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Capacity Fee Study

Walnut Valley Water District

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Executive Summary

Walnut Valley Water District (District) engaged IB Consulting, LLC (IBC) to complete a capacity fee nexus study for its water enterprise. This Capacity Fee Study Report (Report) describes the approach, methodology, and technical analysis used to derive updated capacity fees per California State Government Code, Section 66013 (GC 66013). GC 66013 allows an agency to charge the estimated reasonable infrastructure cost to serve a new connection for which the charge is imposed.

Currently, the District's water capacity fee includes three separate per acre charges that vary by development type. For residential, the charges are as follows: (1) Acreage Supply Charge at $1,465 per acre; (2) Reservoir Charge a per acre charge of $750 for residential (or) $300 for family unit or equivalent, $1,000 for commercial, and $1,613 for industrial; and (3) Water Supply Charge at $2,810 per acre. The District's capacity fees have not been updated in several years and have not been indexed annually to keep pace with the cost of construction. The updated capacity fee utilizes the Buy-In Method as the District service area is substantially built out.

The capacity fee structure in this Report moves away from a per acre basis to a fee schedule based on the new connection's meter size. Meter sizes reflect the additional capacity/demand placed on the water system from each new connection based on the safe maximum operating capacity in Gallons Per Minute (GPM), published by the American Water Works Association (AWWA).

The new proposed capacity fee is **$5,630** per 3/4" meter, with larger meters paying more for the additional capacity/demand they placed on the system. These updated fees proportionately recover new development's share of existing assets to continue improving and expanding the system at the same level of service existing customers receive today. Current customers expanding their capacity will also pay for the incremental increased demand placed on the water system.

Overview

Capacity Fee

A "Capacity Fee" is defined as a charge for public facilities in existence at the time a charge is imposed or charges for new facilities to be constructed in the future that is of benefit to the person or property being charged. Capacity fees ensure new development pays its fair share to connect to the system and does not cause additional burdens to current customers. Capital and infrastructure costs required to meet new demand/connections should be paid by those causing the cost to be incurred.

Based on the requirements of GC 66013, capacity fees must be based on the *"reasonable cost"* to accommodate additional demand from new development or the expansion of existing development. In addition, Proposition 26 amended the State Constitution in 2010, which redefined a "tax" as any levy, charge, or exaction of any kind imposed by a local government. However, there were seven exemptions within Proposition 26, including cost-based charges imposed as a requirement for service (i.e., capacity fees) so long as a reasonable relationship between the fees and cost of facilities are linked. Therefore, the nexus study summarized in this Report connects the proposed fee to the reasonable cost of improvements in compliance with the Proposition 26 exemption.

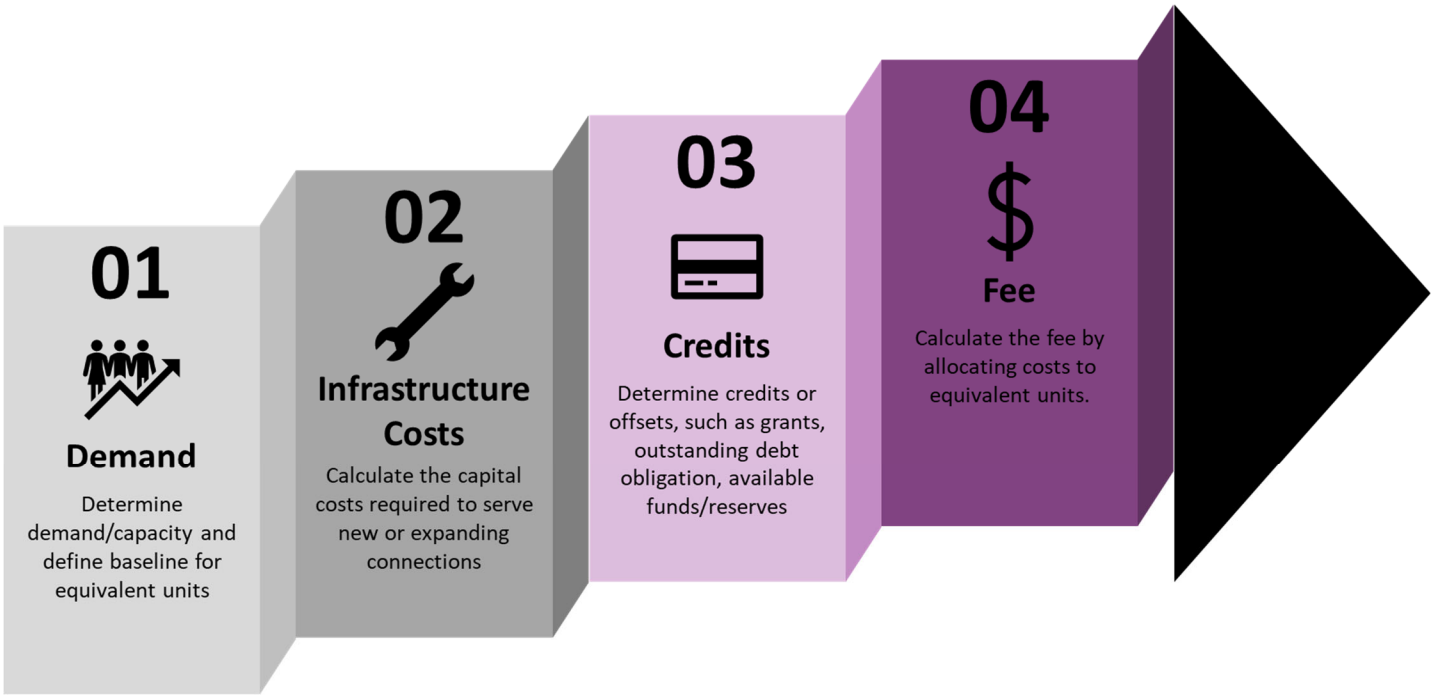
District Background

The District's service area is located approximately 20 miles east of Los Angeles in the San Gabriel Valley. It encompasses around 29 square miles and includes approximately 27,110 service connections, serving a population of almost 100k. This service area covers the City of Diamond Bar and portions of the Cities of Industry, Pomona, Walnut, West Covina, and unincorporated areas of Los Angeles County, including Rowland Heights. The District's service area is primarily a residential area with most commercial and industrial uses located within the City of Industry.

Capacity Fee Methodology

There are four primary steps in calculating capacity fees: (1) identify demand and define the baseline requirements for a connection, meter equivalent, or equivalent dwelling unit based on planning documents, (2) determine infrastructure costs, (3) incorporate any credits or offsets to apply towards the total infrastructure costs, such as grants, existing debt obligations, and available funding through previously collected capacity fees, and (4) apportion the net infrastructure costs equitably to various types of connections based on the demand placed on the utility system.

Figure 1 – Capacity Fee Analysis



In addition to the four steps above, there are two primary approaches for calculating capacity fees: the "Buy-In Approach" and "Incremental-Cost Approach." Selecting the best approach depends on the unique circumstances of the utility, such as existing build-out of the service area, expected future growth, existing infrastructure capacity, and access to up-to-date planning documents/master plans. Careful consideration may be required to allocate costs between existing and new customers and ensure no duplication of costs.

Buy-In Approach

The basis of the Buy-In Approach is the value of the existing system. This approach accounts for the current service standard that existing customers receive from the District's existing assets. This approach ensures that new development buys into the utility system and funds the necessary improvements to maintain and receive the same level of service experienced by today's customers. Therefore, new development pays an amount equal to their fair share of the system. The Buy-In Approach also eliminates any potential funding of existing system deficiencies as the District's current asset inventory only reflects improvements in the ground today.

System assets may be valued in a few different ways. Options include: (1) using the original cost of the improvements (OC), (2) original cost less depreciation of system assets to account for the time improvements are in service (OCLD), (3) replacement cost of the improvements by bringing the original cost into today's dollars (RC), and (4) replacement cost less depreciation which brings both the original cost and the accumulated depreciation value into today's dollars (RCLD). The most common valuation technique is RCLD. Using RCLD generates a system value based on today's cost of the improvements. We calculate RCLD using the Construction Cost Index (CCI), published by Engineering News-Record.

Figure 2 – Asset Valuation

Once the system value is determined, dividing the total value by total existing demand derives a value per unit of demand. Demand is commonly used for system design and planning. It is a primary driver for the system's current configuration and how it expands in the future. Using meter size and the corresponding meter capacity (water flow demand in gallons per minute) provides a means to derive a value per Meter Equivalent (ME).

This approach is suited for agencies that (1) have built most of their facilities in advance with only a minimal portion of facilities needed for build-out, (2) don't have an adopted long-term capital improvement plan, or (3) the "build-out" date is so far out in the future that it is difficult to project growth and required facilities accurately.

Incremental-Cost Approach

The Incremental-Cost Approach is based on the principle that new development should pay for improvements required to connect them to the system, including the need for any additional capacity and/or expansions. This approach is typically used when specific capital improvements are identified within planning documents for growth to occur. The Incremental-Cost Approach uses the District's most recent Master Plan to determine growth-related improvements. Projects associated with routine repair & replacement are not included. In addition, Master Plan improvements that are required to address existing deficiencies are excluded. Also, specific projects within the Master Plan may benefit both existing and new development. In these instances, new development only pays its proportionate share based on the demand or capacity taken from these projects.

Hybrid Approach

Another approach that may be used is the Hybrid Approach, which accounts for both a buy-in component and an incremental component. The Hybrid Approach is utilized when the existing system has available capacity and/or is substantially built while specific capital improvements within planning documents are clearly identified and needed to serve new development.

Recommended Approach

For this study, the updated capacity fees are based on a Buy-In Approach as the District is substantially built out, and the water system's backbone infrastructure is already built. Therefore, using the District's current assets to update the capacity fee correlates to the current level of service experienced today. The existing water system has sufficient capacity to serve new development now and into the future. The Buy-In Approach uses the Replacement Cost of assets Less Depreciation (RCLD).

Asset Valuation

RCLD Asset Value

The first step in determining the capacity fee using the Buy-In Approach is to determine the value of the existing system. As mentioned above, there are several methods of determining the current value of assets. This study utilizes the RCLD method of valuing the system. RCLD valuation is the most equitable and reasonable approach since it considers the time value of money and factors in the remaining useful life of each asset. To accomplish this, the District provided fixed asset records containing the original cost of each asset. Replacement costs were estimated by bringing forward the original costs to today's dollars to reflect the estimated cost if a similar asset were constructed today.

The original cost of each asset was indexed by the annual percentage change of the 20-cities CCI, published by the Engineering News Record. For 2021, the CCI value is 11,783. Accumulated depreciation was also indexed to maintain consistency with 2021 dollars. Subtracting the accumulated depreciation from the replacement cost yields the updated RCLD and reflects service standards in 2021 dollars. Table 1 shows the water assets and summarizes the original cost, replacement cost in 2021 dollars, accumulated depreciation in 2021 dollars, and assets adjusted for the 2021 depreciation (RCLD). Land values were not depreciated, and the replacement value is estimated by increasing the original acquisition costs by a 2% inflation limit in-line with Proposition 13 constraints on assessed values. The detailed asset listings are on file with the District.

Table 1 – Water Asset Replacement Cost Less Depreciation

Asset Category	Original Cost [A]	Replacement Cost (2021 $) [B]	Accumulated Depreciation [C]	Accumulated Depreciation (2021 $) [D]	RCLD (2021 $) [E] = B - D
Buildings	$6,909,936	$11,446,012	$3,336,667	$7,658,600	$3,787,412
Equipment & Other	$9,403,027	$12,658,608	$6,340,510	$9,274,951	$3,383,657
Hydrants	$9,276,304	$17,757,546	$3,788,120	$8,970,666	$8,786,880
Land	$4,898,310	$7,358,524	$0	$0	$7,358,524
Meters	$13,023,068	$17,935,788	$6,599,974	$10,591,522	$7,344,266
Pumping	$24,122,793	$36,412,906	$13,274,988	$23,797,681	$12,615,225
Reservoir	$57,941,739	$116,884,248	$41,994,894	$95,006,113	$21,878,135
Transmission/Distribution	$98,195,875	$218,791,807	$44,352,242	$118,757,501	$100,034,306
Wells	$2,546,375	$3,819,657	$1,664,450	$1,921,025	$1,898,632
Water Rights	$10,409,593	$12,535,701	$0	$0	$12,535,701
Total Assets	**$236,727,019**	**$455,600,798**	**$121,351,847**	**$275,978,058**	**$179,622,740**

Asset Value Adjustments

It is also important to identify any adjustments to the RCLD total asset value. For this study, adjustments are separated into four components: (1) Work-in-Progress, (2) Capital Related Reserves, (3) Banked Water, and (4) Debt Obligations. Below is a description of each component and how it affects the updated RCLD figure.

Work-in-Progress: Includes recently completed capital improvements that are not yet reflected within the District's most recent asset listing due to timing. These capital improvements are added to the asset value and reflect 2021 dollars.

Capital Related Reserves: Includes reserves that provide funding for system improvements, which increases the asset values of the corresponding category. Capital related reserves will increase the system's value as the cash equivalents on hand are available for capital spending.

Banked Water: A Joint Powers Authority between the District and Rowland Water District (known as the Puente Basin Water Agency or PBWA) periodically purchases additional water and banks the water for future use. The banked water is jointly owned between the two agencies. Banked water is similar to a reserve and generates a return on investment as the cost of buying water increases over time. Therefore, the current value of banked water is derived by taking the product of the total AF of banked water and the current price per acre-foot of purchased water. Total banked water equals 21,660.79 AF and half is owned by the District (10,830.40 AF)

Debt Obligations: Includes any outstanding debt obligations. The remaining principal is subtracted from the RCLD to reduce the value of the system as these liabilities funded improvements within the asset listings. The remaining debt obligations will be paid through rates.

The Buy-In component must deduct outstanding principal of debt; otherwise, new connections will pay twice as part of the capacity fees and debt payments through rates.

Table 2 summarizes the adjustments applied to the District's updated RCLD asset values.

Table 2 – Utility Net RCLD

Adjustments	Net Impact (Increase / Decrease)	Water System	Description
Work-in-Progress			
Capital Replacement	Increase	$7,865,933	Adds value to the system, but not yet captured within asset listing
Capital Improvement	Increase	$1,640,337	Adds value to the system, but not yet captured within asset listing
Work-in-Progress Total		**$9,506,270**	
Capital Related Reserves			
Capital Improvement Reserve	Increase	$533,098	Funding for system improvements
Replacement Reserve	Increase	$12,313,565	Funding for system replacement
Stored Water Reserve	Increase	$332,000	Available funding for additional water purchases
Project Reserve	Increase	$967,232	Available funding for specific projects
Remaining Bond Proceeds	Increase	$2,328,778	Available bond proceeds for capital projects from 2021A Bond Series
Capacity Fees	Decrease	($5,114,477)	Available funding from previously collected capacity fees
Capital Related Reserves Total		**$11,360,196**	
Banked Water			
10,830.40 AF (District's share)	Increase	**$8,436,878**	The current value of banked water equals total banked water times the current price. (10,830.40 AF x $779/AF = $8.4M)
Debt Obligations			
2021 Refunding Bonds – Series 2021A	Decrease	**($15,380,000)**	Remaining outstanding principal of debt

Capacity Fee Analysis

The potential demand on the water system is proportional to the potential flow through each meter. AWWA publishes each meter type's safe maximum operating capacity in GPM. Using the AWWA capacity information, an equivalency for each meter size is set based on a 3/4" meter's GPM. **Each meter's safe maximum operating flow capacity was divided by the base meter's safe operating flow capacity of 30 GPM to determine the equivalent capacity ratio. Total MEs are determined by multiplying the number of meters by the capacity ratios.** The utility's net RCLD is then divided by total MEs to derive a system value per ME. Table 3 provides a summary of the total MEs connected to the system.

Table 3– Existing Water Meter Equivalents

Meter Size	Number of Accounts [A]	AWWA Capacity (GPM) [B]	Capacity Ratio *(B ÷ 30)* [C]	Meter Equivalents *(A × C)* [D]
≤ 3/4"	23,167	30	1.00	23,167
1"	2,839	50	1.67	4,732
1 1/2"	538	100	3.33	1,793
2"	515	160	5.33	2,747
3"	0	320	10.67	-
4"	5	500	16.67	83
6"	30	1,000	33.33	1,000
8"	16	1,600	53.33	853
Total	**27,110**	**N/A**	**N/A**	**34,375**

The net RCLD asset value of the Water Utility is divided by total MEs to derive the updated Capacity Fee per 3/4" meter. Table 4 provides a summary for determining the updated capacity fee using the Buy-In Approach, including adjustments associated with work-in-progress, reserves, banked water, and outstanding debt.

Table 4 – Water Buy-In by Asset Category

Asset Category	RCLD [A]	Allocation Basis [B]	Units of Service [C]	$ / ME *(A ÷ C)* [D]
Asset Category				
Buildings	$3,787,412	MEs	34,375	$110.18
Equipment & Other	$3,383,657	MEs	34,375	$98.43
Hydrants	$8,786,880	MEs	34,375	$255.62
Land	$7,358,524	MEs	34,375	$214.06
Meters	$7,344,266	MEs	34,375	$213.65
Pumping	$12,615,225	MEs	34,375	$366.98
Reservoir	$21,878,135	MEs	34,375	$636.45
Transmission / Distribution	$100,034,306	MEs	34,375	$2,910.06
Wells	$1,898,632	MEs	34,375	$55.23
Water Rights	$12,535,701	MEs	34,375	$364.67
Asset Total	**$151,135,370**			**$5,225.33**
Adjustments				
Work-In-Progress	$9,506,270	MEs	34,375	$276.54
Capital Related Reserves	$11,360,196	MEs	34,375	$330.48
Banked Water	$8,436,878	MEs	34,375	$245.43
Debt Obligations	$15,380,000	MEs	34,375	($447.41)
Adjustment Total	**$22,123,620**			**$405.04**
Total				**$5,630.37**

Updated Capacity Fees

Table 5 summarizes the proposed water capacity fees by meter size, with the 3/4" meter set as 1 ME. Capacity fees for new connections increase as the size of the meter increases. The capacity ratios in Table 3 are used to express the capacity of larger meters in relation to the capacity of the utility's "base" meter size equal to 3/4".

Table 5 – Water Proposed Capacity Fee

Meter Size	AWWA Capacity Ratio [A]	Proposed Capacity Fee *(A x $5,630)* [B]
≤ 3/4"	1.00	$5,630
1"	1.67	$9,384
1 1/2"	3.33	$18,768
2"	5.33	$30,029
3"	10.67	$60,057
4"	16.67	$93,840
6"	33.33	$187,679
8"	53.33	$300,287

Each subsequent year, the District should adjust the capacity fees by applying the annual percentage change in the Engineering News-Record CCI to keep pace with inflation, coupled with a comprehensive update every five years.