

APPENDIX A

Update to Facility Capacity Charges Methodology and Schedule

A study for El Dorado Irrigation District

prepared by

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Introduction

The District periodically reviews its FCCs to ensure that they accurately reflected the costs of providing service to new customers.

In California, the basic statutory standards governing water, wastewater and recycled water FCCs (connection fees) are embodied in Government Code Sections 66013, 66016, and 66022. Section 66013 indicates that any connection fee must be based on an estimate of the reasonable cost of providing service to new customers and sets the procedures for adopting that fee. Information in this appendix is provided as the basis for meeting these statutory standards.

Information Used as the Basis for the 2008 FCC Update

The following reports and key information were used as a basis for the FCC calculations.

- 2006 Comprehensive Annual Financial Report
- Fixed Assets list as of December 12, 2006: The fixed assets were reviewed by staff and allocated among water, wastewater and recycled water systems and individual FCC zones. Assets that do not provide general benefit to District customers were excluded.
- 5-Year CIP: Each CIP project was reviewed by staff and costs were allocated to new growth (FCCs) and existing customers (rates).
- Water, Wastewater and Recycled Water Master Plans: These were used as a starting point for developing growth projections.
- Water Resources and Service Reliability Report 2007: Basis for determining number of existing water customers in equivalent dwelling units (EDUs).
- Sewer Resources and Service Reliability Report 2006: Basis for determining number of existing wastewater customers in EDUs.
- 2005 Facility Capacity Charge Study
- 2003 Facility Capacity Charge Study, dated October 6, 2003, by The Reed Group, Inc.
- Various analyses by District staff and BWA:
 - 3-year average recycled water use by dual-plumbed homes
 - Future water EDUs
 - Future wastewater EDUs
 - Future recycled water EDUs
 - Project 184 CIP Funding Source Allocation
 - Water Supply Blended Rate for El Dorado Hills/Cameron Park
 - Dual-plumbed Home Potable Water/Recycled Water FCC

Summary of the FCC Methodologies Used for the 2008 FCC Update

The objective of this study is to ensure that the District is recovering sufficient revenue from new connections. The 2008 study updates the information and methodologies used in the 2005 study while incorporating the District's current needs. See table 1 below for a detailed comparison of the methodologies used in the 2005 study and the proposed 2008 FCC study.

The District's capacity charges are calculated using three standard methods – buy-in, incremental, and total cost attribution. These are standard methodologies that are used throughout the utility industry and are discussed in a number of publications regarding the development of capacity charges. A basic publication for the water and wastewater industry regarding capacity fees is the American Water Works Association's Manual M1, Principles of Water Rates, Fees, and Charges. Other publications that cover capacity charges include George A. Raftelis, Comprehensive Guide to Water and Wastewater Finance and Pricing, and Arthur C. Nelson, System Development Charges for Water, Wastewater, and Stormwater Facilities.

■ Buy-in Method

The buy-in methodology was used in the previous FCC studies in 2003 and 2005. The system buy-in concept is based on the premise that new customers benefit from the prior investment in system facilities made by existing customers. Existing customers' investment in the system was through their payment of FCCs, rates and charges, and property taxes over the years which were used to purchase and maintain the system assets. New customers share in the cost of past investments in District facilities which benefit new users. The funds are used for capital projects so the District can keep rates low. The buy-in portion pays for future capital costs, including improvement and replacement projects to preserve the existing system (not day-to-day operating costs). In turn, the District does not charge ratepayers for these projects.

The buy-in charge is analogous to an initiation fee to "join the country club." New members buy-in to the facilities that existing members already paid for. The fee is in turn used for maintenance of the clubhouse, upkeep of other services, etc.

■ Incremental Cost Method

This method is based on the premise that new connections to the water and wastewater systems should be responsible for those costs related to the next increment of system capacity required to serve them. The goal of this method is to minimize or eliminate the need to raise rates in order to provide for system expansion. Consequently, new customers pay fully for the additional facilities without imposing a burden on existing customers.

■ Total Cost Attribution Method

An alternative methodology that blends the system buy-in and the incremental facilities approaches is also commonly used. The total cost attribution method considers both the replacement of existing facilities and planned expansion in the cost basis. As discussed in the literature, this blended approach tends to take the form of a buy-in, i.e., existing assets that will serve new customers, combined with the allocation of growth assets approach, in which specific facilities used to accommodate growth are included in the connection fee on an incremental basis. This method is used when significant infrastructure is already in place, but considerably more infrastructure is required.

Table 1
Methodology Comparison

FCC	2005 Methodology	2005 Service Zones	2007 Methodology	2007 Service Zones
WATER	<p>1). Buy-in for Treatment, Transmission & Storage <i>Fixed Assets</i> <i>Existing EDUs</i></p> <p>2). Total Cost Attribution for Water Supply <i>Water Supply CIP Cost</i> <i>Project 184 Total EDUs</i></p>	<p>2 zones - EDH and General District</p> <p>2 zones - EDH and General District</p>	<p>1). Buy-in for Treatment, Transmission & Storage <i>Fixed Assets</i> <i>Existing + Future EDUs</i></p> <p>2). Total Cost Attribution for Water Supply <i>Water Supply CIP Cost + Fixed Assets</i> <i>Water Supply Total Capacity</i></p> <p>3). Incremental Cost of Water CIP <i>Other Water CIP Funded by FCCs</i> <i>Future EDUs</i></p>	<p>2 zones - EDH/Cameron Park and General District</p> <p>2 zones - EDH/Cameron Park and General District</p> <p>2 zones - EDH/Cameron Park and General District</p>
WASTEWATER	<p>1). Buy-in for Collection, Pumping & Treatment <i>Fixed Assets</i> <i>Existing EDUs</i></p> <p>2). Avoided Wastewater Cost <i>Avoided Cost</i> <i>Existing + Future EDUs</i></p>	<p>4 zones - EDH, CP, Motherlode and Satellites</p> <p>Uniform throughout District</p>	<p>1). Buy-in for Collection, Pumping & Treatment <i>Fixed Assets</i> <i>Existing + Future EDUs</i></p> <p>2). Avoided Wastewater Cost <i>Avoided Cost</i> <i>Existing + Future EDUs</i></p> <p>3). Incremental Cost of Wastewater CIP <i>Wastewater CIP Funded by FCCs</i> <i>Future EDUs</i></p>	<p>4 zones - EDH, CP, Motherlode, Satellites</p> <p>Uniform throughout District</p> <p>4 zones - EDH, CP, Motherlode, Satellites</p>
RECYCLED WATER	<p>1). Total Cost Attribution = Fixed Assets + CIP <i>Recycling Water Fixed Assets + CIP</i> <i>Existing + Future EDUs</i></p> <p>2). Avoided Wastewater Cost Credit <i>Avoided Costs Shifted to Wastewater</i> <i>Future EDUs</i></p>	<p>1 zone - EDH</p> <p>1 zone - EDH</p>	<p>1). Total Cost Attribution <i>Recycling Water Fixed Assets + CIP</i> <i>Existing + Future EDUs</i></p> <p>2). Avoided Wastewater Cost Credit <i>Avoided Costs Shifted to Wastewater</i> <i>Existing + Future EDUs</i></p>	<p>Uniform throughout recycled zone</p> <p>Uniform throughout recycled zone</p>

Development of the Proposed 2008 FCC Recommendations

District staff and BWA formed a working group to review the assumptions underlying the current FCCs and to develop a draft of the updated FCCs for discussion by the FCC Task Force.

Proposed recommendations for water FCCs:

- The District currently has two water FCC zones: El Dorado Hills and General District. The proposed recommendation is to move Cameron Park from the General District Zone to the zone with El Dorado Hills, because of recent and ongoing infrastructure projects that increase the ability to serve water from Folsom Reservoir in the Cameron Park area. Thus for 2008, the water FCC zones are El Dorado Hills/Cameron Park and General District.
- The 2005 water buy-in component was calculated using the replacement cost less depreciation method to determine the value of existing infrastructure and was divided by existing EDUs. The 2008 study uses the replacement cost method, and fixed assets and other valuations are divided by both existing and future EDUs.
- The portion of the 5-year CIP that is allocated to new growth should be included in the FCC since funding for these costs is scheduled to come from FCCs.
- The water supply component of the FCC varies by zone and is based on actual demand.
- The proposed potable water portion of the dual-plumbed FCC is comprised of the following allocations: 33% of the potable water *buy-in component* + 33% of the potable water *supply cost component* + 51% of the potable water *future capital projects component*.
- Line and cover projects funded by State Revolving Fund (SRF) loans or grants are excluded from the fixed asset base used for the buy-in component.
- For transmission and distribution lines, remove lines 5" and under from the fixed asset base used to calculate the buy-in component.
- The Folsom Lake Temperature Control Device is allocated 38 percent to FCCs and 62 percent to rates based on capacity.

Proposed recommendations for wastewater FCCs

- The 2005 wastewater buy-in component was calculated using the replacement cost less depreciation method to determine the value of existing infrastructure and was divided by existing EDUs. The 2008 study uses the replacement cost method, and fixed assets and other valuations are divided by both existing and future EDUs.
- The portion of the 5-year CIP that is allocated to new growth will be included in the FCC since the funding source identified for these projects is FCCs.
- The wastewater avoided cost component for recycling is escalated from the 2005 study to current dollars using a standard tool – the Engineering News Record construction cost index.

Proposed recommendations for recycled water FCCs

- The previous recycled water FCC only applied to dual-plumbed homes in El Dorado Hills. The 2008 recycled water FCC will be uniform throughout the recycled water zone and therefore will also be assessed to dual-plumbed homes in Cameron Park.
- The 2005 avoided wastewater cost credit was calculated by dividing the avoided wastewater cost by the number of recycled water future EDUs. The 2008 study divides

the recycled water credit by total build-out EDUs to include both existing and future EDUs.

- The recycled water FCC is based on the 3-year average recycled water use by a dual plumbed home of 0.53 acre-feet per EDU including 13 percent for losses and unmetered uses in the zone.

Proposed Water, Wastewater, Recycled Water and Dual-Plumbed FCCs by Component

Proposed Water FCC

The proposed 2008 water FCC is comprised of three components:

- 1) Buy-in to existing water treatment, transmission, storage and general facilities,
- 2) A water supply component based on the cost of Project 184 water supply, and
- 3) The expansion-related water system capital improvement projects.

Service Zones: The water FCC has two service zones: (1) El Dorado Hills/Cameron Park and (2) General District (Mother Lode and the Satellites). The 2008 study amends the service zones from the previous study and combines El Dorado Hills and Cameron Park because the new modification in the supply system pumping makes the two service areas equal in terms of supply, and, because both areas use recycled water.

Current and Future Water Customers: The current and projected future number of equivalent Dwelling Units (EDUs) in the El Dorado Hills and General District Zones are summarized below. The current EDUs are based on the District’s annual Water Resources and Service Reliability Report. The projected future EDUs for the two zones are based on projections in the District’s Water Supply Master Plan.

Table 2: Water – Existing and Future EDUs

Area	Existing EDUs (1)	% of All Zones	Future Growth EDUs (2)	% of All Zones	Total Existing & Future EDUs
Water EDUs					
El Dorado Hills/Cameron Park	20,246	35%	8,600	72%	28,847
General District	<u>37,548</u>	<u>65%</u>	<u>3,319</u>	<u>28%</u>	<u>40,868</u>
Total	57,794	100%	11,919	100%	69,714
<small>(1) Source: 2007 Water Resources and Service Reliability Report with adjustment for 2006 sales. (2) Estimates based on EDH Water Treatment Plant 31.5 mgd expansion and combined EDH/Cameron Park service zone.</small>					

Buy-in Component for Treatment, Transmission and Storage

The 2008 FCC is calculated using a similar buy-in method to that which was used in the 2005 study. The buy-in method reflects the present value of the investment made in the water system based on the cost of the existing facilities. This standard approach does not distinguish between existing and remaining capacity because without these existing facilities, new development could not connect to the water system.

The buy-in charge is calculated as follows:

- 1) Determine the current value of fixed assets (using replacement cost method)
- 2) Add work in progress
- 3) Add cash reserves (less outstanding principal on debt)
- 4) Add the present value of past debt issuance costs
- 5) Subtract credit for property taxes
- 6) Divide by the number of existing plus future EDUs

$$\text{Buy-in Water FCC} = \frac{\text{Fixed Assets} + \text{Adjustments to Water System Valuation}}{\text{Existing} + \text{Future EDUs}}$$

There are a number of approaches to determining the value of existing facilities:

- A). Historical cost – This method is simply the amount actually paid to construct the existing infrastructure.
- B). Historical Cost Less Depreciation – Depreciation takes into account that the usefulness of an asset declines over time. This approach subtracts depreciation from the historical cost based on each asset’s age and service life.
- C). Replacement Cost – Due to the time value of money, historical costs do not reflect today’s value of past construction costs. Therefore, to reflect the current value of assets, this method escalates historical costs to today’s dollars using the ENR Construction Cost Index. This approach typically yields the highest value for utility system fixed assets.
- D). Replacement Cost Less Depreciation – This approach is a combination of the other methods and subtracts depreciation from the historical cost to derive a book value. The book value is then escalated to current dollars using the ENR Construction Cost Index.

In the 2005 FCCs, the District uses the *replacement cost less depreciation* method to determine the value of its existing infrastructure. Subtracting depreciation is a more conservative approach to valuing assets. Some agencies, such as East Bay Municipal District, Contra Costa Water District and the Dublin San Ramon Services District, do not subtract depreciation in the valuation of their existing assets based on the following arguments: (1) that facilities incur ongoing maintenance costs and therefore these expenses extend the useful lives of their facilities, and (2) that even the Replacement Cost method of valuing assets yields a value that is much less than the actual cost to replace the assets in today’s construction environment. In the 2008 update, the District uses the *replacement cost* method and divides by total EDUs (existing and future) to determine the value of its fixed assets.

Fixed Asset Base

Based on significant discussion in the FCC Task Force meetings over what assets should be included in the buy-in component, Bartle Wells Associates and District staff carefully reviewed the fixed asset base to ensure that the District was not double-charging.

Line and cover projects which have been subsidized by State Revolving Fund (SRF) loans and grants have been taken out of the buy-in calculation. The District levies separate surcharges for these projects. Line and cover projects include Reservoir 7 and the Bass Lake Storage Tank. For several projects, the SRF loans do not cover the entire cost of the project. Therefore, only the amount of the SRF loan that the District has received is taken out of the fixed asset base. For example, the total cost of the Bass Lake Storage Tank was \$7,504,326. However, because the

District only received \$5 million in SRF funding for the project, \$2,504,326 remains in the fixed asset base. To avoid double charging, a total of \$10,909,377 in line and cover projects has been excluded from the water system fixed assets base.

The FCC Task Force also discussed what size transmission and distribution lines should be included in the fixed asset base. The debate centered on whether developer-installed water lines in subdivisions provide a general benefit to the District and whether including these smaller lines in the buy-in calculation is considered double-charging. Based on the discussion, this study presents three options regarding transmission and distribution lines.

The first option is to exclude all transmission and distribution lines 5” and smaller in size from the fixed asset base used to calculate the buy-in component. Lines 5” and smaller make up approximately 6.2 percent of the District’s total transmission and distribution system. Excluding transmission and distribution lines 5” and under would result in a \$218 decrease in the water FCC for El Dorado Hills/Cameron Park and a \$334 decrease in the water FCC for the General District. The proposed water FCCs under Option 1 are summarized in Table 3.

Table 3: Buy-in option 1 – remove lines 5” and smaller

FCC	Component	2008 FCCs - Proposed				2008 FCCs - Option 1 (5" and below)			
		EDH	Cameron Park	General District		EDH	Cameron Park	General District	
				Mother Lode	Satellites			Mother Lode	Satellites
WATER	1). Buy-in for Fixed Assets <i>Fixed Assets</i> <i>Existing + Future EDUs</i>	\$4,618	\$4,618	\$5,938	\$5,938	\$4,400	\$4,400	\$5,604	\$5,604
	2). Water Supply <i>Water Supply Cost</i> <i>Water Supply Capacity</i>	3,390	3,390	2,646	<u>2,646</u>	3,390	3,390	2,646	2,646
	3). Future Water CIP <i>Other Water CIP Funded by FCCs</i> <i>Future EDUs</i>	<u>7,961</u>	<u>7,961</u>	<u>8,055</u>	<u>8,055</u>	<u>7,961</u>	<u>7,961</u>	<u>8,055</u>	<u>8,055</u>
	Total Water FCC	\$15,969	\$15,969	\$16,639	\$16,639	\$15,751	\$15,751	\$16,305	\$16,305

The second option is to exclude all transmission and distribution lines 6” and smaller from the fixed asset base. Lines 6” and smaller make up approximately 33 percent of the District’s total transmission and distribution system. Excluding transmission and distribution lines 6” and under would result in a \$1,154 decrease in the water FCC for El Dorado Hills/Cameron Park and a \$1,781 decrease in the water FCC for the General District. The proposed water FCCs under Option 2 are summarized in Table 4.

Table 4: Buy-in option 2 – remove lines 6” and smaller

FCC	Component	2008 FCCs - Proposed				2008 FCCs - Option 2 (6" and below)			
		EDH	Cameron Park	General District		EDH	Cameron Park	General District	
				Mother Lode	Satellites			Mother Lode	Satellites
WATER	1). Buy-in for Fixed Assets <i>Fixed Assets</i> <i>Existing + Future EDUs</i>	\$4,618	\$4,618	\$5,938	\$5,938	\$3,464	\$3,464	\$4,157	\$4,157
	2). Water Supply <i>Water Supply Cost</i> <i>Water Supply Capacity</i>	3,390	3,390	2,646	<u>2,646</u>	3,390	3,390	2,646	2,646
	3). Future Water CIP <i>Other Water CIP Funded by FCCs</i> <i>Future EDUs</i>	<u>7,961</u>	<u>7,961</u>	<u>8,055</u>	<u>8,055</u>	<u>7,961</u>	<u>7,961</u>	<u>8,055</u>	<u>8,055</u>
	Total Water FCC	\$15,969	\$15,969	\$16,639	\$16,639	\$14,815	\$14,815	\$14,858	\$14,858

The third option is to exclude all transmission and distribution lines 8” and smaller from the fixed asset base used to calculate the buy-in component. Lines 8” and smaller make up approximately 71.3 percent of the District’s total transmission and distribution system. Excluding transmission and distribution lines 8” and under would result in a \$2,463 decrease in the water FCC for El Dorado Hills/Cameron Park and a \$3,869 decrease in the water FCC for the General District. The proposed water FCCs under Option 3 are summarized in Table 5.

Table 5: Buy-in option 3 – remove lines 8” and smaller

FCC	Component	2008 FCCs - Proposed				2008 FCCs - Option 3 (8" and below)			
		EDH	Cameron Park	General District		EDH	Cameron Park	General District	
				Mother Lode	Satellites			Mother Lode	Satellites
WATER	1). Buy-in for Fixed Assets <i>Fixed Assets</i> <i>Existing + Future EDUs</i>	\$4,618	\$4,618	\$5,938	\$5,938	\$2,155	\$2,155	\$2,069	\$2,069
	2). Water Supply <i>Water Supply Cost</i> <i>Water Supply Capacity</i>	3,390	3,390	2,646	<u>2,646</u>	3,390	3,390	2,646	2,646
	3). Future Water CIP <i>Other Water CIP Funded by FCCs</i> <i>Future EDUs</i>	<u>7,961</u>	<u>7,961</u>	<u>8,055</u>	<u>8,055</u>	<u>7,961</u>	<u>7,961</u>	<u>8,055</u>	<u>8,055</u>
	Total Water FCC	\$15,969	\$15,969	\$16,639	\$16,639	\$13,506	\$13,506	\$12,770	\$12,770

Based on analysis from the District’s engineering staff demonstrating that water lines 6” and above provide general benefit to the entire District, Bartle Wells Associates recommends option 1 to exclude transmission and distribution lines 5” and under from the asset base.

Water Supply Component (Project 184)

The water supply component represents the contribution made for new water supplies, including Project 184 and other water projects that benefit new development. The entire district benefits from this new supply. Project 184 provides new water supply for some service zones while offsetting other water sources that are used in other areas. Therefore, the entire district shares the cost of obtaining new water supplies.

The previous water supply FCC was calculated using the incremental method – Project 184 capital projects were divided by the number of EDUs to be served by the 17,000 acre-feet yield from Permit #21112. Each zone was charged the same Water Supply fee. The 2007 FCC is determined using the total cost attribution method. First, water supply capital projects and hydroelectric fixed assets are divided by the water supply yield to derive a water supply cost per acre-foot. The water supply FCC is then calculated by multiplying the water supply cost per acre-foot by each service zone’s water EDU demand.

$$\text{Water Supply Cost per AF} = \frac{\text{Hydroelectric and Water Supply CIP} + \text{Hydroelectric Fixed Assets}}{\text{Water Supply Yield}}$$

$$\text{Water Supply FCC} = \text{Water Supply Cost} * \text{AF/EDU Demand}$$

Hydroelectric and Water Supply CIP and Fixed Assets: Staff identified hydroelectric projects that are used for water supply in the District’s 2007-2011 capital improvement program. Since the 2005 study, the District has added new projects to the hydroelectric CIP and project costs have been modified to reflect the current market. Additionally, the total cost attribution approach includes a fixed assets portion. To avoid double counting, only hydroelectric and Project 184 fixed assets are included in the water supply component and are not included in the buy-in component. Project costs are then divided by the water supply yield of 17,000 acre-feet to derive a water supply cost.

Per EDU Water Demand: Water demand is based on the 2007 Water Resources and Service Reliability Report. Total demand is determined using the 10-year history of active meter demand to project the year 2009 demand. For El Dorado Hills/Cameron Park, “single-plumbed”, single-family residential potable demand is 0.73 acre-feet per EDU. For the General District, single-family residential potable demand is 0.57 acre-feet per EDU. The District uses a fixed 13 percent loss rate applied to infrastructure and supply yields. With the 13 percent loss rate, total demand for El Dorado Hills is 0.82 acre-feet per EDU and the total demand for the General District is 0.64 acre-feet per EDU.

For “Dual-Plumbed” homes in El Dorado Hills/Cameron Park, that is homes connected to both potable and recycled water supply, the per EDU demand in El Dorado Hills and General District for potable water is 0.24 acre-feet per EDU. With losses, the per EDU potable water supply requirement increases to 0.27 acre-feet per EDU.

Table 6: Water Demand per EDU

Service Zone	Metered Demand AF/EDU (1)	Total Demand + 13% for Losses & Unmetered Use
El Dorado Hills/Cameron Park (Zones 1, 2 & 4)		
Full Potable EDU	0.73	0.82
Dual-plumbed EDU	0.24	0.27
General District (Zones 3, 5, 6, 7, 9, 10, 11, 12, 13, 18, & 28)		
Full Potable EDU	0.57	0.64

(1) Source: Recalculation of unit demand factors with a combined EDH/Cameron Park service area

Future Water System Capital Projects Component

The future capital projects component represents the investment needed in the water system to provide additional capacity for new users. With the exception of capital projects related to Project 184 supply, the 2005 study did not include any water system capital improvement projects in the FCC calculation. The 2008 FCC includes the water system projects in the District's 2007-2011 capital improvement program. Staff allocated all project costs between FCCs and rates. Costs have also been allocated based on service location and are then divided by the number of estimated future EDUs for each zone. The incremental portion of the water FCC is calculated as follows:

$$\text{Future Capital Projects Component} = \frac{\text{Water System Capital Improvement Projects}}{\text{Future EDUs}}$$

Water System Capital Improvement Projects: Capital improvement project costs have been split into four categories – El Dorado Hills/Cameron Park FCC, General District FCCs, All District FCCs, and Rates.

Projects in the “All District FCCs” category benefit the entire district, and costs are shared by both El Dorado Hills/Cameron Park and the General District based on the percentage of total future EDUs for each service zone. “All District” projects are allocated 72 percent to El Dorado Hills/Cameron Park and 28 percent to the General District.

Due to regulatory requirements and rising construction costs, project costs have increased; for example, the Folsom Lake Temperature Control Device was estimated at \$6,250,000 in 2005. Current costs are now projected to be \$25,260,903. Water system capital projects for El Dorado Hills total \$72,468,067. Capital projects for the General District total \$28,290,882.

Based on input from the FCC Task Force, the total cost of the Folsom Lake Temperature Control Device has been reallocated based on the project's total capacity. The current capacity of the TCD is 19.5 mgd and expanded capacity is estimated at 31.5 mgd. Therefore, 62 percent of the project is allocated to existing users through rates, and 38 percent or \$9,599,143 is allocated to future customers. The adjustment ensures that only the expansion portion of the TCD is included in the FCC.

**Table 7
Summary of Proposed Water FCC**

FCC Components	El Dorado Hills / Cameron Park	General District
BUY-IN COMPONENT		
Existing Treatment, Transmission and Storage		
Fixed Assets & Valuation	\$ 126,923,013	\$ 229,022,270
Total EDUs	28,846	40,867
Buy in / EDU	\$ 4,400	\$ 5,604
WATER SUPPLY COMPONENT		
Water Supply Projects & Hydroelectric Fixed Assets	\$ 70,274,105	\$ 70,274,105
Water Supply AF	17,000	17,000
Water Supply Cost per AF	\$ 4,134	\$ 4,134
Demand AF/EDU	0.82	0.64
Water Supply Component / EDU	\$ 3,390	\$ 2,646
FUTURE CAPITAL PROJECTS COMPONENT		
Water CIP funded by FCCs	\$ 68,466,740	\$ 26,734,810
Future EDUs	8,600	3,319
Future Capital Projects Component / EDU	\$ 7,961	\$ 8,055
TOTAL WATER FCC	\$ 15,751	\$ 16,305

Proposed Wastewater FCC

The proposed 2008 wastewater FCC is comprised of three components:

- 1) Buy-in to existing wastewater disposal, pumping, treatment and general facilities,
- 2) Avoided wastewater cost component for recycled water facilities, and
- 3) The expansion-related wastewater system capital improvement projects.

Service Zones: The wastewater FCC has four service zones: (1) El Dorado Hills, (2) Cameron Park, (3) Mother Lode and (4) Satellites. No change to these four wastewater FCC zones are recommended at this time.

Current and Future Wastewater Customers: The current and projected future number of equivalent Dwelling Units (EDUs) in each of the service zones are summarized below. The current EDUs are based on the District's annual Sewer Resources and Service Reliability Report. The projected future EDUs for the service zones are based on estimated future capacity in the wastewater treatment plants from the District's Wastewater Master Plan.

Table 8: Wastewater – Existing and Future EDUs

Area	Existing EDUs (1)	% of All Zones	% of Deer Creek	Future EDUs (2)	% of All Zones	Total Existing & Future EDUs
Wastewater EDUs						
El Dorado Hills	13,341	51%		9,160	78%	22,501
Cameron Park	9,084	35%	73%	1,841	16%	10,926
Mother Lode	3,394	13%	27%	681	6%	4,080
Satellite Area	<u>376</u>	<u>1%</u>		<u>100</u>	<u>1%</u>	<u>476</u>
Total	26,195	100%	100%	11,782	100%	37,978

(1) Source: 2006 Sewer Resources and Service Reliability Report with adjustment for 2005 sales.
(2) Future wastewater EDUs based on projected plant capacity.

Buy-in Component for Collection, Pumping and Treatment:

The 2008 FCC is calculated using a similar buy-in method that was used in the 2005 study. The buy-in method reflects the present value of the investment made in the wastewater system based on the cost of the existing facilities. This approach does not distinguish between existing and remaining capacity because without these existing facilities, new development could not connect to the wastewater system. The wastewater buy-in includes all assets except the collection system fixed assets that are deemed to be of local and not general benefit.

The wastewater facilities buy-in charge is calculated as follows:

- 1) Determine the current value of fixed assets (using the replacement cost method)
- 2) Add work in progress
- 3) Add cash reserves (less outstanding principal on debt)
- 4) Add the present value of past debt issuance costs
- 5) Subtract credit for property taxes
- 6) Divide by the number of existing plus future EDUs

$$\text{Buy-in Wastewater FCC} = \frac{\text{Fixed Assets} + \text{Adjustments to Wastewater System Valuation}}{\text{Existing} + \text{Future EDUs}}$$

Avoided Wastewater Cost Component

A share of the recycled water program’s capital cost is allocated to wastewater since without the recycling program, this cost would have to be incurred by the wastewater system to dispose of the treated effluent. The 2005 FCC adopted an “Avoided Wastewater Cost” approach to establish a recycled water FCC for dual-plumbed customers. Other benefits of this approach include allocating recycled water costs to those benefiting and minimizing the impact to wastewater ratepayers. The avoided cost component is calculated by multiplying wastewater’s share of capital facilities related to continued discharge by the percentage of future El Dorado Hills and Deer Creek future EDUs.

$$\text{Avoided Wastewater Cost} = \frac{\text{Wastewater’s Share of Recycled Water’s Capital Cost}}{\text{Existing} + \text{Future EDUs}}$$

Wastewater’s Share of Recycled Water’s Infrastructure: For the 2005 FCC, a consultant developed the avoided cost based on the wastewater and recycled water master plans. The avoided cost is wastewaters’ share of recycled water capital facilities which include seasonal storage, daily storage and other transmission facilities totaling \$52,940,453 in 2005.

In calculating a new avoided cost figure, staff determined that cost adjusting the 2005 figure to present-day dollars is appropriate. The 2008 avoided cost is adjusted based on the Engineering News Record 20-cities Construction Cost Index, resulting in a 8 percent increase to \$57,674,234.

Incremental Method for Wastewater System Capital Improvement Projects

The incremental method reflects the investment in the wastewater system to provide additional capacity for new users. The 2005 study did not include any wastewater system capital improvement projects in the FCC calculation. The 2008 update incorporates wastewater projects in the District’s 2007-2011 capital improvement program related to new growth. The charge is derived by dividing total project costs by the number of estimated future EDUs in each zone.

$$\text{Future CIP Wastewater FCC} = \frac{\text{Wastewater System Capital Improvement Projects}}{\text{Future EDUs}}$$

Wastewater System Capital Improvement Projects: Wastewater capital projects are classified by service area. The funding source allocations between new growth (FCCs) and existing customers (rates) is based on the allocations in the CIP. In 2007, El Dorado Hills’ capital projects totaled \$63,529,270. The largest project is the El Dorado Hills Wastewater Treatment Plant Expansion (EDHWWTP) Phase III which accounts for roughly 93 percent of the total CIP for El Dorado Hills.

Total CIP costs for Cameron Park are \$894,802. Approximately 78 percent of total Cameron Park capital projects is allocated to two projects – the DCWWTP Waterline Replacement and Road Repaving project and DCWWTP Regulatory Compliance Improvements.

Deer Creek projects have been earmarked 72 percent to Cameron Park and 28 percent to Mother Lode based on the District’s CIP. For Mother Lode, capital expenditures are \$1,192,316. The largest projects for Mother Lode are the Mother Lode Force Main Repairs Phase II and III, DCWWTP Regulatory Compliance Improvements, and the DCWWTP Waterline Replacement and Road Repaving project which comprise 81 percent of capital expenditures. For the satellites, capital spending totaled \$77,740.

Table 9: Summary of Proposed Wastewater FCC

FCC Components	El Dorado Hills	Cameron Park	Mother Lode	Satellites
BUY-IN COMPONENT				
Existing Subsurface Lines, Treatment & Plant				
Fixed assets and Valuation	\$ 111,751,569	\$ 81,112,823	\$ 41,216,120	\$ 4,340,964
Total EDUs	22,500	10,925	4,075	476
Buy in / EDU	\$ 4,967	\$ 7,425	\$ 10,114	\$ 9,120
AVOIDED WASTEWATER COST COMPONENT				
Avoided Costs Total	\$ 57,674,234	\$ 57,674,234	\$ 57,674,234	
Existing EDH & DC EDUs (64%)	23,958	23,958	23,958	
Future EDH & DC EDUs (36%)	13,542	13,542	13,542	
Avoided Cost attributed to future customers	\$ 20,826,807	\$ 20,826,807	\$ 20,826,807	
Avoided Cost / EDH/DC EDU	\$ 1,538	\$ 1,538	\$ 1,538	
FUTURE CAPITAL PROJECTS COMPONENT				
Other Wastewater CIP funded by FCCs	\$ 63,529,270	\$894,802	\$1,192,316	\$77,740
Future EDUs	9,160	1,841	681	100
Incremental cost / EDU	\$ 6,936	\$ 486	\$ 1,751	\$ 777
TOTAL WASTEWATER FCC	\$ 13,441	\$ 9,449	\$ 13,403	\$ 9,897

Recycled Water FCC

The 2007 recycled water FCC is comprised of two components:

- 1) Recycled water fixed assets and capital improvement projects, and
- 2) Avoided wastewater cost credit.

Service Zones: In 2005, the recycled water FCC was only charged to dual-plumbed homes in El Dorado Hills. For the 2008 FCC, the recycled water FCC will also be charged to dual-plumbed homes in Cameron Park.

Recycled Water EDUs: The number of recycled water EDUs is based on the 2007 Water Resources and Service Reliability Report and the latest consumption data for dual-plumbed homes. Demand is based on normal year usage projections. Demand is multiplied by an EDU factor of 0.53 acre-feet per EDU (0.47 plus 13 percent for losses and unmetered uses) to derive estimated equivalent residential connections. Based on normal year usage projections, the total number of EDUs to be served in 2025 has increased from 8,282 in 2005 to 12,349 EDUs in 2007.

Table 10: Recycled Water – Existing and Future EDUs

Area	Existing EDUs (1)	Future Growth EDUs	Total Existing & Future EDUs
Recycled Water EDUs			
Recycled Water System	7,392	4,957	12,349
(1) - Existing and future recycled water EDUs based on normal year usage projections.			

Recycled Fixed Assets and Capital Projects

The 2008 recycled water FCC uses the same total cost attribution method as the 2005 study. The total cost attribution approach represents the contribution invested for existing facilities and the additional costs needed to expand the system. Recycled water capital projects and fixed assets are combined and divided by the existing and future EDUs.

$$\text{Recycled FCC} = \frac{\text{Recycled Water CIP} + \text{Fixed Assets} - \text{Avoided Wastewater Cost}}{\text{Existing \& Future EDUS}}$$

Recycled Water CIP + Recycled Water Fixed Assets: The 2008 study updates fixed assets and capital improvement projects for recycled water. In 2005, the recycled water capital improvement program totaled \$96,607,174. The 2007 recycled water CIP is based on the 2007-2011 capital improvement program and totaled \$92,120,901, a 16 percent decrease. The largest projects are the El Dorado Hills and Deer Creek Seasonal Storage Reservoirs. The costs for these projects were escalated from the previous study because updated costs are not yet available.

Avoided Wastewater Cost Credit: The avoided cost credit is a credit for dual-plumbed homes for the avoided treatment costs that are shifted to wastewater. The 2005 avoided wastewater cost credit was calculated by dividing the avoided wastewater cost by the number of recycled water future EDUs. To be consistent with the total cost attribution calculation above, the 2008 study divides the recycled water credit by total EDUs.

Based on the new calculation, the 2008 avoided cost credit has decreased by approximately 50 percent from \$8,797 in 2005 to \$4,670.

Table 11: Summary of Proposed Recycled Water FCC

FCC Components	El Dorado Hills / Cameron Park	General District
TOTAL COST ATTRIBUTION COMPONENT		
Fixed Assets and Capital Costs		
Fixed assets by service area	\$ 21,774,227	
Capital Improvement Projects	\$ 92,120,901	
Total Fixed Assets + CIP	\$ 113,895,128	
Existing and Future EDUs	12,349	
Total Cost Attribution / EDU	\$ 9,223	
AVOIDED WASTEWATER COST CREDIT		
Avoided Costs Shifted to Wastewater	\$ 57,674,234	
Existing and Future EDUs	12,349	
Avoided Cost shifted to wastewater / EDU	\$ (4,670)	
TOTAL RECYCLED WATER FCC	\$ 4,553	

Water FCCs for Dual-Plumbed Connections

In the 2005, the calculation of the water FCC for dual-plumbed homes was 50% of the total potable water FCC + 50% of the recycled water FCC. In 2008, the calculation for a dual-plumbed connection is based on actual demand for dual-plumbed homes in El Dorado Hills and Cameron Park. The per EDU demand in El Dorado Hills and General District for potable water is 0.27 acre-feet per EDU including 13 percent for losses. The ratio between the per acre-foot demand for a dual-plumbed connection and a potable connection is 0.33 acre-feet per EDU (0.27/0.82).

$$\text{Dual-Plumbed FCC} = (33\% \text{ of Water Buy-in} + 33\% \text{ of Water Supply} + 51\% \text{ of Future Water CIP}) + 100\% \text{ of Recycled Water FCC}$$

Water Buy-in Component: To determine what portion of the potable water buy-in component should be allocated to dual-plumbed connections, each of the fixed asset categories are designated either volume or fire flow. The fixed assets that are volume-based are allocated 33 percent of the total assets. Fixed assets that are fire flow-based are allocated 100 percent of total assets. Based on these allocations, \$44,104,065, or 33 percent of the total potable water buy-in component is attributed to dual-plumbed connections.

Table 12: Dual-Plumbed Connection Buy-in Allocation

Asset Class	Potable FCC	Dual-Plumbed FCC		
	El Dorado Hills/ Cameron Park	Demand Requirement	%	Total Allocated to Dual-Plumbed
Land and Land Rights	\$ 710,577	volume	33%	\$ 233,970
Source of Supply	9,112,752	volume	33%	3,000,540
Pumping	16,155,693	volume	33%	5,319,558
Water Treatment	5,175,746	volume	33%	1,704,209
Transmission and Distribution	<u>102,790,912</u>	volume/fire flow	66%	<u>68,318,350</u>
Fixed Assets Totals (1)	\$ 133,945,680			\$ 44,104,065

(1) Fixed Assets dual-plumbed allocations based on volume demand and fire flow requirements
 Volume demand = 33% Fire Flow Requirements = 100%
 33% Land + 33% Source of Supply + 33% Pumping + 33% Treatment + 66% Transmission & Distribution = 33% of Total Fixed Assets
 For Trans & Distrib: Trans. = 33%, Distrib. = 100%, Avg = 66%)

Water Supply Component: For the water supply component, dual-plumbed connections are charged 33 percent of the total cost based on actual demand

Future Water CIP Component: To determine what percentage of water capital projects should be allocated to dual-plumbed connections, projects designated “El Dorado Hills/Cameron Park” and “All District” are allocated either 33 percent or 100 percent based on the direct benefit to dual-plumbed homes. The total capital project costs attributable to dual-plumbed homes is \$37,027,665 or 51 percent of the total potable water future water CIP component.

Table 13: Dual-Plumbed Connection – CIP Allocation

Dual-Plumbed Connection -- Future CIP Allocation							
Project No.	Project Description	Allocations for Potable Water		Allocations for Dual-Plumbed Water			
		EDH/CP Water FCCs	All District FCCs (2)	Dual- Plumbed Allocation	EDH/CP Water FCCs	All District FCCs	Total
WATER CIP							
03005E	EDH Water Facilities Master Plan	\$ 204,670		100%	\$ 204,670		\$ 204,671
04003E	Folsom Lake Temperature Control Device		15,156,542	33%		4,990,569	4,990,569
04004E	Monte Vista Tank Replacement	576,994		100%	576,994		576,995
04009E	Oakridge Pump Station		1,450,000	33%			1,450,000
05000E	Ridgeview Tank No. 2	2,400,000		100%	2,400,000		2,400,001
05002E	EDHWTP Expansion		21,188,483	33%		6,976,696	6,976,696
05003E	Valley View Tank No. 2	150,000		100%	150,000		150,001
06010E	Water Master Plan Update		500,000	100%		500,000	500,001
06074E	Folsom Lake Raw Water Transmission Main		4,682,000	33%		1,541,634	1,541,634
06075E	Serrano Transmission Main		2,291,200	33%		754,420	754,420
06083E	Lake Hills Transmission Main		9,490,000	33%		3,124,756	3,124,756
06084E	EDHWTP Expansion to 31.5 mgd		34,950,000	33%		11,507,927	11,507,927
NEW	Promontory Water Tank	2,100,000		100%	2,100,000		2,100,001
NEW	Latrobe Rd Widening Phase II	2,200,000		100%	2,200,000		2,200,001
	Subtotal	\$ 7,631,664	\$ 89,708,225		\$ 7,631,664	\$ 29,396,001	\$ 37,027,665
	Total Water CIP (includes All District projects for the General District)	\$ 7,631,664	\$ 90,050,560				
	Reallocation of "All District" CIP (includes 72% of All District FCCs)	\$ 64,836,403					
	Total Water CIP Allocation	\$ 72,468,067					
	Total Dual-Plumbed CIP Allocation	\$ 37,027,665					
	Percentage		51%				

Table 14: Summary of Proposed Dual-Plumbed Connection Water FCC

FCC Components	El Dorado Hills / Cameron Park
BUY-IN COMPONENT	
Existing Treatment, Transmission and Storage	
Fixed Assets & Valuation	\$ 126,923,013
Buildout EDUs	<u>28,846</u>
Potable Connection -- Buy in / EDU	\$ 4,400
Dual-Plumbed Fixed Assets Allocation (1)	0.33
Dual-Plumbed Connection -- Buy-in / EDU	\$ 1,452
WATER SUPPLY COMPONENT	
Water Supply Projects & Hydroelectric Fixed Assets	\$ 70,274,105
Water Supply AF	<u>17,000</u>
Water Supply Cost per AF	\$ 4,134
Demand AF/EDU	0.82
Potable Connection -- Water Supply / EDU	\$ 3,390
Dual-Plumbed Demand (2)	0.33
Dual-Plumbed Connection -- Water Supply / EDU	\$ 1,119
FUTURE CAPITAL PROJECTS COMPONENT	
Water CIP funded by FCCs	\$ 68,466,740
Future EDUs	<u>8,600</u>
Potable Connection -- Future Capital Projects / EDU	\$ 7,961
Dual-Plumbed Water CIP Allocation (3)	0.51
Dual-Plumbed Connection -- Future Capital Projects / EDU	\$ 4,060
TOTAL WATER FCC	\$ 6,631

Note: The total water FCC does not include the recycled water FCC

Facility Capacity Charges for Age-Restricted Communities

The District has had several requests for discounted FCCs for age-restricted communities. The topic was also raised in the FCC Task Force. The argument is that, on average, senior citizens place a lower burden on the utilities than the general public. Additional considerations regarding FCCs for age-restricted communities include:

Water System FCCs: Much of the water system is sized based on fire flow requirements which are no different for age-restricted housing. Sprinkler systems require very high flows regardless of age of occupants.

Wastewater System FCCs: Several studies have shown that age restricted developments have higher strength wastewater and require additional treatment as opposed to non-age restricted communities.

Finally, there is no guarantee that the age-restricted housing will not be converted to non age-restricted housing in the future. It would not be feasible to collect additional connection fees from the homeowners if the housing was converted.

Recommendation: As agreed upon by Task Force, any developer who had a substantial case for discounted FCCs for an age-restricted community would be able to bring it to the District Board of Directors for consideration on a case-by-case basis. Rates for age-restricted communities and low-income customers will be thoroughly evaluated in a comprehensive rate study later this year.

2008 Proposed FCCs Comparison to 2005 Adopted FCCs:

Several factors led to the overall increases in the proposed FCCs over the previous levels. From 2005 to the present, the fixed assets have increased at a higher rate than the EDUs they serve, due to regulatory requirements, and water supply costs have increased. The following describes in more detail the most significant changes for water, wastewater and recycled water.

Table 15: FCC Component Methodology Comparison

FCC Component	2008			2005		
	Buy-in	Incremental	Total Cost Attribution	Buy-in	Incremental	Total Cost Attribution
Water Supply			X		X	
Water Treatment and Transmission	X			X		
Water CIP		X				
Wastewater Collection and Treatment	X			X		
Wastewater CIP		X				
Recycled Water			X			X

Water

The most significant changes to the water FCC are the new service zones which combines El Dorado Hills and Cameron Park and the addition of an incremental component that incorporates the portion of the 5-year CIP that is allocated to new growth.

- Buy-in Component for Treatment, Transmission and Storage

In the 2005 study, the current value of fixed assets was determined using the replacement cost less depreciation method, and the net facilities value was divided by the number of existing EDUs. In the proposed 2008 FCC update, the value of fixed assets is calculated using the replacement cost method, and the net facilities value is divided by the number of existing and future EDUs to account for total capacity in the system. Additionally, to avoid double charging, the 2008 update excludes line and cover projects and transmission and distribution lines 5” and under from the fixed asset base.

For 2008, the buy-in component for El Dorado Hills/Cameron Park is \$4,400. This represents a 44 percent decrease for El Dorado Hills from the 2005 FCC buy-in charge and a 14 percent increase for Cameron Park from the 2005 FCC buy-in charge. The 2008 buy-in component for the General District is \$5,604, a 45 percent increase due to the shifting of the service zones to combine El Dorado Hills and Cameron Park. As a result, the number of EDUs for the General District decreased while the number of EDUs for El Dorado Hills/Cameron Park increased. Furthermore, overall the District has accrued additional fixed assets and work in progress projects as well as increased outstanding debt credits.

- Water Supply Component (Project 184)

The previous water supply FCC was calculated using the incremental method. Each zone was charged the same Water Supply fee. The 2008 FCC is calculated using the *total cost attribution method*. Water supply costs vary by zone based on actual demand.

Since the 2005 study, the District has added new projects to the hydroelectric CIP and project costs have been modified. Of the 40 projects included in the 2008 study, only seven projects were also included in the 2005 FCC. Additionally, projects have been reallocated. Folsom to Bass Lake projects which totaled \$37,828,929 in 2005 have been shifted to the water system CIP.

Based on these changes, the water supply component for El Dorado Hills/Cameron Park has decreased 17 percent and the water supply component for the General District has decreased 35 percent.

- Future Water System Capital Projects Component

The addition of all water capital improvement projects to the FCC is a new component to the FCC and accounts for the largest increase in the water FCC. Since the 2005 study, the Folsom Supply Projects have been reallocated from the water supply FCC component to the water system CIP in the “All District FCCs” category. These projects include the Folsom Lake Temperature Control Device, the El Dorado Hills Water Treatment Plant Expansion and the El Dorado Hills Water Treatment Plant Expansion to 31.5 mgd.

Table 16: Water FCC Comparison

Area	2003 FCC	2005		2008	
		FCC	Increase since 2003	FCC	Increase since 2005
El Dorado Hills					
Buy-in for treat., trans. and storage	\$ 6,972	\$ 7,865	13%	\$ 4,400	-44%
New water supply projects	\$ 1,890	\$ 4,089	116%	\$ 3,390	-17%
Water CIP projects	<u>n/a</u>	<u>n/a</u>		<u>\$ 7,961</u>	<u>n/a</u>
Total	\$ 8,862	\$ 11,954	35%	\$ 15,751	32%
Cameron Park					
Buy-in for treat., trans. and storage	\$ 3,342	\$ 3,864	16%	\$ 4,400	14%
New water supply projects	\$ 1,890	\$ 4,089	116%	\$ 3,390	-17%
Water CIP projects	<u>n/a</u>	<u>n/a</u>		<u>\$ 7,961</u>	<u>n/a</u>
Total	\$ 5,232	\$ 7,953	52%	\$ 15,751	98%
General District					
Buy-in for treat., trans. and storage	\$ 3,342	\$ 3,864	16%	\$ 5,604	45%
New water supply projects	\$ 1,890	\$ 4,089	116%	\$ 2,646	-35%
Water CIP projects	<u>n/a</u>	<u>n/a</u>		<u>\$ 8,055</u>	<u>n/a</u>
Total	\$ 5,232	\$ 7,953	52%	\$ 16,305	105%

Wastewater

The most significant change to the wastewater FCC is the addition of an incremental component that incorporates the portion of the 5-year CIP that is allocated to new growth.

- Buy-in for Collection, Pumping and Treatment

In the 2005 study, the current value of fixed assets was determined using the *replacement cost less depreciation method*, and the net facilities value was divided by the number of existing EDUs. In the proposed 2008 FCC, the value of fixed assets is calculated using the *replacement cost method*, and the net facilities value is divided by the number of existing and future EDUs to account for total capacity in the system.

For the 2008 study, the wastewater buy-in component decreased 41 percent for El Dorado Hills due to fewer work in progress projects and a larger outstanding debt credit as the District took on additional debt since 2005. In contrast, the buy-in component charge increased 68 percent for Cameron Park, 62 percent for Mother Lode and 48 percent for the Satellites. The higher fees are the result of more work in progress projects and increased system reserves.

- Avoided Wastewater Cost Component

The 2008 avoided cost is adjusted based on the Engineering News Record 20-cities Construction Cost Index, resulting in a 9 percent increase to \$57,674,234.

- Incremental cost of water capital improvement projects

The addition of all water capital improvement projects to the FCC is a new component to the FCC and accounts for the largest increase in the water FCC. Approximately 93 percent of the wastewater capital projects for El Dorado Hills are attributed to the El Dorado Hills Wastewater Treatment Plant Phase III Expansion.

Table 17: Wastewater FCC Comparison

Area	2003 FCC	2005		2008	
		FCC	Increase since 2003	FCC	Increase since 2007
El Dorado Hills					
Buy-In treatment/collection	\$ 6,889	\$ 8,443	23%	\$ 4,967	-41%
Avoided Wastewater Cost	\$ 1,392	\$ 1,412	1%	\$ 1,538	9%
Wastewater CIP projects	<u>n/a</u>	<u>n/a</u>		<u>\$ 6,936</u>	<u>n/a</u>
Total	\$ 8,281	\$ 9,855	19%	\$ 13,441	36%
Cameron Park					
Buy-in treatment/collection	\$ 4,592	\$ 4,418	-4%	\$ 7,425	68%
Avoided Wastewater Cost	\$ 1,392	\$ 1,412	-1%	\$ 1,538	9%
Wastewater CIP projects	<u>n/a</u>	<u>n/a</u>		<u>\$ 486</u>	<u>n/a</u>
Total	\$ 5,984	\$ 5,830	-3%	\$ 9,449	62%
Motherlode					
Buy-in treatment/collection	\$ 6,002	\$ 6,246	4%	\$ 10,114	62%
Avoided Wastewater Cost	\$ 1,392	\$ 1,412	1%	\$ 1,538	9%
Wastewater CIP projects	<u>n/a</u>	<u>n/a</u>		<u>\$ 1,751</u>	<u>n/a</u>
Total	\$ 7,394	\$ 7,658	4%	\$ 13,403	75%
Satellites					
Buy-in treatment/collection	\$ 4,454	\$ 6,181	39%	\$ 9,120	48%
Wastewater CIP projects	<u>n/a</u>	<u>n/a</u>		<u>\$ 777</u>	<u>n/a</u>
Total	\$ 4,454	\$ 6,181	39%	\$ 9,897	60%

Recycled Water

The total 2008 recycled water FCC increased 2-percent from 2005. The most significant change to the recycled water FCC is that the FCC will also be charged to dual-plumbed homes in Cameron Park. Additionally, each of the recycled water components is divided by both existing *and* future EDUs. In the 2005 study, the avoided wastewater cost credit was divided only by future recycled EDUs.

- Total Cost Attribution for Fixed Assets and Recycled Water Capital Projects

The 2008 recycled water CIP is based on the Districts 2007-2011 capital improvement program totaling \$92,120,901, a 16 percent decrease from 2005. The number of EDUs to be served by recycled water. Based on current unit consumption figures, the total number of EDUs projected for 2025 has increased from 8,282 in 2005 to 12,349 EDUs in 2008. The 2005 study used dry year demand projections to calculate estimated EDUs and the 2008 study uses normal year usage projections as the District typically operates in a normal demand year. The increase in EDUs has resulted in a lower charge. The 2008 fixed assets and capital projects component decreased 31 percent decrease from the 2005 study.

- Avoided Wastewater Cost Credit

The 2005 avoided wastewater cost credit was calculated by dividing the avoided wastewater cost by the number of recycled water future EDUs. The 2008 study divides the recycled water credit by total EDUs to include both existing *and* future EDUs. Based on this adjustment, the 2008 avoided cost credit has decreased by 47 percent from 2005.

Table 18: Recycled Water FCC Comparison

Area	2003 FCC	2005		2008	
		FCC	Increase since 2003	FCC	Increase since 2007
El Dorado Hills					
Total Cost Attribution Component	n/a	\$ 13,279	%	\$ 9,223	-31%
Avoided Wastewater Cost Credit	n/a	\$(8,797)		\$(4,670)	-47%
Total	n/a	\$ 4,482	%	\$ 4,553	2%
Cameron Park					
Total Cost Attribution Component	n/a	n/a		\$ 9,223	
Avoided Wastewater Cost Credit	n/a	n/a		\$(4,670)	
Total	n/a	n/a		\$ 4,553	

It is quickly apparent from the tables that FCCs have been on the rise, and the proposed schedule reflects that trend. In general, construction costs and costs associated with required environmental studies and mitigation—mostly in the form of unfunded state and federal mandates—have increased substantially over the past several years. Between 2003 and 2005, construction costs alone increased 11 percent, and since they rose an additional 8 percent, according to the *Engineering News Record Construction Cost Index*.

As would be expected, the proposed water and wastewater FCCs have increased based on the rising costs of construction and increased costs associated with the Project 184 water supply. The primary reasons for these increases center around the restructuring of the calculation to now capture future capital project costs as well as the values for the District’s current assets. FCCs are paid by new customers borne by new development.

Table 19: Summary of 2008 Proposed FCCs

FCC	Component	2008 FCCs			
		EDH	Cameron Park	General District	
				Mother Lode	Satellites
WATER	1). Buy-in for Existing Treatment, Trans, Storage & Gen. Facilities <i>Fixed Assets</i> <i>Existing + Future EDUs</i>	\$4,400	\$4,400	\$5,604	\$5,604
	2). Water Supply <i>Water Supply Cost</i> <i>Water Supply Capacity</i>	3,390	3,390	2,646	2,646
	3). Future Water CIP <i>Other Water CIP Funded by FCCs</i> <i>Future EDUs</i>	7,961	7,961	8,055	8,055
	Total Water FCC	\$15,751	\$15,751	\$16,305	\$16,305
WASTEWATER	1). Buy-in for Collection, Pumping & Treatment <i>Fixed Assets</i> <i>Existing + Future EDUs</i>	\$4,967	\$7,425	\$10,114	\$9,120
	2). Avoided Wastewater Cost From Recycling <i>Avoided Cost</i> <i>Existing + Future EDUs</i>	1,538	1,538	1,538	0
	3). Future Wastewater CIP <i>Wastewater CIP Funded by FCCs</i> <i>Future EDUs</i>	6,936	486	1,751	777
	Total Wastewater FCC	\$13,441	\$9,449	\$13,403	\$9,897
RECYCLED WATER	1). Recycling Fixed Assets + Future CIP <i>Total Cost of Recycling</i> <i>Existing + Future EDUs</i>	\$9,223	\$9,223		
	2). Avoided Wastewater Cost Credit to Recycling <i>Avoided Costs Shifted to Wastewater</i> <i>Existing + Future EDUs</i>	(4,670)	(4,670)		
	Total Recycled Water FCC	\$4,553	\$4,553		
TOTAL PER EDU	Potable Water Connection	\$29,192	\$25,200	\$29,708	\$26,202
	Dual-Plumbed Water Connection (1)	\$24,625	\$20,633		

(1) 2008 dual-plumbed water FCC= (33% of potable buy-in component + 33% of potable water supply component+ 51% of future water capital projects component) + 100% of recycled water FCC+ 100% of wastewater FCC

Note: General District refers only to the Water FCC

