dual Potable

A single-family residential dwelling unit served with potable water for inside uses and recycled water for outside irrigation.

Supplement to the Recycled System

The quantity of potable water that is needed to make up the difference between what the recycled water system is able to produce and the demand for recycled water, due to a lack of seasonal recycled water storage.

Supply Based Firm Yield

The combined firm yield from Jenkinson Lake, FERC Project 184, USBR water service contracts from Folsom Reservoir, and Permit 21112, based on water year hydrology not restricted by infrastructure. Refer to Table 2.

System Firm Yield

According to District Administrative Regulation No. 5010, Water Availability and Commitments, the *Water Resources and Service Reliability Report* will use a system firm yield method to determine that sufficient water supply exists to meet potential demands. Under this methodology, approximately 95% of the time sufficient water supply is available to meet normal water demands, but during the remaining 5% of the time water shortages may occur. Such shortages may result in the implementation of voluntary or mandatory conservation measures.

Unallocated Water Supply

The quantity of water supply available for sale during the reporting year, which is the difference between the system firm yield, supply based or infrastructure based, and the total potential demand. Calculated as annual acre-feet and then converted to an equivalent dwelling unit.

Uninstalled Water Meters

A meter which has been purchased to serve a parcel of land, but has not been installed nor has an account been set up for billing purposes.

User Categories

Designates different water rate structures used within the financial billing system, which are then used to separate classes of services for statistical reporting. The user categories include single-family and multi-family residential; single-family dual potable; commercial/industrial; small farm, agricultural, ditch, recreational turf and domestic irrigation; and municipal water sales to the City of Placerville.

Warren Act Contract

A one-year or multiple-year contract between the District and the United States Bureau of Reclamation, which authorizes and charges a fee for the use of a Federal facility, such as Folsom Reservoir, to store non-Federal water for District use.

Water Supply Matrix and Water Shortage Response Measures

An adopted water management program that establishes required water conservation measures to be adhered to by District customers when water storage levels are below seasonal norms. The measures are grouped into stages, with the stages becoming more burdensome as the water storage levels decrease.

Water Supply Management Conditions

According to District Administrative Regulation No. 5011, Water Supply Management Conditions, incremental steps would be needed to manage increasing levels of shortages due to either drought or water emergency. Specific procedures are outlined in the above referenced water supply matrix, although the District is in the process of completing a comprehensive drought plan that will eventually replace the water supply matrix.

Water Year

A continuous 12-month period during which a complete cycle occurs, arbitrarily selected from the presentation of data relative to hydrologic or meteorological phenomena. The U.S. Geological Survey uses the period October 1 to September 30 in the publication of its records of stream flow.

APPENDICES

APPENDIX TABLE A
EL DORADO HILLS HISTORICAL TRENDS
El Dorado Hills Service Area

	Historical Unit Demands in Acre-Feet										Projected [1]
User Category	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2011**
Commercial / Industrial	3.44	3.50	3.32	3.84	3.64	3.86	3.48	3.45	3.81	2.92	3.40
Domestic Irrigation	1.82	1.86	1.91	1.96	1.98	2.07	1.84	2.00	2.05	2.19	2.19
Multi-Family Residential (Units) [2]	0.38	0.39	0.41	0.36	0.28	0.21	0.20	0.22	0.22	0.21	0.23
Recreational Turf Services [3]	28.75	11.03	9.86	11.04	9.01	14.76	11.18	11.75	10.90	11.16	12.03
Single-Family Dual Potable	0.07	0.09	0.13	0.17	0.20	0.22	0.18	0.17	0.17	0.17	0.19
Single-Family Residential	0.72	0.71	0.75	0.74	0.73	0.80	0.74	0.78	0.83	0.83	0.86
Small Farm [4]	---	---	---	---	---	---	---	1.27	3.81	4.63	4.63

[1] The projected 2011 demands were developed for the 2009 Water Resources Report using years 1999through 2008. Each projection is a linear trend, matching known data points using the least squares method.

[2] For the projected Multi-Family Residential unit demand, the demands from 1999 to 2003 have been excluded. The earlier, higher unit demands are a result of mobile home usage in this category, and as more apartments are added over the years, the unit demands continued to decline.

[3] The Recreational Turf Services unit demands for 1999 have been excluded from the trend line calculation to determine the projected 2011 demand. Including these earlier, higher demand years caused a steep and unrealistic downward trend.

[4] A new Small Farm service was added to this area in 2006, and therefore no historical trend yet exists for a projection. Highest value is used.

SERVICE ZONES WITHIN SERVICE AREA (Zone #):

El Dorado Hills (02)

APPENDIX TABLE B

WESTERN REGION HISTORICAL TRENDS

Western / Eastern Service Area

	Historical Unit Demands in Acre-Feet										Projected [1]
User Category	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2011**
Agricultural Metered Irrigation	13.35	16.51	22.40	20.36	16.35	22.54	13.60	10.96	13.90	16.07	13.65
Commercial / Industrial	1.83	1.60	1.64	1.56	1.57	1.70	1.60	1.70	1.64	1.42	1.50
Ditches [2]	---	---	---	10.33	8.76	10.08	17.78	14.58	15.27	14.58	19.54
Domestic Irrigation	1.94	1.79	1.90	1.85	1.77	1.98	1.60	1.78	1.80	1.88	1.75
Multi-Family Residential Units	0.27	0.27	0.28	0.29	0.27	0.27	0.23	0.24	0.25	0.25	0.23
Recreational Turf Services	17.19	14.58	16.51	16.68	14.87	19.77	14.02	16.18	16.40	15.70	15.95
Single-Family Dual Potable	---	---	---	0.08	0.11	0.15	0.17	0.17	0.19	0.19	0.22
Single-Family Residential	0.56	0.55	0.59	0.60	0.60	0.66	0.58	0.63	0.65	0.66	0.69
Small Farm Irrigation	4.00	2.92	3.72	4.00	4.07	4.64	3.38	4.12	3.55	3.85	4.00

[1] The projected 2011 demands were developed for the 2009 Water Resources Report using years 1999 through 2008. Each projection is a linear trend, matching known data points using the least squares method.

[2] In order to calculate a reasonable trend, the unit demands for 2002 to 2008 in the Western Region ditch category were used. The ditch unit demands for 1998 to 2001 have been removed, as they included the Crawford Ditch which is a satellite delivery system.

SERVICE ZONES WITHIN SERVICE AREA (Zone #):

Western Region

Bass Lake (01), Cameron Park (04), Shingle Springs (05), Logtown (06), Diamond Springs/El Dorado (07)

APPENDIX TABLE C

EASTERN REGION HISTORICAL TRENDS

Western / Eastern Service Area

	Historical Unit Demands in Acre-Feet										Projected [1]
User Category	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2011**
Agricultural Metered Irrigation	22.32	23.56	27.40	24.30	21.65	25.50	18.62	20.31	21.22	21.39	19.29
Commercial / Industrial	2.56	2.78	2.98	2.82	2.98	2.40	2.45	2.27	2.46	2.38	2.19
Ditches	---	---	---	23.45	18.15	23.10	20.86	29.11	24.10	26.47	29.38
Domestic Irrigation	1.97	2.08	1.92	1.92	1.80	2.00	1.64	1.88	2.33	1.95	1.98
Multi-Family Residential Units	0.25	0.24	0.24	0.24	0.24	0.24	0.22	0.23	0.23	0.23	0.22
Municipal-City of Placerville	175.11	163.67	166.89	169.59	170.93	164.65	151.45	152.02	150.73	102.21	116.65
Recreational Turf Services	25.13	24.60	16.80	13.68	9.77	12.01	13.63	10.70	9.39	9.65	8.23
Single-Family Residential	0.42	0.40	0.43	0.44	0.43	0.47	0.41	0.44	0.45	0.45	0.47
Small Farm Irrigation [2]	---	3.69	3.57	3.57	3.56	4.54	3.49	4.02	4.71	3.77	4.41

[1] The projected 2011 demands were developed for the 2009 Water Resources Report using years 1999 through 2008. Each projection is a linear trend, matching known data points using the least squares method.

[2] The 1999 unit demand for Small Farm Irrigation has been omitted due to a partial year of record.

[3] The Recreational Turf Services unit demands for the 1999 through 2001 have been excluded from the trend line calculation to determine the projected 2011 demand. Including these earlier, higher demand years caused a steep and possibly unrealistic downward trend.

SERVICE ZONES WITHIN SERVICE AREA (Zone #):

Eastern Region

Lotus/Coloma (03), Swansboro (09), Camino (10), Pleasant Valley (11), Sly Park (12), Pollock Pines (13), North Placerville (18), and South Placerville (28)

APPENDIX TABLE D
HISTORICAL DIVERSIONS, DEMANDS AND LOSSES
El Dorado Irrigation District

Calendar Year	Raw Water Diversions [1] in Acre-Feet	Authorized Metered / Billed Potable Demand [2] in Acre-Feet	Other Authorized Billed & Unbilled Demand [3] in Acre-Feet	Potable Water Supplement to Recycled System [4] in Acre-Feet	Real and Apparent Losses [5] in Acre-Feet	Losses as a Percentage of Raw Water Diversions [6]
2008	45,051	34,813	2,653	963	6,622	14.7%
2007	43,967	34,938	2,857	595	5,577	12.7%
2006	41,334	33,011	1,794	870	5,659	13.7%
2005	37,656	30,769	1,408	433	5,046	13.4%
2004	43,358	35,160	1,692	918	5,588	12.9%
2003	37,138	31,022	1,017	190	4,909	13.2%
2002	38,885	32,252	1,201	255	5,177	13.3%
2001	38,847	32,231	1,398	---	5,218	13.4%
2000	34,882	29,488	870	---	4,524	13.0%
1999	35,496	30,262	405	---	4,829	13.6%

SOURCES: Raw Water Delivery Reports (1999-2002), Water Diversion Reports (2003-2008), and Consumption Reports (1999-2008).

[1] Includes diversions from Jenkinson Lake, Folsom Reservoir, and Project 184 at Forebay Reservoir.

[2] Authorized uses of potable water that are metered and billed to EID customers.

[3] Other authorized uses of potable and raw water that is both metered and unmetered, billed and unbilled. This demand includes water quality flushing, meter testing, sewage lift station and collection system flushing, private fire services, fire hydrant meters, aesthetics maintenance, pipline draining, and ditch deliveries.

[4] Potable water supplementation into the recycled water system at Bass Lake Reservoir, Serrano Golf Course, and the Village C, 940, and Bridlewood recycled water tanks.

[5] Real losses include physical water lost into the ground from pipeline leaks and breaks; while apparent losses are considered paper losses, such as under-registration of large meters.

[6] The percentage of real and apparent losses can be attributed to 1,295 miles of pipeline, 3 miles of open ditch, and almost 39,000 service connections.