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TECHNICAL MEMORANDUM

To: David Dickson, General Manager, Coastside County Water District
Mary Rogren, Assistant General Manager, Coastside County Water District

From: John Farnkopf, Senior Vice President, HF&H
Rick Simonson, Vice President, HF&H

Date: May 17, 2016

Subject: Water Rate Update – FY 2016-17

This memorandum provides our recommendation for updating the District's water rates for FY 2016-17.

I. INTRODUCTION

Last year, HF&H assisted the District in updating its rates by performing a cost-of-service analysis to ensure that its rates allocated costs to each customer class in proportion to each class' demand on the District's facilities. The analysis also estimated the need to increase rates to ensure that revenue from rates was sufficient in light of the conservation anticipated from customers in response to the drought conditions.

Within the residential class, the quantity charges were restructured to conform with the cost of providing service across the tiers. The size of each tier was determined based on recent customer billing data from residential customer metered water use, which indicated the amount of demand within each range of base and peak demand. The rate per tier was determined based on costs attributable to providing service at each level of service ranging from low demand with minimal peaking for essential indoor needs to high peak demands for irrigation.

The results of the analysis completed last year realigned the rate structure with the cost of providing service. This realignment should remain accurate for several years unless there are significant changes in the relative demands among customer classes or

residential tiers, or changes in significant costs. Therefore, we do not recommend re-evaluating the methodology for determining the cost of service at this time. The rate increase that is needed this year to provide water service to District customers should be applied equally, across-the-board to the basic service charges and quantity charges.

Having made the cost-of-service adjustments to the rates for FY 2015-16, the rate update for FY 2016-17 can focus on overall revenue needs with any increase in rates applied uniformly to all rates.

II. FY 2016-17 REVENUE REQUIREMENTS AND RATE INCREASE

The revenue required from rates in FY 2016-17 depends on the revenue projected from rates compared with the projected revenue requirements. The variance between revenue from current rates compared with the revenue requirements impacts the fund balance as either a surplus or deficit. The resulting reserve balance is compared with the District's target balance. If the balance is high enough, a rate increase is not warranted.

Figure 1 summarizes the rate revenue projected for FY 2015-16, the revenue requirement, and the ending reserve balance. The FY 2015-16 projected rate revenue increase is anticipated to cover the District's costs without increasing reserves.

Figure 1 also summarizes the estimated year-end FY 2015-16 rate revenue, revenue requirement, and fund balance and the variance between last year's projection and the current year-end estimate. It can be seen that revenue from quantity charges was $710,000 less than projected because of greater than projected conservation by customers. Conservation was also responsible for reducing operating expenses and the cost of SFPUC water. In addition, the District spent less on capital projects. As a result, the revenue requirement was reduced $766,000. With an additional $153,000 in non-operating revenue, there was a net addition to reserves of $218,000.

Figure 1 also shows the projections for FY 2016-17. The $9,332,900 revenue projection is based on the current (FY 2015-16) rates and the projected demand for FY 2016-17, which is slightly greater than the estimated year-end demand for FY 2015-16. The $10,254,000 revenue requirement is greater than last year's projected net revenue requirement. As a result, a $921,000 operating shortfall is projected without a rate increase.

Figure 1. Summary of Rate Revenues, Revenue Requirements, and Fund Balances

	Projected FY 2015-16	Estimated FY 2015-16[a]	Est. Minus Proj. FY 2015-16	Projected FY 2016-17[b]
Rate Revenue				
Base Charges	$ 2,057,413	$ 2,066,962	$ 9,549	$ 2,066,962
Quantity Charges	7,806,504	7,096,238	(710,266)	7,265,938
Total Rate Revenue	**$ 9,863,917**	**$ 9,163,200**	**$ (700,717)**	**$ 9,332,900**
Revenue Requirement				
Operating Expenses	$ 5,199,401	$ 4,904,683	$ (294,718)	$ 5,192,590
SFPUC Water	2,871,946	2,530,000	(341,946)	2,637,789
Electricity	457,452	467,500	10,048	498,730
Debt Service	823,913	814,398	(9,515)	968,037
Capital Projects	1,630,000	1,500,000	(130,000)	2,073,000
Subtotal	$ 10,982,712	$ 10,216,581	$ (766,131)	$ 11,370,145
Less: Non-operating Revenue	(1,118,795)	(1,271,710)	(152,915)	(1,115,762)
Net Revenue Requirement	**$ 9,863,917**	**$ 8,944,871**	**$ (919,046)**	**$ 10,254,383**
Total Revenue Surplus/(Shortfall)	**$ -**	**$ 218,329**	**$ 218,329**	**$ (921,483)**
Percent of Total Rate Revenue				**-9.87%**
Beginning Reserve Balance	$ 2,342,000	$ 2,342,000		$ 2,560,329
Revenue Surplus/(Shortfall)	$ -	$ 218,329		$ (921,483)
Ending Reserve Balance	**$ 2,342,000**	**$ 2,560,329**		**$ 1,638,846**

[a] Estimated year end based on actuals through March 31, 2016.

[b] Rate revenue based on current FY 2015-16 rates and projected FY 2016-17 demand.

Without a rate increase, the $921,000 projected operating shortfall would reduce the District's unrestricted reserve balance to $1,638,000. In other words, an approximate 10% increase is required to avoid reducing reserves. A balance of $1,639,000 is greater than the District's current reserve target. In order to understand whether it is appropriate to allow reserves to decline, an evaluation was conducted of the District's reserves compared with industry standards, as described in the following section.

II. EVALUATION OF RESERVES

IIa. General

Water utilities maintain reserve funds to account for and manage sources of revenue. There are two general types of reserves: unrestricted and restricted reserves. **Figure 2** summarizes common types of reserves that water utilities may have, indicating the revenue source, the use to which the revenue can be put, and the priority for funding the reserve.

Figure 2. Common Types of Reserves

Types of Reserves	Revenue Source	Use of Revenue	Funding Priority
Unrestricted			
Operating	Rate revenue	Operations cash flow	Highest
Capital	Rate revenue	Cash-funded capital projects	High
Emergency	Rate revenue	Asset failure, disaster recovery	Lower
Stabilization	Rate revenue	Demand fluctuations	Lower
Replacement	Rate Revenue	Vehicles, equipment, IT	Lowest
Restricted			
Debt	Bond or loan proceeds	Debt-funded capital projects	Legally required
Retirement	Rate revenue	Pensions	Legally required
Development	Connection fees Developer contributions	Capital projects In-tract facilities	Legally required Legally required
Grants	Grants, matching funds	Specified by source	Legally required

Not all reserves are of equal importance. Higher priority reserves should be funded before lower priority reserves. Some lower priority reserves may not be needed because they are included in higher priority reserves. Restricted reserves are all high priority because they are legally required. Unrestricted reserves are established as needed. The types of unrestricted reserves and the target balances that are deemed appropriate for each unrestricted reserve depend on the utility's policy toward managing risk.

The following discussion is tailored to the needs of a utility of the District's size, customer base, and level of planned capital improvements. The discussion focuses on the unrestricted reserves, which is where the District has discretion in determining the types of reserves and the target balances. All utilities maintain at least one unrestricted reserve as the District does. Many utilities maintain separate reserves for operations and capital purposes. Some utilities maintain other reserves for emergencies, rate stabilization, and sometimes even for asset replacement for equipment or vehicles.

Moveover, because unrestricted reserves are typically funded by rate revenue, they are of primary interest in rate setting. Certain restricted reserves can be funded from rate revenue but are often funded from other sources such as proceeds from loans or bonds, connection fees, developer contributions, and grants, for example. The District has little discretion in determining the types of restricted reserves it needs because of the legal requirements associated with the funding sources.

IIb. Operating Reserve

Operating reserves serve multiple purposes ranging from monthly to annual cash flow management. On a monthly basis, the Operating Reserve provides working capital to cover the lag between when the District incurs operating expenses and when it receives revenue from customers. Providing adequate funding for Operating Reserves is the highest priority.

The amount of reserves needed for short-term working capital depend on the billing frequency. Whereas most of the District's expenses are incurred monthly, the District currently bills most of its customers bi-monthly, allowing 30 days for payment. Some large utilities conduct lead-lag time studies in which they monitor fluctuations in their account balance to estimate what their working capital requirements are. In most cases, a rule of thumb used by the California PUC is sufficient for determining the minimum working capital that is needed. The rule states that the allowance for working capital should equal 1.50 times the billing frequency. In the District's case, this equals three months or 90 days, which is roughly 25% of annual operating revenue.

Setting the target balance for the Operating Reserve at the working capital requirement is a minimal level of reserves. Rates should always be set to maintain at least this much in Operating Reserves. This level of Operating Reserves should provide sufficient liquidity for meeting monthly cash flow, which is not even during the year. Seasonal

variations in water demand and subsequent revenue from rate payers differs from the seasonal fluctuations in expenses.

The Operating Reserve also provides for a certain amount of annual cash flow needs, which can be affected by other conditions that are outside the District's control:

- Variances between projected and actual expenditures.
- Variances between projected and actual revenue, which is dependent on climate and water supply conditions and any associated conservation.
- Unpredictable changes in pass-through costs such as the cost of SFPUC purchased water, chemicals, and power.

The Operating Reserve may also have the ability to buffer these annual conditions without the need for rate increases. In this way, the Operating Reserve can be used to smooth rate increases from year to year.

IIc. Capital Reserve

The purpose of Capital Reserves is analogous to Operating Reserves. Capital Reserves are intended to provide working capital liquidity for making capital expenditures. Providing adequate funding for Operating Reserves is the next highest priority after the target balance is met for the Operating Reserve.

The amount of reserves needed for the Capital Reserve varies widely as an industry practice. We recommend limiting the target balance to provide working capital for projects that are funded from rate revenue only[1]. Debt-funded projects are usually provided for by a separate debt reserve, which is where the bond or loan proceeds are accounted for as well as any debt service reserve (i.e., one year's maximum debt service).

The reason there is no absolute standard for the amount of prudent capital reserves is there are many factors that should be considered in managing the risk exposure:

- The annual fluctuations in capital improvements.

[1] Projects funded from rate revenue are sometimes referred to as "pay-as-you-go" or "PAYGo" projects. By contrast, debt-funded projects are "pay-as-you-use" projects.

- The magnitude of the capital expenditures as a portion of the total revenue requirement.
- The utility's preference for funding capital improvements from cash instead of from debt.
- Uncertain regulatory requirements.
- The presence of large capital assets such as treatment plants.
- Uncertain bidding environment for construction projects.
- Policies toward asset management and the tolerance for asset failures, natural disasters, and other emergencies.
- The currency of facility master plans.

To provide working capital so that sufficient funds are available to pay contractors so that work can proceed without delay, we recommend a minimum target balance equal to an average annual capital expenditure based on the PAYGo projects projected over the coming five years. This target also provides a buffer from debt service payments, which are highest in July.

IId. Other Unrestricted Reserves

There are other possible unrestricted reserves that can be established once the higher priority Operating and Capital Reserves are fully funded.

Emergency Reserves help manage risks associated with sudden asset failures caused by emergencies such as natural disasters or human error. Emergency Reserves are a form of capital reserve that can provide a measure of self insurance so that immediate funding is available for disaster recovery until loans can be arranged and rates increased. The target balance for the Emergency Reserve can be targeted for a specific asset failure (e.g., treatment plant) or fixed dollar amount.

Stabilization Reserves help manage risks associated with revenue shortfalls due to unusually low water sales during climatic extremes. Stabilization Reserves are another form of Operating Reserve that can be funded from years of surplus revenue, which can be retained until needed. Because Stabilization Reserves are used to reduce the need for rate increases during periods of low water use, they should not be funded with rate increases. Instead, they should be funding from operating surpluses or non-rate revenue.

Replacement Reserves are a form of Operating or Capital Reserve that act as revolving funds for purchasing assets with relatively short service lives. Such funds may be helpful in managing budgets for equipment that should be replaced on a regular cycle.

IIe. Current District Policy

The District maintains a single unrestricted cash reserve fund for meeting its cash flow. The District maintains other restricted reserves for other purposes including $250,000, rate stabilization reserve, which is essentially functioning as a restricted debt reserve. This $250,000 restricted rate stabilization reserve is currently one-quarter of one year's loan $1,000,000 repayment.

The District's target balance for its Operating Reserve is 15% of operating revenue, which is currently about $1,500,000. The District's fund balance has historically exceeded this target balance.

The District does not maintain other unrestricted reserves. As such, the District's current policy of maintaining a single unrestricted reserve is very simple. In our experience, it is not uncommon for districts the District's size to have a simpler reserve structure.

IIf. Recommended Reserve Policy

Evaluating the appropriate size for the unrestricted reserves should consider the critical risks that could stress the District's financial ability to cover O&M and capital expenses. The target balances should reflect the funding needed to manage each risk taking into account the priority of each risk.

We recommend that the District create additional unrestricted reserves to help set and maintain the appropriate target balances. As we previously discussed, most utilities reach a point where separate Operating and Capital Reserves are needed. We believe the District would benefit by itemizing these reserves separately, which would not preclude it from also combining them as a total.

With a separate Operating Reserve, the District would have funds available to handle cash flow fluctuations as well as a certain amount of unplanned increases in SFPUC purchased water and power and chemicals at its treatment facilities. We recommend a

minimum target balance of 25% of operating *revenue*. Rates should always be set to stay above this minimum target balance.

We recommend that the District also create a separate Capital Reserve for PAYGo capital projects with a target balance of the average annual PAYGo projects identified in its facilities master plane, which is $3,000,000 per year. Unlike the minimum target balance for the Operating Reserve, the target balance for the Capital Reserve is not regarded as a minimum requirement. Rates do not have to be set to stay above this target in all years. Rates should be set to achieve this target balance within no more than five years but it is permissible to drop below the target.

By meeting the Capital Reserve target, however, the District is in the best position to not only provide for construction cost cash flow but also to provide for significant fluctuations in capital expenditures from year to year. A higher balance also provides a measure of funding for emergency recovery.

Figure 3 compares the District's current reserve policies and target balances with our recommendations. With respect to unrestricted reserves, the $5,500,000 recommended target is considerably greater than the current $1,500,000 target. The recommended target is also considerably greater than the estimated $2,560,000 June 30, 2016 fund balance. Furthermore without a rate increase in FY 2016-17, the estimated $1,638,000 fund balance (see **Figure 1**) is still slightly above the current $1,500,000 target but well below the minimum $2,500,000 recommended balance and far below the $5,500,000 target balance. In order to close the gap between the projected and recommended reserve balances, significant rate increases will be needed in the coming years.

We note also that the District's $250,000 restricted reserves for its current loan is only one quarter of an average year's $1,000,000 loan repayment. The purpose of a debt reserve is to provide funding to avoid defaulting on the loan if the District failed to make a loan payment. We recommend maintaining a full year's loan repayment if possible. Given the low state of the District's reserves at this time, setting rates to increase the reserves can only bolster its ability to avoid a default on its loan, even if it is infeasible to fully fund the full debt reserve.

Figure 3. Current and Proposed Reserve Policies

Types of Reserves	Current District Policy	Current Target Balance	Recommended Policy	Recommended Target Balance
Unrestricted				
Operating	15% of operating expenses	$1,500,000	25% of operating revenue	$2,500,000
Capital	Included in Operating Reserve	$0	Average annual PAYGo CIP	$3,000,000
Emergency	Included in Operating Reserve	$0	Defer funding until target balances are met for Operating and Capital Reserves	$0 for now
Stabilization	Included in Operating Reserve	$0		$0 for now
Replacement	Included in Operating Reserve	$0		$0 for now
		$1,500,000		$5,500,000
Restricted				
Debt	Limited to loan requirement	$250,000	Annual debt service	$1,000,000

III. RATE MODIFICATIONS

Given the $4,000,000 gap between the District's current policy and the recommended policy, it is clear that rate increases are warranted to close the gap over the coming years. As shown in **Figure 1**, a 10% increase is projected to hold reserves at their current level.

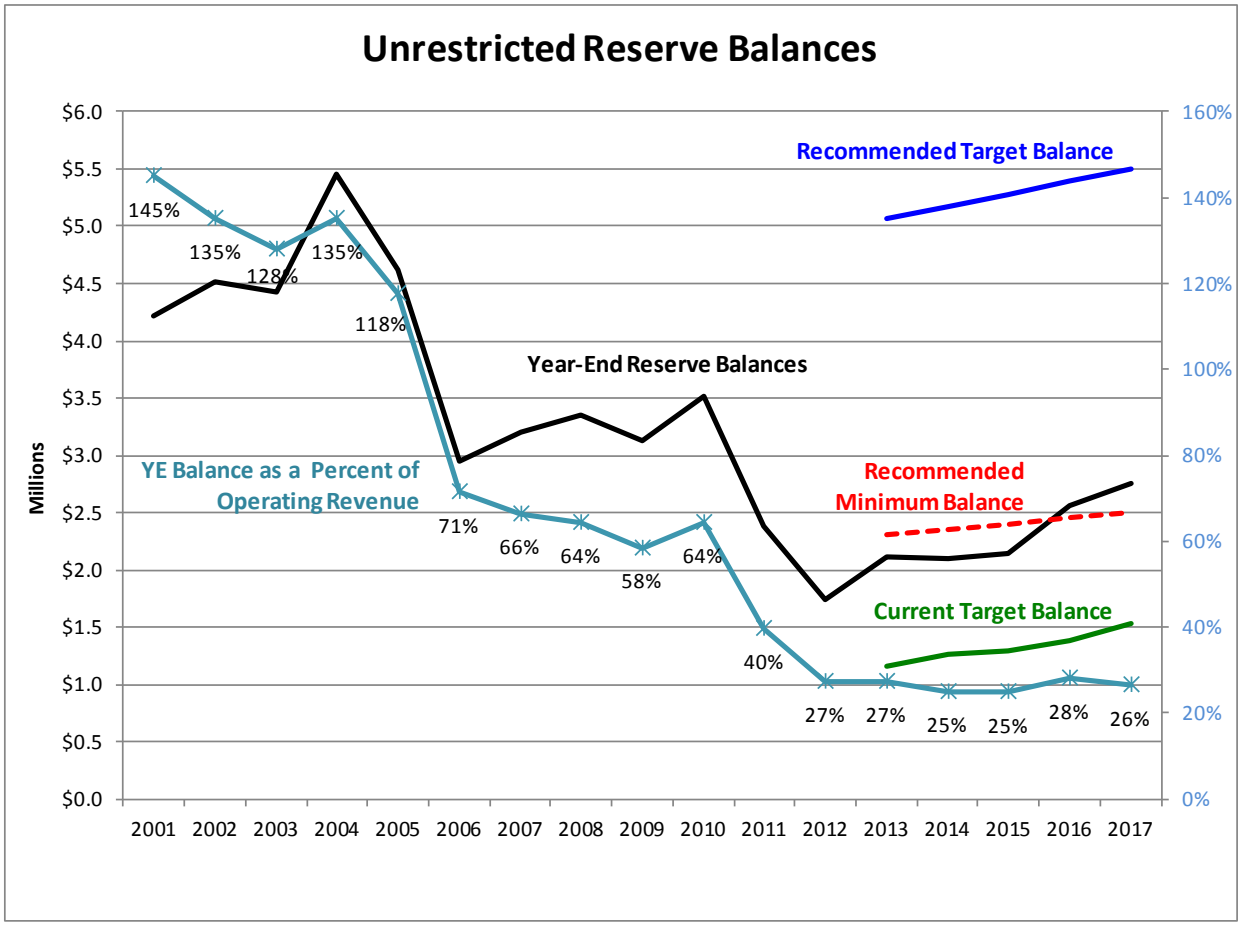
At the District's May 9, 2016 Board of Directors meeting, the Board authorized District staff to mail notices of a proposed 12% rate increase to rate payers as required by California Constitution Article XIIID, Section 6. By comparison with a 10% increase, a 12% increase will add $200,000 to reserves to a projected $2,800,000 balance by year-end FY 2016-17. This is a slight increase that can easily be justified because it maintains a reserve balance that at least slightly exceeds the $2,500,000 minimum recommend balance.

While far from the recommended $5,500,000 target balance, a 12% rate increase is headed in the right direction as shown in **Figure 4.** This graph shows the actual reserve balance since FY 2000-01 through the projected balance in FY 2016-17 with a 12% rate increase. The graph shows the current target balance and the recommended minimum and target balances. The District has a history of maintaining reserves that are comparable to the recommended $5,500,00 target balance. However, when the District's reserve was $5,500,000 in FY 2003-04, that reserve was 135% of the annual operating

revenue at that time. Now, if the District's reserves were at $5,500,000, that reserve would be 59% of the FY 2016-17 annual operating revenue.

We conclude by concurring with the Board's proposed 12% rate increase because (1) it should keep the reserve balance above the recommended minimum balance and (2) it should aim the reserves toward the target balance, which will take a number of years of rate increases to reach.

Figure 4. Reserve Balance and Targets



Source: CCWD 2001-2015 historical results; 2016 and 2017 are projections