Las Virgenes Municipal Water District

2023 Water, Recycled Water, and Sanitation Capacity Fee Study

REPORT / November 6, 2023

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November 6, 2023

Mr. Douglas Anders
Administrative Services Coordinator
Las Virgenes Municipal Water District
4232 Las Virgenes Road
Calabasas, CA 1302

Subject: Report for the 2023 Water, Recycled Water, and Sanitation Capacity Fee Study

Dear Mr. Anders,

Raftelis is pleased to provide this Water, Recycled Water, and Sanitation Capacity Fee Study report for the Las Virgenes Municipal Water District (District). The capacity fees presented in this report provide defensible and equitable water, recycled water, and sanitation capacity fees for new developments within the District's service area.

The major objectives of the study included:

- Updating the individual capacity fees charged by the District's water and sanitation utilities
- Updating the conservation fee that the District recovers as part of the water capacity fee
- Preparing a report describing the nexus between the capacity fees and future development for water, recycled water, and sanitation services

It has been a pleasure working with you, and we thank you and the District staff for the support provided during the course of this study.

Sincerely,

John Wright
Senior Manager

Richardson Irvine
Consultant

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Table of Contents

1. Executive Summary 8

1.1.1. Objectives of the Study 8

1.1.2. Definition of Terms 8

1.1.3. Proposed Water Capacity Fees 8

1.1.4. Proposed Sanitation Capacity Fees 8

2. Introduction 10

2.1. Study Background 10

2.1.1. District History and Service Territory 10

2.2. Economic and Legal Framework 11

2.2.1. Economic Framework 11

2.2.2. Legal Framework 12

2.3. Capacity Fee Calculation Methodologies 13

2.3.1. System Buy-in Approach 13

2.3.2. Capacity Buy-In Approach 14

2.3.3. Incremental Cost Approach 14

2.3.4. Hybrid Approach 15

2.3.5. Capacity Fee Calculation Approaches Used in the Study 15

3. Water Capacity Fee 17

3.1. Current Water Capacity Fees 17

3.2. Proposed Water Capacity Fees 17

3.2.1. Water Buy-In Component 17

3.2.2. Water Incremental Component 21

3.2.3. Conservation Component of the Water Capacity Fee 24

3.2.4. Conservation Buy-In Component 24

3.2.5. Conservation Incremental Component 28

3.2.6. Total Proposed Water Capacity Fee 29

4. Sanitation Capacity Fee 31

4.1. Current Sanitation Capacity Fees 31

4.2. Proposed Sanitation Capacity Fees 31

4.2.1. Sanitation Buy-In Component 31

4.2.2. Sanitation Incremental Component 36
4.2.3. Total Proposed Sanitation Capacity Fee 36
5. Capacity Fee Administration 38

Tables

Table 1 – Key Terms Used in this Report 8
Table 2 – Proposed 2023 Water Capacity Fees ($/Meter Size) 9
Table 3 – Proposed 2023 Sanitation Capacity Fees ($/ERU) 9
Table 4 - Current Water Utility Capacity Fees 17
Table 5 - Water Utility Asset Replacement Cost 18
Table 6 - Water Utility 5-Year Projection of Non-Growth CIP 19
Table 7 - Water Utility Cash Reserve Balances 19
Table 8 - FY 2022 Water Utility Debt Principal Balances 20
Table 9 - FY 2022 Water Utility Buy-In Asset Valuation 20
Table 10 - District Equivalent Residential Units 21
Table 11 – FY 2022 Water Utility Buy-In Component Calculation 21
Table 12 – Water Utility Future Growth-Related Capital Improvements 22
Table 13 - Water Demand Projection for FY 2020 – FY 2040 22
Table 14 – Calculation of Weighted Average Persons per Household 23
Table 15 – Calculation of Incremental ERUs 23
Table 16 – FY 2022 Water Utility Incremental Component Calculation 24
Table 17 - Recycled Water Utility Replacement Cost for Sole-Ownership Assets 25
Table 18 – Recycled Water Utility 5-Year Projection of Sole-Ownership Non-Growth CIP 25
Table 19 - District Share of JPA Sanitation and Recycled Water Assets 26
Table 20 - Summary of Shared JPA Sanitation and Recycled Water Assets 26
Table 21 – District Weighted Ownership Percentage for Single-Utility JPA Assets 26
Table 22 - Allocation of Shared District JPA Assets 27
Table 23 - Recycled Water Utility Share of District JPA Assets 27
Table 24 - Recycled Water Utility Asset Value 27
Table 25 - Recycled Water Utility Cash Reserve Balances 28
Table 26 – FY 2022 Conservation Buy-In Component Calculation 28
Table 27 - Recycled Water Utility Future Growth-Related Capital Improvements 29
Table 28 – FY 2022 Conservation Incremental Component Calculation 29

Table 29 – Proposed 2023 Water Capacity Fees ($/Meter Size) ... 30
Table 30 - Current Sanitation Capacity Fees ... 31
Table 31 - Sanitation System Replacement Cost for Sole-Ownership Assets ... 32
Table 32 - Sanitation Utility 5-Year Projection of Sole-Ownership Non-Growth CIP ... 33
Table 33 – District Share of JPA Sanitation and Recycled Water Assets ... 33
Table 34 - Summary of Shared JPA Sanitation and Recycled Water Assets ... 34
Table 35 - District Weighted Ownership Percentage for Single-Utility JPA Assets ... 34
Table 36 - Utility Allocation of Shared District JPA Assets ... 34
Table 37 - Sanitation Utility Share of District JPA Assets ... 34
Table 38 - Sanitation Utility Asset Value ... 35
Table 39 - FY 2022 Sanitation Utility Cash Reserve Balances ... 35
Table 40 - Sanitation Equivalent Residential Units ... 36
Table 41 - Sanitation Buy-in Component Calculation ... 36
Table 42 – Proposed 2023 Sanitation Capacity Fees ($/ERU) ... 37

Figures

Figure 1 - Formula for Equity Buy-In Approach ... 13
Figure 2 : Formula for Capacity Buy-In Approach ... 14
Figure 3 - Formula for Incremental Cost Approach ... 15
Figure 4 - Formula for Hybrid Approach ... 15

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1. Executive Summary

1.1.1. Objectives of the Study

In 2023, the Las Virgenes Municipal Water District (District) contracted with Raftelis to conduct a water, recycled water, and sanitation capacity fee study to develop updated capacity fees in accordance with the rules and regulations of California State Assembly Bill 1600 (AB 1600) and, more specifically, Government Code Section 66013. This report serves as formal technical documentation in support of modifications to the capacity fees for both the water and sanitation services, with a recycled water component included in the water capacity fee (referred to as the conservation component). The District's last Capacity Fee Study for water, recycled water, and sanitation services was completed in 2016.

The major objectives of the study included:

- Updating the individual capacity fees charged by the District's water and sanitation utilities
- Updating the conservation fee that the District recovers as part of the water capacity fee
- Preparing a report describing the nexus between the capacity fees and future development for water, recycled water, and sanitation services

1.1.2. Definition of Terms

The terms water, recycled water, conservation, and sanitation are used throughout this report. The definition of these terms is shown in Table 1.

Table 1 – Key Terms Used in this Report

Term	Definition
Water	Refers to the water utility which provides potable water service or the water capacity fee
Recycled Water	Refers to the recycled water utility that provides recycled water service.
Conservation	Refers to the recycled water components of the water capacity fee.
Sanitation	Refers to the sanitation utility that provides sewer service or the capacity fee for sewer service.

1.1.3. Proposed Water Capacity Fees

Table 2 shows the proposed water capacity fees developed as a result of the study. A detailed discussion of the process used to calculate the proposed water capacity fees is provided in Section 3 of this report.

1.1.4. Proposed Sanitation Capacity Fees

Table 3 shows the proposed sanitation capacity fees developed as a result of the study. A detailed discussion of the process used to calculate the proposed sanitation capacity fees is provided in Section 4 of this report.

Table 2 – Proposed 2023 Water Capacity Fees ($/Meter Size)

Meter Size	A	B	C	D	E = (A+B+C+D)	F	G	H	I
	2022 Water Buy-In Component	2022 Water Incremental Component	2022 Conservation Buy-In Component	2022 Conservation Incremental Component	2022 Total Water Capacity Fee	Proposed 2023 Total Water Capacity Fee	Currently Charged Water Capacity Fee	$ Change (Current vs. Proposed 2023)	% Change (Current vs. Proposed 2023)
3/4"	$13,149	$243	$2,177	$33	$15,602	$15,821	$15,091	$730	4.8%
1"	$21,915	$405	$3,629	$55	$26,004	$26,368	$25,085	$1,283	5.1%
1 1/2"	$43,831	$809	$7,257	$110	$52,007	$52,736	$50,069	$2,667	5.3%
2"	$70,129	$1,295	$11,612	$176	$83,211	$84,378	$80,047	$4,331	5.4%
3"	$153,407	$2,832	$25,401	$384	$182,025	$184,577	$174,862	$9,715	5.6%
4"	$276,133	$5,098	$45,722	$691	$327,644	$332,238	$314,745	$17,493	5.6%
6"	$701,290	$12,948	$116,119	$1,756	$832,113	$843,780	$799,338	$44,442	5.6%
8"	$1,227,257	$22,660	$203,208	$3,073	$1,456,197	$1,476,614	$1,398,834	$77,780	5.6%
10"	$1,840,885	$33,990	$304,811	$4,609	$2,184,295	$2,214,922	$2,098,245	$116,677	5.6%

Table 3 – Proposed 2023 Sanitation Capacity Fees ($/ERU)

District	A	B	C = A + B	D	E	F	G
	2022 Sanitation Buy-In Component	2022 Sanitation Incremental Component	2022 Total Sanitation Capacity Fee	2023 Proposed Sanitation Capacity Fee	Currently Charged Sanitation Capacity Fee	$ Change (Current vs. Proposed 2023)	% Change (Current vs. Proposed 2023)
U-1	$15,124	$0	$15,124	$15,336	$12,645	$2,691	21.3%
U-2	$15,124	$0	$15,124	$15,336	$12,645	$2,691	21.3%
U-3	N/A	N/A	N/A	N/A	$3,900	N/A	N/A
B	N/A	N/A	N/A	N/A	$3,900	N/A	N/A
D	$15,124	$0	$15,124	$15,336	$12,645	$2,691	21.3%

2. Introduction

2.1. Study Background

2.1.1. District History and Service Territory

The District is organized under the Municipal Water District Act of 1911 (California Water Code Section 71000). A five-member Board of Directors, each elected by geographic divisions, provides governance. Directors serve overlapping four-year terms, and every two years - concurrent with the installation of the newly elected board – they select Board Officers. The Board also selects a local representative from the District to serve on the Board of Directors of the Metropolitan Water District of Southern California. The District serves water, recycled water, and sanitation customers in Los Angeles County, and near the boundary with Ventura County, across an area of 122-square miles, including the cities of Agoura Hills, Calabasas, Hidden Hills, and Westlake Village.

Water Service

The District imports water from Metropolitan Water District of Southern California (MWD), one of the world's largest water wholesalers, and a smaller amount from the City of Simi Valley/Ventura County Waterworks District 8. It also has the ability to purchase water from the Los Angeles Department of Water and Power. Providing reliable water service to customers in elevated areas requires 25 storage tanks and 24 pump stations. The District also operates two wells in the Russell Valley Basin but treats this groundwater along with wastewater for recycled water production during high summer demand. The District is the sole owner and operator of all water utility assets.

The District, in conjunction with the Triunfo Water and Sanitation District (Triunfo), is a member agency of the Las Virgenes-Triunfo Pure Water Project Joint Powers Authority (JPA). The JPA is currently in the process of developing the Las Virgenes-Triunfo Pure Water Project. The Pure Water Project, which is projected to become operational in 2030, will use a "potable reuse" approach to produce water supplies that will allow both the District and Triunfo to reduce their dependence on water supplies from the State Water Project that are currently purchased from MWD.

Specifically, the Pure Water Project will thoroughly treat recycled water from the JPA's Tapia Water Reclamation Facility. The purified water will be distributed through a newly constructed pipeline to Las Virgenes Reservoir where it will blend with the existing imported water already in storage. All reservoir water will be retreated to drinking water standards at the Westlake Filtration Plant before it is safely delivered to homes and businesses and will include a method for brine disposal.

The Pure Water Project will not result in additional water supplies for the District. Instead, it will reduce the need to purchase water supplies from MWD. As a result, no costs for the Pure Water Project were included in the water, recycled water, or sanitation capacity fees discussed in this report.

Recycled Water Service

About 20 percent of the total water served to District customers is recycled water used to irrigate streetscapes, golf courses, school grounds, and other public and commercial landscapes. This recycled water is produced through extensive treatment of wastewater and is delivered through 66 miles of recycled water lines, three storage tanks, one reservoir, and four pumping stations. The JPA manages recycled water production.

Sanitation Service

The District provides sanitation services to most residents in its service area, with a system of 56 miles of trunk sewer lines and two lift stations which pump wastewater to the Tapia Water Reclamation Facility, operated by the JPA. The District co-owns sanitation assets with Triunfo for sanitation services. The JPA also operates the Rancho Las Virgenes Composting Facility, which processes the biosolids removed from wastewater during treatment for compost.

2.2. Economic and Legal Framework

For publicly owned water and sanitation systems, most of the assets are typically paid for by the contributions of existing customers through rates, charges, and taxes. In service areas that incorporate new customers, the infrastructure developed by previous customers is generally extended toward the service of new customers. Existing customers' investment in the existing system capacity allows newly connecting customers to take advantage of unused surplus capacity. To further economic equality among new and existing customers, new connectors will typically "buy into" the existing and pre-funded facilities based on the percentage of remaining available system capacity, effectively putting them on par with existing customers. In other words, the new users are buying into the existing system through a payment for the portion of facilities that have already been constructed in advance of new development.

2.2.1. Economic Framework

The basic economic philosophy behind capacity fees is that the costs of providing water and sanitation service should be paid for by those that receive benefit from the service. In order to create a fair distribution of the value of the system, capacity fees should reflect a reasonable estimate of the cost of providing capacity to new users and thus, not unduly burden existing users. Accordingly, many utilities make this philosophy one of their primary guiding principles when developing their capacity fee structure.

The philosophy that service should be paid for by those that receive benefit from the product is often referred to as "growth-should-pay-for-growth." This principle is summarized on page 200 of the Water Environment Federation publication, Manual of Practice No. 27 Financing and Charges for Wastewater Systems, 4th edition which states the following about capacity fees which are referred to as system development charges and SDCs in the quotations:

> *"System development charge proceeds are typically used to pay for capital projects related to growth and/or reimburse existing customers for past system capacity investments. Application of these fees assists the utility in implementing a "growth pays for growth policy and helps with future utility capital improvement planning."*
>
> *"Through the use of SDCs, costs associated with growth may largely be shifted to new customers over time, helping achieve intergenerational equity between customers."*

The importance of the growth pays for growth principle is emphasized on page 322 of the American Water Works Association publication *Manual of Water Supply Practices M1, Principles of Water Rates Fees and Charges, 7th Edition* which describes the objectives of capital financing program that features SDCs (i.e., capacity fees):

> *"A critical step in developing SDCs is to identify the objectives to be achieved by the SDC program, which might include some or all of the following:*
> - *Require new development to pay its own way - that is, "growth pays for growth."*
> - *Fund major system expansions.*
> - *Minimize debt or reduce the need for future debt.*
> - *Equitably recover capacity-related capital costs from current and future customers to achieve equity between the different generations of ratepayers (intergenerational equity).*
> - *Maintain an appropriate level of retained earnings and cash reserves to meet other capital needs of the system."*

2.2.2. Legal Framework

The District reserves broad authority over the pricing of water and sanitation capacity fees. The most salient limitation on this authority is the requirement that recovery costs on new development bear a reasonable relationship to the needs and benefits brought about by the development. Courts have long used a standard of reasonableness to evaluate the legality of capacity fees. The basic statutory standards governing water and sanitation capacity fees are embodied by Government Code Sections 66013, 66016, 66022 and 66023. Section 66013, in particular, contains requirements specific to pricing water and sanitation capacity fees:

> *"Capacity charge" means a charge for public facilities in existence at the time a charge is imposed or charges for new public facilities to be acquired or constructed in the future that are of proportional benefit to the person or property being charged, including supply or capacity contracts for rights or entitlements, real property interests, and entitlements and other rights of the local agency involving capital expense relating to its use of existing or new public facilities. A "capacity charge" does not include a commodity charge.*

Section 66013 also requires that:

- Local agencies must follow a process set forth in the law, making certain determinations regarding the purpose and use of the fee; they must establish a nexus or relationship between a development project and the public improvement being financed with the fee. The capacity fee receipts must be segregated from the general fund in order to avoid commingling of capacity fees receipts and the general fund.

Other relevant Government Code sections related to capacity fees are listed below. Raftelis is not a law firm and we do not practice law in the State of California. We recommend that all legal and regulatory requirements related to capacity fees be fully reviewed by the Department's legal counsel.

Government Code §§ 66016

- Requirement for a public meeting before levying a capacity fee
- Requirement that the capacity fee calculation be available prior to the public meeting

Government Code §§ 66017

- Specification of the effective date of capacity fees after adoption

Government Code §§ 66020

- Procedures for protesting adopted capacity fees

Government Code §§ 66022

- Procedures for the judicial review of capacity fees

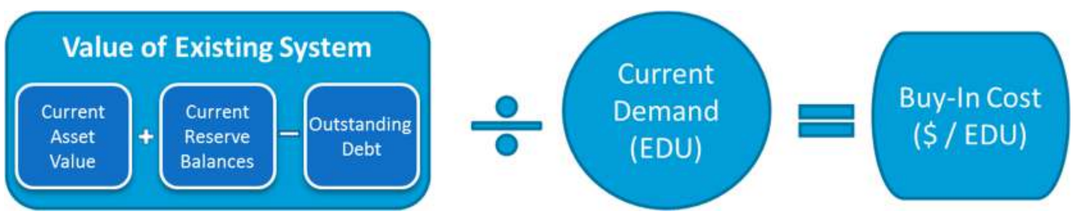
2.3. Capacity Fee Calculation Methodologies

2.3.1. System Buy-in Approach

The system buy-in approach rests on the premise that new customers are entitled to service at the same price as existing customers. However, existing customers have already developed the facilities that will serve new customers. Under this approach, new customers pay only an amount equal to the current system value, either using the original cost or replacement cost as the valuation basis and either netting the value of depreciation or not. This net investment, or value of the system, is then divided by the current demand of the system – number of customers (or equivalent units) – to determine the buy-in cost per EDU.

For example, if the existing system has 100 units of average usage and the new connector uses an equivalent unit, then the new customer would pay 1/100 of the total value of the existing system. By paying this capacity fee, the new connector has "bought" into the existing system. The user has effectively acquired a financial position on par with existing customers and will face future capital challenges on equal financial footing with those customers. This approach is suited for agencies that have capacity in their system and are essentially close to build-out. Figure 1 shows the framework for calculating the equity buy-in capacity fee.

Figure 1 - Formula for Equity Buy-In Approach



Asset Valuation Approaches

The first step in the system buy-in approach is to determine the asset value of the capital improvements required to provide services to new users. Under the system buy-in approach, the facilities have already been constructed. Therefore, the goal is to determine the value of the existing system/facilities. To estimate the asset value of the existing facilities required to furnish services to new users, various methods are employed. The primary methods commonly used to value a utility's existing assets are original cost and replacement cost.

- **Original Cost (OC)**. Original cost reflects the actual cost of a utility asset in the year of its construction or acquisition. The main advantage of the original cost valuation method lies in its relative simplicity and stability since the recorded costs are held constant over time. Because costs can change due to inflation, technological advancements, and other factors, there can often be a significant difference in the original cost of an asset versus its current replacement cost.

- **Original Cost Less Depreciation (OCLD)**. OCLD reflects the original cost of an asset less accumulated depreciation. Depreciation is the estimated loss in asset value due to wear and tear, decay, inadequacy, and obsolescence. OCLD is frequently referred to as net book value in financial accounting nomenclature.

- **Replacement Cost (RC)**. Replacement cost is the original cost of an asset escalated to current-day dollars. This provides an estimate of the current day cost of replacing existing utility facilities. Changes in the value of the dollar over time, at least as considered by the impacts of inflation, are reflected in a replacement cost asset valuation. If original cost records are available, a reasonable approximation of the replacement cost value of a utility asset can easily be ascertained through the use of cost indices to express utility assets in terms of current dollars.

- **Replacement Cost Less Depreciation (RCLD)**: This valuation methodology reflects the original cost of an asset escalated to current-day dollars *less* an estimate of the current value of accumulated depreciation. This results in a replacement cost valuation that reflects the remaining depreciable life of the asset.

2.3.2. Capacity Buy-In Approach

The capacity buy-in approach is based on the same premise as that for the system buy-in approach – that new customers are entitled to service at the same rates as existing customers. The difference between the two approaches is that in the capacity buy-in approach, the value of each major asset is divided by its capacity. It can be challenging to determine the capacity of each major asset may be problematic or not available. The system is designed for peak use and customer behavior fluctuates based on economic and weather conditions. Figure 2 shows the framework for calculating a capacity buy-in fee.

Figure 2 : Formula for Capacity Buy-In Approach

2.3.3. Incremental Cost Approach

The incremental method is based on the premise that new development (new users) should pay for the additional infrastructure capacity necessary to serve the new development. This method is typically used where there is little or no capacity available to accommodate growth and expansion is needed to serve the new development. Under the incremental method, growth-related capital improvements are allocated to new development based on their estimated usage or capacity requirements, The value of past investments in infrastructure made by existing customers is not considered.

For instance, if it costs X dollars ($X) to provide 100 additional equivalent units of capacity for average usage and a new connector uses one of those equivalent units, then the new user would pay $X/100 to connect to the system. In other words, new customers pay the incremental cost of capacity. As with the buy-in approach, new connectors will effectively acquire a financial position that is on par with existing customers. Use of this method is generally considered to be most appropriate when a significant portion of the capacity required to serve new customers must be provided by the construction of new facilities. Figure 3 shows the framework for calculating the incremental cost capacity fee.

Figure 3 - Formula for Incremental Cost Approach

2.3.4. Hybrid Approach

The hybrid approach is typically used where some capacity is available to serve new growth, but additional expansion is still necessary to accommodate new development. Under the hybrid approach the capacity fee is based on the summation of the existing capacity and any necessary expansions.

When using the hybrid approach, it is important that system capacity costs are not double counted when combining costs of the existing system with future costs identified in the utility's capital improvement program (CIP). CIP expenditures for the repair and replacement of the existing system should not be included in the calculation. Capital improvements that expand system capacity to serve future customers may be included in proportion to the percentage of the cost specifically required for expansion of the system. Figure 4 summarizes the framework for calculating the hybrid Capacity Fee.

Figure 4 - Formula for Hybrid Approach

2.3.5. Capacity Fee Calculation Approaches Used in the Study

Water Capacity Fee

The District's water system has the existing capacity to serve the majority of projected future growth. However, specific future growth-related capital projects are also required. Therefore, the hybrid approach was used to determine capacity fees for the water utility.

Conservation Component of the Water Capacity Fee

The District will continue to recover its recycled water capacity fee, referred to as the conservation fee, as part of the water utility capacity fee. The rationale for this method of cost recovery is that future water customers benefit from recycled water service because the availability of recycled water supply reduces demand on the potable water system. This increases the security of the water supply during periods of drought. Although there is a minimal amount of future growth-related recycled water capital projects, the hybrid approach was used to determine the recycled water conservation fee.

Sanitation Capacity Fee

The District's sanitation system has adequate capacity to serve projected growth without any future growth-related capital improvements. Therefore, the capacity buy-in approach was used to sanitation utility capacity fee.

3. Water Capacity Fee

3.1. Current Water Capacity Fees

Water capacity fees are currently charged by the District based on meter size. These fees consist of five components: construction (that is utility infrastructure), conservation, administration, meter cost, and installation. The study solely developed the basis for the construction and conservation components. Therefore, this report will not discuss the development of these components and all further references to water capacity fees should be assumed to only include the construction and conservation components.

The District intends to maintain the current structure of the water capacity fees. The current water capacity fees were implemented by the District in 2019. They have not been updated to account for inflation or changes in the system. Therefore, they are no longer reflective of new developments' share of the facilities. The current water capacity fees are shown in Table 4.

Table 4 - Current Water Utility Capacity Fees

Meter Size	Current Capacity Fee
3/4"	$15,091
1"	$25,085
1 1/2"	$50,069
2"	$80,047
3"	$174,862
4"	$314,745
6"	$799,338
8"	$1,398,245
10"	$2,098,245

3.2. Proposed Water Capacity Fees

3.2.1. Water Buy-In Component

As noted previously in Section 2 of this report, the proposed method for calculating the water capacity fee is the hybrid approach which consists of a buy-in and incremental component. The hybrid capacity fee calculation approach requires a determination of the current value of existing water utility assets for the buy-in component of the calculation and a determination of the present value of future growth related capital improvements for the incremental component of the calculation.

Valuation of Existing Water Utility Assets

The first step in determining the buy-in component of the hybrid capacity fee is to determine the value of the existing system. Replacement cost was used to estimate the current value of the water utility system. Replacement cost less depreciation (RCLD) was not used because our analysis revealed that some legacy assets have low recorded net book values in the District's fixed asset accounting system despite having been well-maintained, being fully operational, and providing significant value to the system. It was also determined that newer assets within these groupings would be over-depreciated, potentially artificially reducing the current value of the system if RCLD was used in the asset valuation.

Although the RCLD method was not used, Raftelis believes that it is appropriate to adjust the current replacement cost of water utility assets to reflect the wear and tear, decay, inadequacy, and obsolescence that is normally accounted for by deprecation. To do this, Raftelis determined the planned cost, in 2022 dollars, of non-growth system improvements contained in the water utility CIP over the five year period FY 2023 – FY 2027. As discussed below, the value of these system improvements was then subtracted from the estimates replacement cost of water utility assets.

Table 5 shows the estimated replacement cost of existing water utility assets as of 2022. To calculate the replacement cost, the District provided fixed asset accounting records as of June 30, 2022 (FYE 2022) showing the original cost of existing water system assets. The 2022 replacement cost was then estimated by adjusting the original asset cost values to reflect what might be expected if a similar facility were constructed today. This was done by escalating the original asset costs by a construction cost index. The Engineering News-Record's average Construction Cost Index for 20 cities (ENR 20-City Average CCI) is commonly used for this purpose. Raftelis used a 2022 CCI index value of 13,007.

Table 5 - Water Utility Asset Replacement Cost

Asset Category	Original Cost	Replacement Cost (2022)
Distribution/Transmission	$76,133,282	$195,812,306
Fire	$3,824,375	$8,099,747
General/Admin	$51,650,321	$273,169,228
Land	$6,800,726	$27,323,737
Meters	$14,645,316	$28,456,851
Pumping	$23,971,873	$44,054,197
Storage	$27,019,409	$37,722,486
Treatment	$21,860,574	$39,796,395
Total	**$225,905,875**	**$654,434,948**

The total water system replacement cost of $654,434,948 shown in Table 5 above represents the estimated cost of replacing the entire system in 2022 dollars. However, the replacement cost does not take into consideration the required repairs and maintenance to the system and essentially overstates the value of the system. To do this, Raftelis determined the planned cost, in 2022 dollars, of non-growth system improvements contained in the water utility CIP over the five year period FY 2023 – FY 2027. The value of these system improvements was then subtracted from the estimates replacement cost of water utility assets.

By reducing the replacement cost of existing water utility assets by the planned cost of non-growth system improvements over the next five years, the District acknowledges the system needs repairs and accounts for the use of the system by existing customers. Additionally, capital improvements are typically financed by those receiving benefit from the assets, in other words, the rate payers or water customers, and therefore, should not be recovered through capacity fees.

Table 6 provides a summary of planned water utility non-growth CIP as provided by Staff. The total of $43,701,292 in capital improvements (2022 dollars) is subtracted from the water utility system replacement cost value.

Table 6 - Water Utility 5-Year Projection of Non-Growth CIP

CIP Description	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Total
ADMINISTRATIVE	$1,600,340	$450,000	$1,210,000	$1,360,000	$250,000	$4,870,340
POTABLE WATER	$6,144,695	$5,304,627	$5,496,654	$5,427,247	$5,284,388	$27,657,611
PROGRAM EXPENSE OFFSET	($132,000)	($132,000)	($132,000)	($132,000)	($132,000)	($660,000)
PROGRAMS	$1,731,600	$2,534,080	$2,797,360	$2,499,160	$2,213,680	$11,775,880
RANCHO/FARM	$0	$0	$0	$0	$0	$0
RECYCLED WATER	$0	$0	$0	$0	$0	$0
SCADA	$0	($204,600)	($211,200)	($219,120)	($227,040)	($861,960)
SEWER/LIFT STATIONS	$601,000	$0	$0	$0	$0	$601,000
TAPIA	$0	$0	$0	$0	$0	$0
WESTLAKE	($280,779)	$355,000	$244,200	$0	$0	$318,421
Total (Uninflated - 2022)	**$9,664,856**	**$8,307,107**	**$9,405,014**	**$8,935,287**	**$7,389,028**	**$43,701,292**
Total (inflated - 2023)	**$9,800,368**	**$8,423,582**	**$9,536,882**	**$9,060,570**	**$7,492,630**	**$44,314,032**

Addition of Current Cash Reserve Balances to Water Utility Assets

The next component of the buy-in asset value determination is the addition of current cash reserves. Cash reserves are established and paid for by existing water service customers through water rates. They are typically used to help pay for necessary capital improvements as well as operating shortfalls or unforeseen expenditures. Adequate cash reserves help mitigate the water rate impacts customers experience due to expenditure fluctuations. Both existing and future customers benefit from cash reserves. As a result, upon connecting to the water utility system, new users should contribute their proportionate share to establish equity in current reserves. The water utility has operations, replacement, and water stabilization reserves, which were all included in the existing asset valuation. The reserve balances as of June 30, 2022, are shown below in Table 7 and total $46,033,409. The total of these reserves is added to the value of the assets.

Table 7 - Water Utility Cash Reserve Balances

Type of Cash Reserve	FYE 2022
Operations	$13,373,103
Replacement	$24,660,305
Water Stabilization	$8,000,000
Total Reserves	**$46,033,409**

Subtraction of Outstanding Debt Principal from Water Utility Assets

The final component of the buy-in asset valuation is the subtraction of the unpaid principal associated debt used to finance utility assets. New users will pay their share of any outstanding debt through water rates after joining the system. Therefore, the value of the system should be reduced by the amount of the outstanding principal. As of June 30, 2022, the water system had an outstanding balance of debt principal in the amount of $8,345,000**.** Table 8 shows a detail water utility outstanding debt principal.

Table 8 - FY 2022 Water Utility Debt Principal Balances

Year Ending June 30,	Principal	Interest	Total
2023	$975,000	$153,221	$1,128,221
2024	$995,000	$134,014	$1,129,014
2025	$1,010,000	$113,465	$1,123,465
2026	$1,030,000	$94,575	$1,124,575
2027	$1,050,000	$74,295	$1,124,295
2028-2030	$3,285,000	$96,866	$3,381,866
Total	**$8,345,000**	**$666,436**	**$9,011,436**

Summary of Water Buy-In Asset Valuation

Table 9 shows a summary of the final $648,422,065 valuation of the water utility assets for the buy-in component of the water capacity component.

Table 9 - FY 2022 Water Utility Buy-In Asset Valuation

Description	Amount
Replacement Cost Assets from Table 5 (+)	$654,434,948
Current Reserves Balance from Table 7 (+)	$46,033,409
Outstanding Debt Principal from Table 8 (-)	($8,345,000)
5-Year Non-Growth CIP from Table 6 (-)	($43,701,292)
Total Cost Basis	**$648,422,065**

Current Water Demand

The second step in determining the buy-in component of the hybrid capacity fee is to determine current water customer demand. Dividing the value of the system by customer demand provides a unit cost for the capacity fee. For water systems, capacity is usually expressed in meter equivalents, or Equivalent Residential Units (ERUs) rather than the number of service connections. The benefit of using meter equivalents is that it equates the relative capacity of service connections with meters of various sizes (i.e., accounts with the larger meters generating more demand).

Raftelis utilized consumption data provided by the District to determine the number of meters by meter size. Next, the American Water Works Association (AWWA) standards for maximum rated safe operating flow in gallons per minute (GPM) were used to determine the equivalent meter ratios. For each meter size there is a corresponding maximum safe operating capacity, which provides the basis for calculating the meter equivalency ratios (AWWA meter ratio). The typical single-family residential or base meter for the District is a 3/4" meter. The safe operating capacity of a 3/4" meter is 30 GPM. Capacity ratios for larger meters are calculated from this base meter flow and reflect their greater capacity in relation to the base meter. The formula below illustrates the calculation of the capacity ratio using the base meter and a 2" meter.

160 gpm (2" meter)/ 30 gpm (3/4" meter)= 5.33 3/4" meter equivalents

This ratio states that one 2" meter is the equivalent of 5.33 3/4" meters. This ratio is then multiplied by the total number of meters of that size to arrive at the equivalent residential units represented by meters of that size. Table 10 lists the District's meters by meter size and shows the calculation of the total equivalent residential units in FY 2022. The total estimated number of ERUs is 49,313 as shown in Column D of Table 10.

Table 10 - District Equivalent Residential Units

Meter Size	(A) 2022 Total Meters	(B) AWWA Operating Capacity (GPM)	(C) AWWA Equivalent Capacity Ratio	(D) = (A * C) 2022 Estimated ERUs
3/4"	16,633	30	1.00	16,633
1"	2,159	50	1.67	3,598
1 1/2"	592	100	3.33	1,973
2"	503	160	5.33	2,683
3"	41	350	11.67	478
4"	92	630	21.00	1,940
6"	151	1,600	53.33	8,053
8"	115	2,800	93.33	10,733
10"	23	4,200	140.00	3,220
Total	**20,309**			**49,313**

Calculation of the Water Capacity Fee Buy-In Component

Once the value of the system is assessed and the equivalent residential units are calculated, the buy-in component of the water utility capacity fee can be completed. The water utility's buy-in calculation is shown below in Table 11. The buy-in component of the water capacity fee, expressed in 2022 dollars, is $13,149 per ERU or 3/4" connection.

Table 11 – FY 2022 Water Utility Buy-In Component Calculation

Description	Amount
Replacement Cost Assets from Table 5 (+)	$654,434,948
Current Reserves Balance from Table 7 (+)	$46,033,409
Outstanding Debt Principal from Table 8 (-)	($8,345,000)
5-Year Non-Growth CIP from Table 6 (-)	($43,701,292)
Total Cost Basis	$648,422,065
ERUs from Table 10 (/)	49,313
Capacity Fee Buy-In Component	**$13,149**

3.2.2. Water Incremental Component

Future Water Expansion Capital Improvements

The incremental component of the capacity fee addresses the additional growth-related capacity additions necessary to serve the new development (i.e., the growth-related infrastructure necessary to serve demand growth). The first step in determining the incremental component of the hybrid capacity fee is to determine the present value of future growth-related capital expenditures. According to the District's CIP plan, the 2022 present value of these expenditures for the water utility is $1,103,565 as shown in Table 12.

Table 12 – Water Utility Future Growth-Related Capital Improvements

Asset Type	Future Growth CIP Cost (2022 Dollars)	Future Growth CIP Cost (2023 Dollars)
Pipe CIP	$1,103,565	$1,119,039
Storage CIP	$0	$0
Pumping CIP	$0	$0
Total	**$1,103,565**	**$1,119,039**

Addition of the Present Value of Future Debt Financial Interest

Many utilities finance growth-related capital expenditures with debt. The interest component of debt service payments increases the total construction cost. For this reason, under the incremental approach, the present value cost of planned growth-related capital costs is often increased by the present value of interest payments. The District does not anticipate financing future water utility growth-related capital expenditures using debt. Therefore, there is no debt-related addition to the cost of future growth-related assets.

Incremental Water Demand

The next step in determining the incremental component of the hybrid capacity fee is to determine the number of customers that will be served by the planned growth-related infrastructure additions. Raftelis used the District's 2020 Urban Water Management Plan (UWMP) to examine water utility demand at build-out. The District expects the water utility to be fully built out in 2040. In that year, water demand is projected to be 22,544 acre feet per year (AFY). This is an incremental increase of 3,533 AFY from 2020 to 2040 (22,544 AFY less 19,011 AFY = 3,533 AFY) Table 13 shows the projected usage from 2020 to build out, per the 2020 UWMP.

Table 13 - Water Demand Projection for FY 2020 – FY 2040

	FY 2020	FY 2025	FY 2030	FY 2035	FY 2040
Water Demand (AFY)	19,011	19,190	20,246	21,363	22,544

In addition, the 2020 UWMP includes the average number of people per household for different areas within the District. These values were used to calculate the incremental residents from 2020 to buildout and the resulting equivalent residential units. This provides a common unit ($/ERU) through which the buy-in and incremental components can be combined into one fee per ERU.

Table 14 shows the persons per household (Column A) and projected additional population from 2020 - 2040 (Column B). Column C calculates the percent each area represents of the total growth in that period. These percentages are then multiplied by the relevant Applicable Persons per Household to arrive at a weighted average persons per household estimate of 3.06 (Column D).

Table 14 – Calculation of Weighted Average Persons per Household

Community	(A) Applicable Persons per Household	(B) Projected Additional Population (2020 - 2040)	(C) % of Additional Population	(D) Weighted Average Persons per Household
Agoura Hills	3.35	1,224	7.3%	0.25
Calabasas	2.65	2,562	15.4%	0.41
Hidden Hills	3.23	164	1.0%	0.03
Westlake Village	3.01	24	0.1%	0.00
Westlake Village Business	3.01	1,207	7.2%	0.22
Unincorporated LA County	3.15	8,650	51.9%	1.63
Vacant HSE Units	3.03	2,836	17.0%	0.52
Total		**16,667**	100.0%	**3.06**

Utilizing the incremental increase in demand in acre feet, the weighted average persons per household, and the per capita per day water usage of 227 gallons provided by the UWMP, Raftelis calculated the incremental ERUs from 2020 to 2040s. This calculation of 4,545 incremental ERUs is shown in Table 15 and is discussed in detail below.

The incremental acre feet per year between 2040 and 2020 of 3,533 (Column A) is converted to gallons (Column B). Since each resident is estimated to use 227 gallons per day and there are 365 days in a year, the total incremental gallons per year is divided by this amount to arrive at how many individual residents (Column C) are represented by these gallons in a year. Next, the estimated average persons per household of 3.06 is presented (Column D). To find the equivalent residential units represented by these incremental residents, they are divided by this average (Column E). Raftelis calculates that the incremental ERUs represented by this change in water demand from 2020 to buildout in 2040 is 4,545 ERUs.

Table 15 – Calculation of Incremental ERUs

	(A) Incremental AFY	(B) Incremental Gallons per Year	(C) Incremental Residents	(D) Persons per Household	(E) Incremental ERUs
	(2020 to 2040 Growth in AFY)	**A * 325,851 (Gallons/AF)**	**B / (227 Gallons per Day *365)**	**(From Table 14 Column D)**	**13,894.53 Incremental Residents / 3.06**
Total Incremental Increase in Demand	3,533	1,151,231,583	13,894.53	3.06	4,545

Calculation of the Water Capacity Fee Incremental Component

Once the value of the expansion capital projects and the incremental ERUs are calculated, the incremental component of the water utility capacity fee can also be determined as shown in Table 16. The incremental portion of the water capacity fee, expressed in 2022 dollars, is $243 per ERU or 3/4" connection.

Table 16 – FY 2022 Water Utility Incremental Component Calculation

Description	Amount
Future Expansion Capital Improvements from Table 12 (+)	$1,103,565
Debt (+)	$0
Total Cost Basis	$1,103,565
Incremental Increase in Capacity from Table 15 (/)	4,545
Capacity Fee Incremental Component	**$243**

3.2.3. Conservation Component of the Water Capacity Fee

In addition to water service, the District also provides recycled water service. Supplementing potable water service with recycled water provides enhanced assurance of the availability of water supply for uses that cannot be substituted by recycled water. Recycled water both protects water supply for current users as well as allows for expansion by reducing demands on available water supplies. Recycled water also provides a stable water source for non-potable uses. Therefore, both current and future water users benefit from the existence of the recycled water system. As policy, the District wishes to forgo charging recycled water customers a capacity fee in order to encourage recycled water connections. Since water customers benefit directly from the recycled water system, the District charges water customers a conservation component in their capacity fees. This conservation component is calculated as a capacity fee per water ERU.

3.2.4. Conservation Buy-In Component

As noted previously in Section 2 of this report, the proposed method for calculating the conservation portion of the of the water capacity fee is the hybrid approach which consists of a buy-in and incremental component. The hybrid capacity fee calculation approach requires a determination of the current value of recycled water utility assets for the buy-in component of the calculation and a determination of the present value of future growth-related capital improvements for the incremental component of the calculation.

Valuation of Existing Sole-Ownership Recycled Water Utility Assets

The first step in determining the buy-in component of the hybrid capacity fee is to determine the value of the existing system. Replacement cost was used to estimate the current value of the recycled water utility system. Replacement cost less depreciation (RCLD) was not used as the system value because our analysis revealed that some legacy assets have low recorded net book values in the District's fixed asset accounting system despite having been well-maintained, being fully operational, and providing significant value to the system. It was also determined that newer assets within these groupings would be over-depreciated, potentially artificially reducing the current value of the system if RCLD was used in the asset valuation.

Although the RCLD method was not used, Raftelis believes that it is appropriate to adjust the current replacement cost of recycled utility assets to reflect the wear and tear, decay, inadequacy, and obsolescence that is normally accounted for by deprecation. To do this, Raftelis determined the planned cost, in 2022 dollars, of non-growth system improvements contained in the recycled water utility CIP over the five year period FY 2023 – FY 2027. As discussed below, the value of these system improvements was then subtracted from the estimates replacement cost of water utility assets.

Table 17 shows the estimated replacement cost of the recycled water utility assets that are solely owned by the District. To calculate the replacement cost, the District provided fixed asset accounting records as of June 30, 2022 (FYE 2022) showing the original cost of existing recycled water system assets. The 2022 replacement cost was then estimated by adjusting the original asset cost values to reflect what might be expected if a similar facility were constructed today. This was done by escalating the original asset costs by a construction cost index. The Engineering News-Record's average Construction Cost Index for 20 cities (ENR 20-City Average CCI) is commonly used for this purpose. Raftelis used a 2022 CCI index value of 13,007.

Table 17 - Recycled Water Utility Replacement Cost for Sole-Ownership Assets

Asset Type/Category	Original Cost	Replacement Cost (2022)
Distribution/Transmission	$7,934,316	$14,343,373
General/Admin	$28,015	$33,941
Land	$3,397	$13,648
Meters	$808,947	$1,576,347
Pumping	$0	$0
Storage	$1,168,049	$2,009,759
Treatment	$0	$0
Total	**$9,942,723**	**$17,977,068**

The total recycled water system replacement cost of $17,977,068 as shown above in Table 17 represents the estimated cost of replacing the entire system in 2022 dollars. However, the replacement cost does not take into consideration the required repairs and maintenance to the system and essentially overstates the value of the system. To do this, Raftelis determined the planned cost, in 2022 dollars, of non-growth system improvements contained in the water utility CIP over the five year period FY 2023 – FY 2027. The value of these system improvements was then subtracted from the estimates replacement cost of water utility assets.

By reducing the replacement cost of existing recycled water utility assets by the planned cost of non-growth system improvements over the next five years, the District acknowledges the system needs repairs and accounts for the use of the system by existing customers. Additionally, capital improvements are typically financed by those receiving benefit from the assets, in other words, the rate payers or water customers, and therefore, should not be recovered through capacity fees.

Table 18 provides a summary of planned recycled water utility non-growth CIP as provided by Staff. The total of $3,242,262 in capital improvements (2022 dollars) is subtracted from the recycled water system replacement cost value.

Table 18 – Recycled Water Utility 5-Year Projection of Sole-Ownership Non-Growth CIP

CIP Description	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Total
RECYCLED WATER	$463,000	$577,200	$600,405	$1,197,288	$404,369	$3,242,262
Total (Uninflated - 2022)	**$463,000**	**$577,200**	**$600,405**	**$1,197,288**	**$404,369**	**$3,242,262**
Total (Inflated - 2023)	**$469,492**	**$585,293**	**$608,823**	**$1,214,075**	**$410,038**	**$3,287,722**

Valuation of Existing JPA Shared Ownership Recycled Water Utility Assets

In addition to the recycled water utility assets under its sole ownership, the District also owns recycled water and sanitation assets through the JPA. The conservation (recycled water) component of the water capacity fee must also take into account these assets to ensure that new recycled water customers connecting to the system are paying their share of the District's overall recycled water utility assets.

The JPA owns recycled water utility assets, sanitation utility assets, and certain shared assets. The District's proportionate share of these assets must be included in the calculation of the conservation (recycled water) and sanitation capacity fees. Table 19 shows that 14.3% of the District's share of JPA assets are for the recycled water system, 80.8% of the District's share of JPA assets are for the sanitation system, and 4.8% are shared between the recycled water and sanitation systems.

Table 19 - District Share of JPA Sanitation and Recycled Water Assets

JPA Assets	Original Cost	Replacement Cost (2022)	Percent of Total Replacement Cost
Sanitation Utility	$148,394,955	$364,704,168	80.8%
Recycled Utility	$27,208,732	$64,727,215	14.3%
Identified Utility Assets	$174,603,687	$429,431,383	95.2%
Shared	$8,060,748	$21,684,506	4.8%
Total	**$183,664,436**	**$451,115,889**	**100.0%**

Raftelis proportionally allocated the shared assets based on the balance of the total assets individually allocated to the utilities. Table 20 provides a summary of the asset values shared by the two utilities, both in their original cost and 2022 replacement cost value.

Table 20 - Summary of Shared JPA Sanitation and Recycled Water Assets

Asset Class	Original Cost	Replacement Cost (2022)
Collection	$0	$0
Distribution/Transmission	$0	$0
General/Admin	$45,689	$102,018
Land	$8,015,060	$21,582,488
Meters	$0	$0
Pumping	$0	$0
Storage	$0	$0
Treatment	$0	$0
Total	**$8,060,748**	**$21,684,506**

To allocate these shared assets to the sanitation and recycled water utilities, Raftelis determined each utility's share of the total assets that were allocated to the utilities individually. Table 21 below shows the calculation of the percent share for each based on the replacement cost values shown above in Table 19. As shown in Table 21, the sanitation utility is responsible for 84.9% of the shared JPA assets, while the recycled water utility is responsible for 15.1%.

Table 21 – District Weighted Ownership Percentage for Single-Utility JPA Assets

Utility	Replacement Cost	Percentage of Total
Sanitation Utility (from Table 19)	$364,704,168	84.9%
Recycled Utility (from Table 19)	$64,727,215	15.1%
Total	**$429,431,383**	**100.0%**

The resulting allocation of the shared assets is shown in Table 22. Combining recycled water's portion of the District's shared JPA with the assets for which it is solely responsible results in the utility's total share of the JPA assets, shown below in Table 23.

Table 22 - Allocation of Shared District JPA Assets

Utility	Allocation of Shared Assets	Percentage of Total
Sanitation Utility	$18,416,050	84.9%
Recycled Water	$3,268,456	15.1%
Total (from Table 19)	**$21,684,506**	**100.0%**

Table 23 - Recycled Water Utility Share of District JPA Assets

Ownership Type	Original Cost	Replacement Cost
Sole Responsibility (Table 19)	$27,208,732	$64,727,215
Shared Responsibility (Table 22)	$1,248,964	$3,268,456
Total	**$28,457,696**	**$67,995,671**

The recycled water utility's share of JPA assets of $67,995,671 is added to the utility's sole-ownership assets of $17,977,068. The 5-year non-growth CIP for solely owned assets of $3,287,722, is then subtracted to arrive at a replacement cost asset value of $82,730,478. This calculation is shown in Table 24.

Table 24 - Recycled Water Utility Asset Value

Description	Replacement Cost
Sole-Ownership Recycled Water Utility Assets from Table 17 (+)	$17,977,068
JPA Assets from Table 23 (+)	$67,995,671
5-Year Non-Growth CIP from Table 18 (-)	($3,242,262)
Total	**$82,730,478**

Addition of Current Cash Reserve Balances to Recycled Water Utility Assets

The next component of the buy-in asset value determination is the addition of current cash reserves. Cash reserves are established and paid for by existing recycled water service customers through recycled water rates. They are typically used to help pay for necessary capital improvements as well as operating shortfalls or unforeseen expenditures. Adequate cash reserves help mitigate the recycled water rate impacts customers experience due to expenditure fluctuations. Both existing and future customers benefit from cash reserves. As a result, upon connecting to the recycled water utility system, new users should contribute their proportionate share to establish equity in current reserves. The recycled water utility has operations, replacement, and water stabilization reserves, which were all included in the existing asset valuation. The reserve balances as of June 30, 2022, are shown below in Table 25 and total $24,634,431. The total of these reserves is added to the value of the assets.

Table 25 - Recycled Water Utility Cash Reserve Balances

Type of Cash Reserve	FYE 2022
Operations	$16,873,948
Replacement	$7,760,484
Total Reserves	**$24,634,431**

Subtraction of Outstanding Debt Principal from Recycled Water Utility Assets

The final component of the buy-in asset valuation is the subtraction of the unpaid principal associated debt used to finance utility assets. New users will pay their share of any outstanding debt through water rates after joining the system. Therefore, the value of the system should be reduced by the amount of the outstanding principal. As of June 30, 2022, the recycled water utility had no outstanding debt.

Current Recycled Water Demand

The second step in determining the buy-in component of the hybrid capacity fee is to determine current recycled water customer demand. Since the conservation component is part of the water capacity fee, it will utilize the same current demand as the water buy-in fee as represented by 49,313 ERUs (see Table 10).

Calculation of the Conservation Buy-In Component of the Water Capacity Fee

Once the value of the system is assessed and the equivalent residential units are calculated, the conservation buy-in component of the water capacity fee can be completed as shown in Table 26. The buy-in component of the conservation fee, expressed in 2022 dollars is $2,177 per ERU or 3/4" connection.

Table 26 – FY 2022 Conservation Buy-In Component Calculation

Description	Amount
Recycled-Only Assets from Table 17 (+)	$17,977,068
JPA Assets from Table 23 (+)	$67,995,671
Current Reserves Balance from Table 25 (+)	$24,634,431
Outstanding Debt Principal (-)	$0
5-Year Non-Growth CIP from Table 18 (-)	($3,242,262)
Total Cost Basis	107,364,909
ERUs from Table 10 (/)	49,313
2022 Buy In Component	**$2,177**

3.2.5. Conservation Incremental Component

Future Recycled Water Expansion Capital Improvements

The incremental component of the capacity fee addresses the additional growth-related capacity additions necessary to serve the new development (i.e., the growth-related infrastructure necessary to serve demand growth). The first step in determining the incremental component of the hybrid capacity fee is to determine the present value of future growth-related capital expenditures. According to the District's CIP plan, the 2022 present value of these expenditures for the recycled water utility is $149,637 as shown in Table 27.

Table 27 - Recycled Water Utility Future Growth-Related Capital Improvements

Asset Type	Future Growth CIP Cost (2022 Dollars)	Future Growth CIP Cost (2023 Dollars)
Pipe CIP		$0
Storage CIP		$0
Pumping CIP	$149,637	$151,735
Total	$149,637	$151,735

Addition of the Present Value of Future Debt Financial Interest

Many utilities finance growth-related capital expenditures with debt. The interest component of debt service payments increases the total construction cost. For this reason, under the incremental approach, the present value cost of planned growth-related capital costs is often increased by the present value of interest payments. The District does not anticipate financing future recycled water growth-related capital expenditures using debt. Therefore, there is no debt-related addition to the cost of future growth-related assets.

Incremental Water Demand

Since the conservation component is part of the water capacity fee, it will utilize the same incremental water demand as the water buy-in fee as represented by 4,545 ERUs (see Table 15).

Calculation of the Conservation Incremental Component of the Water Capacity Fee

Once the value of the expansion capital projects and the incremental ERUs are calculated, the conservation incremental component of the water capacity fee can be completed as shown in Table 28. The incremental component of the conservation fee, expressed in 2022 dollars, is $33 per ERU or 3/4" connection.

Table 28 – FY 2022 Conservation Incremental Component Calculation

Description	Amount
Future Expansion Capital Improvements from Table 27 (+)	$149,637
Debt (+)	$0
Total Cost Basis	$149,637
Incremental Increase in Capacity from Table 15 (/)	4,545
Capacity Fee Incremental Component	**$33**

3.2.6. Total Proposed Water Capacity Fee

The proposed water capacity fees calculated in the study are shown in Table 29. The District also charges administration, meter cost, and installation fees, which were not addressed in this study. The water capacity fees, shown in Columns A – E are expressed in 2022 dollars. They include the water buy-in component (Column A), the water incremental component (Column B), the recycled water conservation component (Column C), and the recycled water incremental component (Column D). The total 2022 water capacity fee for each meter size, expressed in 2022 dollars, is shown in Column E. The escalation in costs shown in Table 29 as meter sizes increase is based on AWWA flow rate equivalences for each meter size. These equivalencies were presented in Column C of Table 10.

Column F shows the proposed FY 2023 water capacity fees after being adjusted for construction cost inflation. This was achieved by escalating the 2022 total water capacity fee (Column E) to a 2023 value

(Column F) using the ENR 20-City Average CCI. Raftelis used a CCI value of 13,007 for 2022 to estimate the replacement costs. Specifically, the CCI index value for 2023, 13,189, and dividing it by the value for 2022, 13,007, resulting in inflation of 1.01%.

Table 29 – Proposed 2023 Water Capacity Fees ($/Meter Size)

	A	B	C	D	E = (A+B+C+D)	F	G	H	I
Meter Size	2022 Water Buy-In Component	2022 Water Incremental Component	2022 Conservation Buy-In Component	2022 Conservation Incremental Component	2022 Total Water Capacity Fee	Proposed 2023 Total Water Capacity Fee	Currently Charged Water Capacity Fee	$ Change (Current vs. Proposed 2023)	% Change (Current vs. Proposed 2023)
3/4"	$13,149	$243	$2,177	$33	$15,602	$15,821	$15,091	$730	4.8%
1"	$21,915	$405	$3,629	$55	$26,004	$26,368	$25,085	$1,283	5.1%
1 1/2"	$43,831	$809	$7,257	$110	$52,007	$52,736	$50,069	$2,667	5.3%
2"	$70,129	$1,295	$11,612	$176	$83,211	$84,378	$80,047	$4,331	5.4%
3"	$153,407	$2,832	$25,401	$384	$182,025	$184,577	$174,862	$9,715	5.6%
4"	$276,133	$5,098	$45,722	$691	$327,644	$332,238	$314,745	$17,493	5.6%
6"	$701,290	$12,948	$116,119	$1,756	$832,113	$843,780	$799,338	$44,442	5.6%
8"	$1,227,257	$22,660	$203,208	$3,073	$1,456,197	$1,476,614	$1,398,834	$77,780	5.6%
10"	$1,840,885	$33,990	$304,811	$4,609	$2,184,295	$2,214,922	$2,098,245	$116,677	5.6%

4. Sanitation Capacity Fee

4.1. Current Sanitation Capacity Fees

The District's sanitation services cover five sanitation service areas, or districts. Sanitation service in districts U-3 and B is provided by the City of Los Angeles. The sanitation rates charged by the City of Los Angeles in districts U-3 and B are passed through directly to those customers and were not included in this study.

The District intends to maintain the current structure of its sanitation capacity fees which are assessed on a per ERU basis. The current sanitation capacity fees were implemented by the District in 2019. They have not been updated to account for inflation or changes in the system. Therefore, they are no longer reflective of new developments' share of the facilities. The current sanitation capacity fees are shown in Table 30.

Table 30 - Current Sanitation Capacity Fees

Sanitation District	Current Fee per ERU	Service Provider
U-1	$12,645	Las Virgenes MWD
U-2	$12,645	Las Virgenes MWD
U-3	$3,900	City of Los Angeles
B	$3,900	City of Los Angeles
D	$12,645	Las Virgenes MWD

4.2. Proposed Sanitation Capacity Fees

4.2.1. Sanitation Buy-In Component

As noted previously in Section 2 of this report, the proposed method for calculating the sanitation capacity fee is the capacity buy-in approach. The hybrid capacity fee calculation approach requires a determination of the current value of existing sanitation utility assets for the buy-in component of the calculation and a determination of the present value of future growth related capital improvements for the incremental component of the calculation.

Valuation of Existing Sole-Ownership Sanitation Utility Assets

The first step in determining the buy-in component of the hybrid capacity fee is to determine the value of the existing system. Replacement cost was used to estimate the current value of the recycled water utility system. Replacement cost less depreciation (RCLD) was not used system because our analysis revealed that some legacy assets have low recorded net book values in the District's fixed asset accounting system despite having been well-maintained, being fully operational, and providing significant value to the system. It was also determined that newer assets within these groupings would be over-depreciated, potentially artificially reducing the current value of the system if RCLD was used in the asset valuation.

Although the RCLD method was not used, Raftelis believes that it is appropriate to adjust the current replacement cost of recycled utility assets to reflect the wear and tear, decay, inadequacy, and obsolescence that is normally accounted for by deprecation. To do this, Raftelis determined the planned cost, in 2022 dollars, of non-growth system improvements contained in the recycled water utility CIP over the five year period FY 2023 – FY 2027. As discussed below, the value of these system improvements was then subtracted from the estimates replacement cost of water utility assets.

Table 31 shows the estimated replacement cost of the sanitation utility assets that are solely owned by the District. To calculate the replacement cost, the District provided fixed asset accounting records as of June 30, 2022 (FYE 2022) showing the original cost of existing recycled water system assets. The 2022 replacement cost was then estimated by adjusting the original asset cost values to reflect what might be expected if a similar facility were constructed today. This was done by escalating the original asset costs by a construction cost index. The Engineering News-Record's average Construction Cost Index for 20 cities (ENR 20-City Average CCI) is commonly used for this purpose. Raftelis used a 2022 CCI index value of 13,007.

Table 31 - Sanitation Utility Replacement Cost for Sole-Ownership Assets

Asset Category	Original Cost	Replacement Cost (2022)
Collection	$3,983,780	$17,153,823
General/Admin	$17,320	$17,320
Land	$111,235	$446,918
Meters	$0	$0
Pumping	$3,318,015	$6,753,658
Storage	$0	$0
Treatment	$0	$0
Total	**$7,430,351**	**$24,371,718**

The total sanitation system replacement cost of $24,371,718 as shown above in Table 31 represents the estimated cost of replacing the entire system in 2022 dollars. However, the replacement cost does not take into consideration the required repairs and maintenance to the system and essentially overstates the value of the system. To do this, Raftelis determined the planned cost, in 2022 dollars, of non-growth system improvements contained in the sanitation utility CIP over the five year period FY 2023 – FY 2027. The value of these system improvements was then subtracted from the estimates replacement cost of water utility assets.

By reducing the replacement cost of existing sanitation utility assets by the planned cost of non-growth system improvements over the next five years, the District acknowledges the system needs repairs and accounts for the use of the system by existing customers. Additionally, capital improvements are typically financed by those receiving benefit from the assets, in other words, the rate payers or water customers, and therefore, should not be recovered through capacity fees.

Table 32 provides a summary of planned sanitation utility non-growth CIP as provided by Staff. The total of $26,827,117 in capital improvements (2022 dollars) is subtracted from the sanitation system replacement cost value.

Table 32 - Sanitation Utility 5-Year Projection of Sole-Ownership Non-Growth CIP

CIP Description	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Total
ADMINISTRATIVE	$17,474	$454,664	$221,684	$221,684	$221,684	$1,137,190
POTABLE WATER	$0	$0	$0	$0	$0	$0
PROGRAM EXPENSE OFFSET	$0	$0	$0	$0	$0	$0
PROGRAMS	$1,728,500	$428,683	$410,045	$242,299	$100,647	$2,910,175
RANCHO/FARM	$1,852,671	$792,767	$93,192	$93,192	$93,192	$2,925,014
RECYCLED WATER	$0	$0	$0	$0	$0	$0
SCADA	$0	$0	$0	$0	$0	$0
SEWER/LIFT STATIONS	$945,960	$2,074,360	$787,830	$391,830	$391,830	$4,591,809
TAPIA	$2,062,932	$7,613,419	$3,206,652	$1,111,244	$1,268,682	$15,262,929
WESTLAKE	$0	$0	$0	$0	$0	$0
Total (Uninflated - 2022)	**$6,607,536**	**$11,363,893**	**$4,719,403**	**$2,060,249**	**$2,076,035**	**$26,827,117**
Total (Inflated - 2023)	**$6,700,181**	**$11,523,228**	**$4,785,574**	**$2,089,136**	**$2,105,144**	**$27,203,263**

Valuation of Existing JPA Shared Ownership Sanitation Utility Assets

In addition to the recycled water utility assets under its sole ownership, the District also owns sanitation and recycled water assets through the JPA. The sanitation capacity fee must take into account these assets to ensure that new sanitation customers connecting to the system are paying their share of the District's overall sanitation utility assets.

The JPA owns sanitation utility, recycled water utility, and certain shared assets. The District's proportionate share of these assets must be included in the calculation of the conservation (recycled water) and sanitation capacity fees. Table 33 shows that 80.8% of the District's share of JPA assets are for the sanitation system, 14.3% of the District's share of JPA assets are for the recycled water system, and 4.8% are shared between the sanitation and recycled water systems.

Table 33 – District Share of JPA Sanitation and Recycled Water Assets

JPA Assets	Original Cost	Replacement Cost (2022)	Percent of Total Replacement Cost
Sanitation Utility	$148,394,955	$364,704,168	80.8%
Recycled Utility	$27,208,732	$64,727,215	14.3%
Identified Utility Assets	$174,603,687	$429,431,383	95.2%
Shared	$8,060,748	$21,684,506	4.8%
Total	**$183,664,436**	**$451,115,889**	**100.0%**

Raftelis proportionally allocated the shared assets based on the balance of the total assets individually allocated to the utilities. Table 34 provides a summary of the asset values shared by the two utilities, both in their original cost and 2022 replacement cost value.

Table 34 - Summary of Shared JPA Sanitation and Recycled Water Assets

Asset Class	Original Cost	Replacement Cost (2022)
Collection	$0	$0
Distribution/Transmission	$0	$0
General/Admin	$45,689	$102,018
Land	$8,015,060	$21,582,488
Meters	$0	$0
Pumping	$0	$0
Storage	$0	$0
Treatment	$0	$0
Total	**$8,060,748**	**$21,684,506**

To allocate these shared assets to the sanitation and recycled water utilities, Raftelis determined each utility's share of the total assets that were allocated to the utilities individually. Table 35 below shows the calculation of the percent share for each based on the replacement cost values shown above in . As shown in Table 35, the sanitation utility is responsible for 84.9% of the shared JPA assets, while the recycled water utility is responsible for 15.1%.

Table 35 - District Weighted Ownership Percentage for Single-Utility JPA Assets

Utility	Replacement Cost	Percentage of Total
Sanitation Utility	$364,704,168	84.9%
Recycled Water	$64,727,215	15.1%
Total	**$429,431,383**	**100.0%**

The resulting allocation of the shared assets is shown in
Table 36. Combining sanitation's portion of the District's shared JPA with the assets for which it is solely responsible results in the utility's total share of the JPA assets, shown below in Table 37.

Table 36 - Utility Allocation of Shared District JPA Assets

Utility	Allocation of Shared Assets	Percentage of Total
Sanitation Utility	$18,416,050	84.9%
Recycled Water	$3,268,456	15.1%
Total	**$21,684,506**	**100.0%**

Table 37 - Sanitation Utility Share of District JPA Assets

Ownership Type	Original Cost	Replacement Cost
Sole Responsibility (Table 33)	$148,394,955	$364,704,168
Shared Responsibility (Table 36)	$6,811,784	$18,416,049
Total	**$155,206,739**	**$383,120,217**

T7he sanitation utility's share of JPA assets of $383,120,21 is added to the utility's sole-ownership assets of $24,371,718. The 5-year non-growth CIP for solely owned assets of $27,203,263, is then subtracted to arrive at a replacement cost asset value of $380,664,818.This calculation is shown in Table 38.

Table 38 - Sanitation Utility Asset Value

Description	Amount
Sole-Ownership Recycled Water Utility Assets from Table 31 (+)	$24,371,718
JPA Assets from Table 37 (+)	$383,120,218
5-Year Non-Growth CIP from Table 32 (-)	($26,827,117)
Total	**$380,664,819**

Addition of Current Cash Reserve Balances to Sanitation Utility Assets

The next component of the buy-in asset value determination is the addition of current cash reserves. Cash reserves are established and paid for by existing recycled water service customers through recycled water rates. They are typically used to help pay for necessary capital improvements as well as operating shortfalls or unforeseen expenditures. Adequate cash reserves help mitigate the recycled water rate impacts customers experience due to expenditure fluctuations. Both existing and future customers benefit from cash reserves. As a result, upon connecting to the recycled water utility system, new users should contribute their proportionate share to establish equity in current reserves. The recycled water utility has operations, replacement, and water stabilization reserves, which were all included in the existing asset valuation. The reserve balances as of June 30, 2022, are shown below in Table 39 and total $22,713,099. The total of these reserves is added to the value of the assets.

Table 39 - FY 2022 Sanitation Utility Cash Reserve Balances

Type of Reserve	FYE 2022
Operations	$5,368,047
Replacement	$17,345,052
Total Reserves	**$22,713,099**

Subtraction of Outstanding Debt Principal from Recycled Water Utility Assets

The final component of the buy-in asset valuation is the subtraction of the unpaid principal associated debt used to finance utility assets. New users will pay their share of any outstanding debt through water rates after joining the system. Therefore, the value of the system should be reduced by the amount of the outstanding principal. As of June 30, 2022, the sanitation utility had no outstanding debt.

Current Sanitation Demand

Staff provided the equivalent residential units for sanitation services. The District defines an ERU for sanitation services as 25 fixture units. Table 40 provides the breakdown of ERUs by sanitation district. ERUs relevant to the study are those served by the Districts which total 26,672. The ERUs in Districts U-3 (726) and B (496) are served by the City of Los Angeles and are excluded from the calculation.

Table 40 - Sanitation Equivalent Residential Units

	Served by the Las Virgenes MWD						Served by the City of Los Angles			Grand Total
District	**U-1**	**U-2**	**U-2E**	**D**	**Vacant**	**Total**	**U-3**	**B**	**Total**	**All**
Residential	10,140	2,599	2,439	0	49	15,227	277	216	493	15,720
Multifamily	5,320	290	715	0	0	6,325	445	280	725	7,050
Commercial Class 1	2,623	486	178	182	0	3,469	4	0	4	3,473
Commercial Class 2	1,185	291	1	0	0	1,477	0	0	0	1,477
Commercial Class 3	142	23	9	0	0	174	0	0	0	174
Total	**19,410**	**3,689**	**3,342**	**182**	**49**	**26,672**	**726**	**496**	**1222**	**27,894**

Calculation of the Sanitation Buy-In Component

Once the value of the system is assessed and the equivalent residential units are calculated, the buy-in component of the sanitation capacity fee can be completed. The sanitation utility's buy-in calculation is shown below in Table 41. The buy-in component of the sanitation capacity fee, expressed in 2022 dollars, is $15,110 per ERU or 3/4" connection.

Table 41 - Sanitation Buy-in Component Calculation

Description	Amount
Sanitation-Only Assets from Table 31 (+)	$24,371,718
Sanitation Share of JPA Assets from Table 37 (+)	$383,120,218
Current Reserves Balance from Table 39 (+)	$22,713,099
Outstanding Debt Principal (-)	$0
5-Year Non-Growth CIP from Table 32 (-)	($26,827,117)
Total Valuation	$403,377,918
ERUs (U-1, U-2, U-2E, D) from Table 40 (/)	26,672
Sanitation Capacity Fee (2022)	**$15,124**

4.2.2. Sanitation Incremental Component

Future Sanitation Expansion Capital Improvements

The District's sanitation system has capacity within the existing system to serve projected future growth. Therefore, there are no future expansion capital improvements, and the sanitation capacity fee does not include an incremental component.

4.2.3. Total Proposed Sanitation Capacity Fee

The proposed sanitation capacity fees calculated in the study are shown in Table 42. The District also charges administration, meter cost, and installation fees, which were not addressed in this study. The sanitation capacity fees, shown in Columns B – C are expressed in 2022 dollars. They include the sanitation buy-in component (Column A) and the sanitation incremental component (Column B) which is $0 because there are no future growth-related capital improvements. The total, per ERU, 2022 sanitation capacity fee is shown in Column D. Column F shows the proposed FY 2023 sanitation capacity fees after being adjusted for construction cost inflation. This was achieved by escalating the 2022 total water capacity fee (Column C) to a 2023 value (Column D) using the ENR 20-City Average CCI. Raftelis used a CCI value of 13,007 for 2022 to estimate the replacement costs. Specifically, the CCI index value for 2023, 13,189, and dividing it by the value for 2022, 13,007, resulting in inflation of 1.01%.

Table 42 – Proposed 2023 Sanitation Capacity Fees ($/ERU)

	A	B	C = A + B	D	E	F	G
District	2022 Sanitation Buy-In Component	2022 Sanitation Incremental Component	2022 Total Sanitation Capacity Fee	2023 Proposed Sanitation Capacity Fee	Currently Charged Sanitation Capacity Fee	$ Change (Current vs. Proposed 2023)	% Change (Current vs. Proposed 2023)
U-1	$15,124	$0	$15,124	$15,336	$12,645	$2,691	21.3%
U-2	$15,124	$0	$15,124	$15,336	$12,645	$2,691	21.3%
U-3	N/A	N/A	N/A	N/A	$3,900	N/A	N/A
B	N/A	N/A	N/A	N/A	$3,900	N/A	N/A
D	$15,124	$0	$15,124	$15,336	$12,645	$2,691	21.3%

5. Capacity Fee Administration

In conjunction with adopting updated Capacity Fees, Raftelis recommends that the District apply the ENR 20-City Average CCI to adjust the fees in subsequent years to keep pace with inflation. The District should also conduct a comprehensive review of the capacity fees every three to five years to ensure appropriate funding of capital projects and equity among customers.