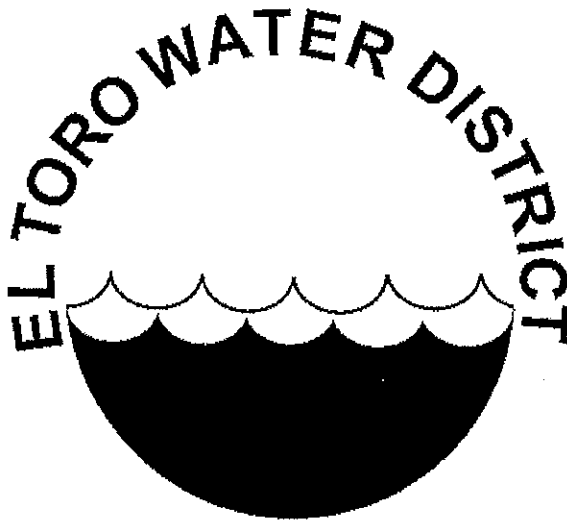


**FY 2005/06 BUDGET  
REVENUE AND RATES  
ENGINEERING REPORT**



**June 2005**



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June 14, 2005

Mr. Michael P. Grandy  
Assistant General Manager/Chief Financial Officer  
El Toro Water District  
24251 Los Alisos Blvd.  
El Toro, California 92630

Subject: Revenue and Rates Methodology

Dear Mr. Grandy:

Raftelis Financial Consultants (RFC) has reviewed the methodology for unbundling the water and wastewater charges that the District is proposing to implement for the FY 2005-06.

We believe that the revised methodology will better convey the costs of receiving service to end users. The methodology is reasonable and equitable in allocating costs among customer classes. The design of the Capital Replacement and Refurbishment Charges (CRRC) to different classes will be a new item included in the bill to customers to cover the costs of the District's capital improvement program. The CRRC are reasonably designed to equitably recover the costs of the District's capital costs.

If we can be of further assistance please call me.

Sincerely,

Sudhir Pardiwala  
Vice President

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## **INTRODUCTION**

As the District's facilities age, the District continues to make a concerted effort to replace and refurbish its infrastructure to protect its investment, meet regulatory guidelines and ensure an adequate level of service to its users. The Capital Replacement and Refurbishment Program (CRRP) is designed to protect the District's investment in its infrastructure. To minimize financial impacts to customers the collection of capital costs will be phased over time in conjunction with the prudent use of reserves to balance revenues and expenses.

In the course of the development of the FY 2005/06 El Toro Water District Budget and the analysis of rates and rate revenue, the District has elected to unbundle certain components of the water and sewer billing. The unbundling of rates will convey to users the true costs of various service components and continue to equitably pass on the costs of services to users. The El Toro Water District purchases all of the water distributed to its customers from the Municipal Water District of Orange County (MWDOC). The unbundling of current charges breaks down the water usage charge to distinguish between pass through MWDOC costs and local delivery costs. In addition the existing and on-going CRRP costs for water and sewer are itemized separately. This report provides a discussion of the basis for charging customers fairly and equitably.

## **NEW RATE STRUCTURE**

To better understand the changes to the rate structure it will be useful to review the current and proposed bills. The current bill includes the following line items:

- Water Service Charge (Fixed Meter Fee based on size of meter)
- Water Usage Charge (Based on Consumption at \$1.32 per ccf)
- Sewer Service Charge (Flat Rate for Residential, Flow Based for Non-Residential)
- Total Current Charges
- Miscellaneous Charges
- Previous Balance
- Total Amount Due

The proposed bill will include the following line items for water:

- Water O&M Charge

This line item includes costs related to billing, customer service and demand charges, i.e., operations and maintenance (O&M) costs related to meeting peak demands of customers. This is a fixed charge based on meter size and is the same as the current water service charge.

- Water Usage Charge

The current total Water Usage Charge has been unbundled and is the sum of the Purchased Water Cost (\$1.16/ccf) and the Water Delivery Cost (\$0.16/ccf) and remains unchanged, in total, at \$1.32 per ccf.

- Purchased Water Charge

- Municipal Water District of Orange County (MWDOC) – Imported Water Purchase Costs

This line item is intended to pass through the cost to purchase water from MWDOC. The rate is set at \$1.16 per ccf for FY 2005/06 which represents the total cost to purchase water through MWDOC. The District has little control over this cost. The monthly Purchased Water Charge will vary depending on the amount of water used by each customer.

- Water Delivery Charge

- El Toro Water District – Delivery Cost

This line item represents the remaining portion of the existing Water Usage Charge. This line item defines the ETWD variable cost to deliver the imported water to the customers including the balance of the O&M costs related to the pipelines, reservoirs, and a portion of the District's administrative costs. The delivery cost for FY 2005/06 is \$0.16 per ccf.

- Capital R&R Charge – Water System

The District has elected to break out the cost of its recurring Capital R&R Program (CRRP) on the bill. This line item will be a flat monthly charge, based on meter size, on each bill to fund the water portion of the capital program. The derivation of the monthly water Capital R&R Charge is described below.

- Total Water Bill

This is the sum of the Water O&M Charge, Water Purchase Charge, the Water Delivery Charge and the Capital R&R Charge.

The proposed bill will include the following line items for sewer:

- Sewer O&M Charge

This line item includes costs related to billing, customer service and operations and maintenance costs related to the collection, treatment and disposal of sewage. This charge will remain the same as the current sewer service charge.

- Capital R&R Charge– Sewer System

The District has elected to break out the cost of its recurring CRRP on the bill. This line item will be a flat monthly rate on each bill to fund the sewer portion of the capital program. The derivation of the monthly sewer Capital R&R Charge is described below.

- Total Sewer Bill

The total sewer bill is the sum of the sewer O&M charge and sewer Capital R&R Charge.

Finally, the proposed bill will include the following line items similar to the current version:

- Miscellaneous Charges
- Previous Balance
- Total Amount Due

## **CAPITAL R&R CHARGES**

As described above, the District has elected to unbundle its service charge and place a separate water and sewer Capital R&R Charge as line items on the bill to fund the District's on-going water and sewer CRRP. The CRRP budget for FY 2005/06 is \$1,875,000. Staff evaluated the water and sewer components for the ten year CRRP projection and used the proportionate water and sewer costs to allocate the FY 2005/06 Budget to water and sewer as follows:

	Ten Year Total	FY 2005/06 Allocation
Water Capital	\$6,471,023	\$661,534
Sewer Capital	\$11,869,940	\$1,213,466
Total Capital	\$18,340,963	\$1,875,000

The Capital R&R Charges placed on the bill will generate new revenue and will therefore be similar in effect to a rate increase. It is the District's intent to keep the total impact to the customer base in FY 2005/06 less than ten percent. In order to keep the financial impact below ten percent, the portion of the total capital cost to be funded from the Capital R&R Charge line items in FY 2005/06 was reduced from \$1,875,000 to \$1,325,000. The balance of the funds necessary to finance the FY 2005/06 CRRP will be funded through ETWD reserves. The Capital R&R Charges will be increased in subsequent years to cover the full cost of the program. The FY 2005/06 capital costs have been proportionately allocated to water and sewer based on the water and sewer costs from the ten year plan as described in the following table:

	FY 2005/06 Allocation	FY 2005/06 Capital R&R Charge Revenue
Water Capital	\$661,534	\$467,000
Sewer Capital	\$1,213,466	\$858,000
Total Capital	\$1,875,000	\$1,325,000

### **Water Capital R&R Charge**

The water Capital R&R Charge is based on meter sizes. The Cost of Service analysis previously used to define the fixed meter fee (Water O&M Charge) assigned equivalent meter factors based on hydraulic capacity and an analysis of actual consumption for each meter size. The equivalent meter factors are described in the following table. The total number of equivalent meters is calculated by multiplying the meter quantity for each meter size by the appropriate equivalent meter factor:

Meter Size	Equivalent Meter Factors	Meter Quantity	Total Equivalent Meters
5/8	1	2,375	2,375
3/4	1	4,869	4,869
1	1.67	437	730
1 1/2	4.06	698	2,834
2	10.19	1,421	14,480
<b>Total</b>		<b>9,800</b>	<b>25,288</b>

The annual charge per equivalent meter is calculated by allocating the total cost for the water portion of the CRRP to each equivalent meter as follows:

$$\$467,000 / 25,288 = \$18.47 \text{ per equivalent meter}$$

The water Capital R&R Charge is determined for each meter size proportionately based on the number of equivalent meters. The annual Capital R&R Charge for any size meter is derived by multiplying the annual charge per equivalent meter by the equivalent meter factor for that meter size. For example, the annual charge for a 1" meter size was calculated per the following formula:

$$\text{Equivalent Meter Factor for 1" Meter} \times \$18.47 = \text{1" Meter Capital R\&R Charge}$$

$$1.67 \times \$18.47 = \$30.84$$

The derivation of the charge for each meter size and the total annual and monthly charges are defined in the following table:

Meter Size	Equivalent Meters Factor	Number of Meters	Annual Capital R&R Charge Per Meter	Monthly Capital R&R Charge Per Meter	Total Annual Capital R&R Charge
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5/8	1	2,375	\$18.47	\$1.54	\$43,890
3/4	1	4,869	\$18.47	\$1.54	\$89,979
1	1.67	437	\$30.84	\$2.57	\$13,477
1 1/2	4.06	698	\$74.99	\$6.25	\$52,350
2	10.19	1,421	\$188.21	\$15.68	\$267,375
<b>Total</b>		<b>9,800</b>			<b>\$467,072</b>

### ***Sewer Capital R&R Charge***

The variety of applications, sewer return factors, and wastewater strengths makes it unreasonable to develop Capital R&R Charges based on meter sizes and the equivalent meter method. For purposes of equitable allocation amongst the various sewer users a different concept was required.

The sewer Capital R&R Charge is based on dwelling units in a manner similar to the current assessment of the Sewer O&M Charge for much of the residential community. For this purpose, users are divided into residential and non-residential classes. Dwelling unit data was initially tabulated for each of the residential customer classes.

A Single Family Residence (SFR) is considered a fairly homogenous class in terms of flow and strength of wastewater discharge. An SFR is considered as one equivalent dwelling unit (EDU). There are 5,673 single family residences which represent 5,673 EDUs. Residential customers other than Single Family Residences are compared to a single family residence and defined in terms of EDUs. Sewer charges may be used to define EDUs by comparing the service charges for other users to those of a single family residence.

Leisure World, the restricted Trailer Park class and the restricted and unrestricted Multi Family class have a lower residential density than the Single Family class. The Sewer O&M Charge is lower for these classes than for the SFR class in deference to the lower density and the accompanying lower rate of sewer discharge. The EDUs for these developments are therefore proportionately reduced based on the ratio of the applicable Sewer O&M Charge flat rate to the standard single family rate. The revised EDU counts in Leisure World the Multi-Family class and the Restricted Trailer Park class are calculated as follows:

Leisure World	$12,736 \times 13.30 / 16.60 = 10,204$ EDUs
Trailer Parks Restricted	$585 \times 13.30 / 16.60 = 469$ EDUs
Multi-Family Restricted	$1,600 \times 13.30 / 16.60 = 1,282$ EDUs
Multi-Family UnRestricted	$2,541 \times 15.80 / 16.60 = 2,419$ EDUs

Non-residential classes including Commercial and Public Authority classes are billed monthly for sewer based on wastewater flow. In order to fairly allocate capital R&R cost to these classes, an analysis was conducted of the total sewer billing for each meter size by class; this simplifies implementation of the CRRC for non-residential classes. The sewer billing captures such variables as type of business and return to sewer factors based on potential irrigation components of combined meters. A ratio of the total sewer billing for each meter size relative to the monthly residential sewer O&M Charge flat rate of \$16.60 was used to develop the EDUs for each meter size within the Commercial Class. An example of the formula to derive the EDUs for a 5/8" meter size demonstrates the method:

Annual Sewer Billing for 5/8" Meters / 12 / Number of Accounts / Residential Flat Rate = Ratio

$$\$5,240 / 12 / 17 / \$16.60 = 1.55$$

The total number of EDUs for each meter size is then derived by multiplying the ratio by the number of accounts for that meter size. The following table describes the development of EDU data for the Commercial Class:

Meter Size	Number of Accounts	Annual Sewer Billing	Total Monthly Sewer Billing	Average Monthly Sewer Billing	Ratio to Residential Flat Rate	Equivalent Dwelling Units
5/8	17	\$5,240	\$437	\$25.69	1.55	26
3/4	95	\$38,791	\$3,233	\$34.03	2.05	195
1	124	\$82,350	\$6,863	\$55.34	3.33	413
1 1/2	178	\$253,565	\$21,130	\$118.71	7.15	1,273
2	223	\$806,220	\$67,185	\$301.28	18.15	4,047
<b>Total</b>	<b>637</b>	<b>\$1,186,167</b>	<b>\$98,847</b>			<b>5,954</b>

Similar analyses were conducted for the Public Authority Class and the Leisure World – Golden Rain Foundation (GRF) Meters that are billed as part of the Commercial Class. The following tables provide the calculated EDUs for these classes:

#### Public Authority

Meter Size	Number of Accounts	Annual Sewer Billing	Total Monthly Sewer Billing	Average Monthly Sewer Billing	Ratio to Residential Flat Rate	Equivalent Dwelling Units
3/4	1	\$289	\$24	\$24.10	1.45	1
1	1	\$208	\$17	\$17.36	1.05	1
1 1/2	2	\$1,316	\$110	\$54.82	3.30	7
2	19	\$27,578	\$2,298	\$120.96	7.29	138
<b>Total</b>	<b>23</b>	<b>\$29,391</b>	<b>\$2,449</b>			<b>147</b>

## Leisure World – GRF

Meter Size	Number of Accounts	Annual Sewer Billing	Total Monthly Sewer Billing	Average Monthly Sewer Billing	Ratio to Residential Flat Rate	Equivalent Dwelling Units
1	2	\$993	\$83	\$41.38	2.49	5
1.5	2	\$4557	\$380	\$189.88	11.44	23
2	15	\$36,754	\$3,063	\$204.19	12.30	185
<b>Total</b>	<b>19</b>	<b>\$42,304</b>	<b>\$3,525</b>			<b>213</b>

After developing the EDU data for the non residential classes total EDU data was tabulated for the entire sewer customer base as shown below.

The monthly Capital R&R Charge per class is calculated proportionately based on the number of dwelling units per class in order to generate the total desired capital charge of \$858,000. The calculation is demonstrated as follows for the Single Family Residential customer class:

$$\text{EDUs for Class} / \text{Total EDUs} \times \text{Total Capital Cost} = \text{Class Capital R\&R Charge}$$

$$5,673 / 27,766 \times \$858,000 = \$175,302$$

The EDU data and the assessment of the total capital R&R cost per class are reflected in the table below:

	Living Units	EDUs	Monthly Capital R&R Charge	Total Annual Capital R&R Charge
Single Family Residential	5,673	5,673	14,609	175,302
Commercial	5,954	5,954	15,332	183,985
Condominium	1,015	1,015	2,614	31,365
Public Authority	147	147	379	4,542
Leisure World	12,736	10,204	26,277	315,315
Leisure World GRF	213	213	549	6,582
Trailer Parks Restricted	585	469	1,207	14,493
Trailer Parks Unrestricted	390	390	1,004	12,051
Multi Family Restricted	1,600	1,282	3,301	39,615
Multi Family Unrestricted	2,541	2,419	6,228	74,750
<b>Total</b>	<b>30,854</b>	<b>27,766</b>	<b>71,500</b>	<b>858,000</b>

The annual cost per dwelling unit is simply derived by dividing the total annual charge by the total number of EDUs resulting in an annual cost of \$30.90 per sewer EDU or a monthly cost of \$2.58 per EDU. The CRRC for each customer is established based on the class that customer fall into.

## SUMMARY

The District is revising its water and sewer rate structure to make its billing structure more understandable and fair to its users. To protect its infrastructure investment and to ensure a continuing high level of service to its users the District maintains a significant Capital Replacement and

Refurbishment Program. To minimize financial impacts to customers the collection of capital costs will be phased over time in conjunction with the prudent use of reserves to balance revenues and expenses.

The revised billing will break down the Water Usage Charge into a charge for purchased water and a charge for water delivery. The water portion of the new bill will also include a line item for partial collection of existing costs for the District's Capital Replacement and Refurbishment Program. The Water Capital R&R Charge will be based on meter size as follows:

Meter Size	Monthly Water Capital Replacement & Refurbishment Charge
5/8	\$1.54
3/4	\$1.54
1	\$2.57
1 1/2	\$6.25
2	\$15.68

The sewer portion of the monthly billing will consist of an additional line item to include the Capital R&R Charge for sewer service. For Residential customers the sewer Capital R&R Charge is:

Residential Class	Monthly Sewer Capital Replacement & Refurbishment Charge
Single Family Residential Condominiums Trailer Park Unrestricted	\$2.58
Leisure World Trailer Park Restricted Multi-Family Restricted	\$2.06
Multi Family Unrestricted	\$2.45

For Non-Residential customers the sewer Capital R&R Charge is:

Meter Size	Commercial	Public Authority	Leisure World GRF
5/8"	\$3.94	-	-
3/4"	\$5.29	\$2.58	-

1"	\$8.58	\$2.58	\$6.44
1 1/2"	\$18.42	\$9.01	\$29.61
2"	\$46.73	\$18.70	\$31.76