# IRVINE RANCH WATER DISTRICT

## FY 2026 and FY 2027 Cost of Service and Rate Study Update

Draft Report / April 15, 2025

**Final Draft Version**

RAFTELIS

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April 15, 2025

Mr. Christopher Smithson
Director of Financial Planning and Data Analytics
15600 Sand Canyon Avenue
Irvine, CA 92618

Subject: FY 2026 and FY 2027 Cost of Service and Rate Study Update

Dear Mr. Smithson,

Raftelis is pleased to provide this FY 2026 and FY 2027 Cost of Service and Rate Study Update report for the Irvine Ranch Water District (District). The objective of the study was to assess if the District's proposed FY 2026 and FY 2027 water, sewer, and recycled water rates were developed in a fair and equitable manner that is compliant with the intent and requirements of California Proposition 218. The assessment consisted of completing a comprehensive review and analysis of:

- The allocations used in the District's cost-of-service model to develop the estimated FY 2026 and FY 2027 revenue requirement for each water, sewer, and recycled water customer type.
- The cost and customer demand inputs used by the District to determine your proposed FY 2026 and FY 2027 water, sewer, and recycled water rates.
- Proposed changes to the calculation of the District's rates for sewer customers who receive collection-only service.

This report summarizes the key findings and recommendations developed as an outcome of the Study. It has been a pleasure working with you and other members of the District's staff. Thank you for your support provided during preparing this study.

Sincerely,
***RAFTELIS.***

John Wright

**John Wright**
Senior Manager

**Summer Simpson**
Associate Consultant

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## Table of Contents

# List of Tables

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# 1. Executive Summary

## 1.1. Study Objectives

In January 2025, the Irvine Ranch Water District (District or IRWD) retained the services of Raftelis to conduct an FY 2026 and FY 2027 Cost of Service and Rate Study Update. The objective of the Study was to assess if the District's proposed FY 2026 and FY 2027 water, sewer, and recycled water rates were developed in a fair and equitable manner that complies with Article XIII D, Section 6 of the California Constitution, which was enacted in 1996 by passage of Proposition 218. The Study, which was conducted during the period January 2025 – March 2025, consisted of a comprehensive review and analysis of:

- The allocations used in the District's cost-of-service model to develop the estimated FY 2026 and FY 2027 revenue requirement for each water, sewer, and recycled water customer class/type.
- The cost and customer demand inputs used by the District to determine proposed FY 2026 and FY 2027 water, sewer, and recycled water rates.
- Proposed changes to the calculation of the District's rates for sewer customers who receive collection-only service (i.e. no treatment provided by IRWD).

## 1.2. Study Methodology

The following four-stage process was used to complete the Study objectives.

- Stage 1: Understanding/analysis of the District's current approach to developing proposed water, sewer, and recycled water rates.
- Stage 2: Identification and analysis of District's proposed changes to its current cost allocation and/or rate design methodologies. The only change proposed by the District was the method used to calculate sewer rates receiving collection-only service.
- Stage 3: Testing of customer bill impacts.
- Stage 4: Presentation of finding and recommendations.

## 1.3. Requirements of Proposition 218

Proposition 218, reflected in the California Constitution as Article XIII D, was enacted in 1996 to ensure that rates and fees are reasonable and proportional to the cost of providing service. The principal requirements for fairness of the fees, as they relate to public water service, are as follows:

- A property-related charge (such as water rates) imposed by a public agency on a parcel shall not exceed the costs required to provide the property-related service.
- Revenues derived by the charge shall not be used for any purpose other than that for which the charge was imposed.
- The amount of the charge imposed upon any parcel shall not exceed the proportional cost of service attributable to the parcel.
- No charge may be imposed for a service unless that service is actually used or immediately available to the owner of property.
- No charge may be imposed for general governmental services including police, fire, and ambulance protection services, or library services, where the service is available to the public at large in substantially the same manner as it is to property owners.

- A written notice of the proposed charge shall be mailed to the record owner of each parcel at least 45 days prior to the public hearing, when the agency considers all written protests against the charge.

As stated in the American Water Works Association (AWWA) publication, *Manual of Water Supply Practices M1, Principles of Water Rates, Fees, and Charges 7th edition* (M1 Manual), "water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers." This Study applies certain rate-setting methodologies set forth in M1 Manual to the extent they are fully consistent with Proposition 218 by allocating the District's proportionate cost of providing water, sewer, and recycled water service.

## 1.4. District Compliance with Proposition 218

The Study applies a technical analysis to the District's costs and customers and finds that the District's proposed FY 2026 and FY 2027 water, sewer, and recycled water rates comply with Proposition 218's substantive principles and limitations. Proposition 218 does not prescribe exactly how to allocate costs among customers. Ultimately, a determination of whether utility rates comply with Proposition 218 can only be made by a court of competent jurisdiction. Raftelis is not a law firm and offers no legal opinion on District compliance with Proposition 218.

## 1.5. Rate Structure Modifications

### 1.5.1. SEWER RATES

No changes are recommended for the District's existing sewer rate structure. However, the District has proposed a change to the methodology used for calculating rates for sewer customers receiving collection-only service. This change refines the allocation of fixed and variable costs to customer rates based on the volume of estimated average sewer discharges. Raftelis supports this proposed modification.

# 2. DISTRICT BACKGROUND

## 2.1. HISTORY AND SERVICE TERRITORY

The District was established in 1961 as a California Water District under the provisions of the California Water Code. The District is an independent public agency governed by a five-member, publicly-elected Board of Directors whose members are elected for staggered four-year terms. The Board's policies are administered by the General Manager. As a special district, the District focuses on four primary services:

- Providing potable water.
- Collecting and treating sewage.
- Producing and distributing recycled water.
- Implementing urban runoff source control and treatment programs.

The District serves a 181-square-mile area that includes all of the City of Irvine and portions of the cities of Tustin, Newport Beach, Costa Mesa, Orange, and Lake Forest, as well as certain unincorporated areas of Orange County. Extending from the Pacific Coast to the foothills of Eastern Orange County, the region served by the District is semi-arid with a mild climate and an average annual rainfall of approximately 12 inches. The total estimated daytime population served is approximately 634,000 people through approximately 125,000 potable water connections, 6,500 recycled water connections and 120,000 sewer service connections. The number of service connections has increased by 20% over the last 10 years.

The District builds and maintains capital infrastructure to serve customers. It is organized into improvement districts to allocate funding responsibility for capital facilities to the area that will benefit from those capital facilities and to separate areas based on the projected timing of development. Expenditures for growth-related capital improvements are funded by the District through *ad valorem* taxes (property taxes) and connection fees that are collected from the property owners and developers, respectively. Expenditures for the replacement and repair of capital facilities are funded by the rates paid by customers.

## 2.2. BUDGETING AND RATE-SETTING PROCESS

The District adopts operating expense and capital expenditure budgets on a biennial basis. The budgets for FY 2026 and FY 2027 were adopted by the District on March 24, 2025. As an outcome of the biennial budgeting process, the District determines the water, sewer, and recycled water rates that must be paid by customers for the upcoming two-year period.

## 2.3. WATER SYSTEM DESCRIPTION

### 2.3.1. WATER SUPPLY

The District's water supply consists of three primary sources: groundwater originating in the Orange County Groundwater Basin and managed through arrangements with the Orange County Water District (OCWD), recycled water produced from sewer treatment plant effluent, and imported water purchased from the Metropolitan Water District of Southern California (MWD) through its regional wholesaler member agency, the Metropolitan Water District of Orange County (MWDOC). In addition, the District uses surface water (runoff capture) from Irvine Lake (Santiago Creek Reservoir) as a source of untreated water. The District also has an active water banking program to store low-cost water that is physically available during wet hydrological periods in order to ensure reliable supplies during dry years, when the availability of imported water supplies is reduced.

### 2.3.2. GROUNDWATER

The District's groundwater supplies are obtained from the Orange County Groundwater Basin in accordance with the policies and procedures set by OCWD. These include the setting of replenishment assessments, basin

production percentages of total water demand by agencies pumping basin groundwater, and basin equity assessments. The District also has separate contractual arrangements with OCWD to pump groundwater that is not specifically governed by OCWD's basin production percentages and equity assessments. The District's primary sources of groundwater are the Dyer Road Well Field (up to 28,000 acre feet per year), the Deep Aquifer Treatment System, Wells 21 and 22, and the Irvine Desalter Project. The District's sources of groundwater supply for the fiscal year ending June 30, 2024, are shown in Table 1.

**Table 1: FY 2024 Groundwater Supply in Acre Feet**

| Groundwater Source | Acre Feet |
|---|---|
| Dyer Road Well Field | 27,711 |
| Deep Aquifer Treatment System | 8,100 |
| Wells 21 and 22 | 2,746 |
| Irvine Desalter Project | 2,681 |
| Other | 2,335 |
| **Total** | **43,573** |

### 2.3.3. RECYCLED WATER

The District processes and treats sewer effluent from customers to create recycled water supplies. During the fiscal year ending on June 30, 2024, the District supplied 26,591acre feet of recycled water and 367 acre feet of other non-potable water to customers via its recycled water system. The District has approximately 6,406 recycled water customers who are served through 583 miles of recycled water mains. The District also has approximately 3,500 acre feet of active recycled water storage.

### 2.3.4. IMPORTED WATER

The District purchases treated and untreated water from the MWD though its member agency, MWDOC. These supplies originate in the Colorado River and Northern California. During the fiscal year ending June 30, 2024, the District purchased 12,573 treated and 163 untreated acre feet of water from MWDOC.

### 2.3.5. SURFACE WATER

Irvine Lake (Santiago Creek Reservoir)captures runoff from rainwater that is ). .  When available, the District utilizes this water for non-drinking purposes, such as agricultural irrigation, and as a source of water to be treated by the Baker Water Treatment Plant, which creates drinking water for the surrounding communities. During the fiscal year ending June 30, 2024, Irvine Lake supplied the District with 6,102 acre feet of water.

### 2.3.6. WATER BANKING

In addition to developing groundwater and recycled water systems (discussed below), the District has also sought to enhance its water supply reliability by developing water banking facilities in Kern County, California. These projects allow the District to capture and store low-cost water during wet hydrological periods for use during later dry years. In March 2025, the District completed a Water Supply Reliability Evaluation that affirmed the need for water banking programs to meet District demands during future droughts and major supply interruptions. Current demand projections indicate that the District has a long-term need to store supplemental water that could be called upon during drought conditions or major supply interruptions. The District has constructed a fully operational water banking program that makes it possible to store excess water during "wet" hydrologic periods. The stored water is then available for use during "dry" hydrologic periods to offset reduced water supplies during severe drought or during an interruption to the District's imported water supplies. Table 2 provides a summary of the District's water banking storage for the fiscal year ending on June 30, 2024.

**Table 2: Water Banking for the FY Ending on June 30, 2024 (Acre Feet)**

| Facility | Total Capacity | Total Water in Storage | District Share of Total Water in Storage |
|---|---|---|---|
| Strand Ranch | 50,000 | 22,040 | 13,953 |
| Stockdale West | 26,000 | 21,046 | 15,049 |
| District Acquired Storage Account | 50,000 | | |
| Kern | 9,495 | 4,801 | 4,801 |
| Total | 135,495 | 47,887 | 33,803 |

### 2.3.7. SUMMARY OF WATER SUPPLIES

During the fiscal year ending June 30, 2024, the District had total water supply deliveries of 86,132 acre feet. Table 3 details these supplies.

**Table 3: Water Supplies for the FY Ending on June 30, 2024 (Acre Feet)**

| Source of Supply | Acre Feet |
|---|---|
| Local Groundwater | 43,573 |
| Recycled Water | 23,778 |
| Imported Water | 12,679 |
| Runoff Capture (surface water) | 6,102 |
| **Total** | **86,132** |

### 2.3.8. POTABLE AND RECYCLED WATER INFRASTRUCTURE

The District has approximately 2,800 miles of water mains in its potable and recycled water systems and storage capacity of approximately 29,750 acre feet, including Irvine Lake, a 25,000 acre foot untreated water reservoir, and the District's Sand Canyon, Rattlesnake Canyon, Syphon, and San Joaquin Reservoirs, which are recycled water reservoirs with capacities of 800 acre feet, 600 acre feet, 450 acre feet, and 2,900 acre feet respectively. The District's groundwater sources and treatment facilities include:

**Dyer Road Well Field**: The Dyer Road Well Field (DRWF) produces groundwater from the principal aquifer of the Orange County Groundwater Basin. Generally, the water quality exceeds potable water quality standards and does not require treatment other than chlorination. The Dyer Road Well Field has a capacity to produce up to 28,000 acre feet per year of potable water.

**Deep Aquifer Treatment System**: The Deep Aquifer Treatment System (DATS) purifies drinking water from deep within the Orange County Groundwater Basin. The process removes impurities left from ancient vegetation in the bedrock and produces up to 8,200 acre-feet per year of potable water.

**Irvine Desalter Project**: The Irvine Desalter Project (IDP) consists of five wells located near the I-5 Freeway in Irvine in the Orange County Groundwater Basin. Salty water is pumped from these wells and sent to the IDP treatment facility to remove salts. IDP has a capacity of producing approximately 5,100 acre feet per year of potable water.

**Wells 21 and 22 Project**: The Wells 21 and 22 Project recovers and treats local impaired groundwater for use in the District's potable water system. The Wells 21 and 22 Project can produce approximately 6,300 acre feet per year of potable water for the District's service area.

**El Toro Groundwater Remediation Program**: The El Toro Groundwater Remediation Program was initiated in 1985. Trichloroethylene, also known as TCE, was found in portions of the groundwater basin beneath the former El Toro Marine Corps Air Station and central Irvine. TCE is a volatile organic compound, or VOC, that was widely used as a solvent for aircraft cleaning. As a result, a one-by-three-mile plume of contamination now extends

off the former base. The contamination is about 150 feet deep beneath the base and 300-700 feet deep in the community area. In January 2007, the District, OCWD, and the United States Department of the Navy began a joint operation, now called the El Toro Groundwater Remediation Program, designed to clean up the TCE plume. This operation pumps water from the plume and removes the TCE. The resulting treated water is used for non-drinking purposes only. Each year this program provides 3,990 acre feet of clean water.

**Baker Water Treatment Plant**: The Baker Water Treatment Plant is a joint regional project of five South Orange County water districts that produces 31,500 acre-feet per year of drinking water, which is equivalent to approximately 63,300 single family residential dwelling units. The District's share of this capacity is 24.2% or 7623 acre-feet per year of potable water.

**Michelson Water Recycling Plant**: The Michelson Water Recycling Plant, with a capacity of 28 mgd, converts millions of gallons of sewage into recycled water each day. The recycled water is used for landscape irrigation, industrial uses, and toilet flushing. The plant can produce up to 25,000 acre feet of recycled water per year, and is the District's primary source of recycled water.

**Los Alisos Water Recycling Plant**. The Los Alisos Water Recycling Plant treats has a maximum capacity to treat 7.5 mgd of sewage and, based on demand, can produce on average 2,000 acre feet of recycled water per year. The recycled water is used for landscape irrigation and other non-potable uses. The plant was built in 1964 and, along with the Michelson Water Recycling Plant, provides the District's recycled water supply.

## 2.4. SEWER SYSTEM DESCRIPTION

The District has an extensive network of gravity sewers, force mains, and sewer lift stations that convey sewage to the two District-owned recycling plants and the Orange County Sanitation District (OCSD). On average, approximately 80% of the District’s sewage is treated at its Michelson and Los Alisos Water Recycling Plants. The remainder of the sewage collected by the District is treated by OCSD.

## 2.5. SUMMARY OF DISTRICT INFRASTRUCTURE

Table 4 below provides a summary of the District's potable water, sewer, and recycled/non-potable water systems as of the fiscal year ending on June 30, 2024.

## Table 4: FY 2024 System Infrastructure

| Potable Water System | |
|---|---|
| Miles of Water Line | 2,127 |
| Number of Storage Tanks | 37 |
| Maximum Storage Capacity (acre feet) | 466 |
| Number of Pumping Stations | 36 |
| Number of Wells | 27 |
| Well Production Capacity (cubic feet per second) | 123 |
| Water Banking Storage Capacity (acre feet) | 126,000 |
| Potable Treatment Plants | 5 |
| **Recycled and Non-Potable Water Systems** | |
| Miles of Recycled Water Line | 583 |
| Number of Storage Tanks | 12 |
| Number of Open Reservoirs | 5 |
| Maximum Storage Capacity (acre feet) | 29,750 |
| Number of Pumping Plants | 21 |
| Number of Wells | 3 |
| Well Production Capacity (cubic feet per second) | 6.2 |
| **Sewer System** | |
| Miles of Sewer Line | 1,518 |
| Number of Lift Stations | 11 |
| Treatment Plants | 3 |
| Tertiary Treatment Capacity (millions of gallons per day) | 33.5 |
| **Sewage** Flows to Michelson Plant | 63% |
| **Sewage** Flows to Los Alisos Plant | 11% |
| **Sewage** Flows to Orange County Sanitation District | 26% |

# 3. STUDY METHODOLOGY

A three-stage methodology was used to complete the Study objectives. A summary of the work process in each of these stages is presented below.

**Stage 1: Understanding/Analysis of the District's Approach to Developing Rates**. This stage consisted of understanding and analyzing the District's current approach to developing water, sewer, and recycled water rates. Stage 1 included the following primary analytical steps:

- **Understanding/Analysis Cost and Customer Units-of-Service Inputs**. The analysis used District-provided billing data from the customer information system (i.e., billing system) for FY 2022 through FY 2025. The billing data was configured in a Microsoft Excel format to analyze the water consumption characteristics of the District's customers.

- **Analysis of Cost Allocation and Rate Design Methodologies**. In this step, a preliminary understanding of the District's approach to the development of water, sewer, and recycled water rates was gained. For example, the composition of the District's FY 2026 and FY 2027 revenue requirement was reviewed with an emphasis on understanding how the District determines "fixed costs" that are appropriate for recovery through fixed monthly charges versus "variable costs" that are appropriate for recovery through usage-based commodity rates.

**Stage 2: Identification of IRWD-Recommended Changes to Cost Allocation and/or Rate Design Methodologies**. In Stage 2, the work for this Study compared the District's existing cost allocation to Proposition 218's principles and limitations. Recognizing that Proposition 218 does not detail exactly how to allocate costs, the focus was to ensure that the District's rates have a clearly identifiable correlation to underlying costs and thus be compliant with Proposition 218 and fundamental cost-of-service equity. The District has proposed a change to the methodology used for calculating rates for sewer customers receiving collection-only service. This change further refines the allocation of fixed and variable costs to customer rates based on the volume of their estimated average sewer discharges. Raftelis supports this proposed modification.

**Stage 3: Testing of Customer Bill Impacts.** The rate and customer bill impacts of the proposed FY 2026 and FY 2027 compared to the District's current FY 2025 rates.

**Stage 4: Presentation of the Recommendations**. In this final stage of the Study, the proposed FY 2026 and FY 2027 rates were presented to the District's Board of Directors on March 24, 2025 for inclusion in the notices to the public of the proposed ratemaking.

# 4. POTABLE WATER COST OF SERVICE

## 4.1. Water Budget Rate Structure

Proposition 218 specifies general principles governing property-related fees but does not prescribe exactly how to structure water service rates. As a result, water utilities have a wide range of options for recovering fixed and variable costs of providing service. For example, water utilities have a variety of options for the recovery of variable costs via commodity rates. Some utilities employ a simple uniform rate structure featuring a single commodity rate assessed on all customers regardless of their actual volume of usage. Other utilities develop specific commodity rates for each clearly definable customer class that use an inclining tier rate structure with specific fixed consumption tiers. Depending on the unique characteristics of the costs of providing service for the utility in question, the commodity rates charged under these, and other, rate-structure options can be cost-based and compliant with requirements of Proposition 218.

The District uses a "water-budget-based" rate structure to recover the variable costs of providing potable and recycled water service to customers, pursuant to California Water Code Section 370, et seq. Under this approach, a customized monthly budget (i.e., monthly water usage allocation) is developed for each customer based on the reasonable needs of the parcel using water efficiently. The commodity rates charged by the District in each consumption tier are designed to:

- Reflect and equitably recover the increasing cost of meeting consumption demands within each tier.
- Fund demand-reduction and reliability programs.
- Mitigate for costs arising from customers' wasteful use that causes urban runoff requiring treatment by the Natural Treatment System (NTS).

### 4.1.1. RESIDENTIAL WATER BUDGET STRUCTURE

The District recovers the annual variable cost of providing water service to residential customers through a water budget-based rate structure that features four consumption tiers. The amount of water included in each customer's monthly water budget is based on an assessment of reasonable and efficient water use as determined by factors that include:

- Household occupancy per housing type (based on census data).
- Irrigated landscape area.
- Daily weather characteristics during each month of the year.
- Unique characteristics such as the presence of a pool, medical needs, or livestock.

The commodity rates ($/ccf) paid in each consumption tier are designed to recover the District's variable cost of producing or purchasing water supplies. Customers with water usage that stays within their monthly budget allocation (the low volume and base tiers) pay commodity rates that reflect the lowest-cost sources of water supply. Customers with water usage in excess of their monthly budget allocation (the inefficient and wasteful tiers) pay commodity rates that reflect the District's need to obtain higher-cost sources of water, such as potable imported water purchased from MWDOC and banked water recovered and delivered from District facilities in Kern County, to serve those customers' higher-increment demands.

Customers in the inefficient and wasteful tiers who exceed their monthly budget allocation impose higher costs on the District to meet their higher-increment water demand. While all customers pay the same rate for the volume of water consumed in the low volume and base tiers, respectively, only customers whose demand exceeds their parcel's budget allocation are required to pay for IRWD's portion of water supplies purchased to serve higher-tier demands or pay for targeted services aimed at helping customers reduce their consumption to reasonable and efficient levels. The commodity rates charged in these two upper tiers are designed to recover the cost of the more

expensive water supplies (which water supplies would not be needed if those customers stayed within their budgets) and to recover the additional costs of:

- Targeted conservation programs designed to reduce water use specifically among customers in the wasteful tier, to bring them within their budgets.
- Water banking operations, which enhance water supply reliability to supplement imported water supply to meet demand from customers in the wasteful tier.
- Regional programs designed to achieve long-term improvements in water use efficiency for customers in the inefficient and wasteful tiers, to bring them within their budgets.
- Natural treatment system programs used to control urban runoff sources (e.g., runoff resulting from sprinkler overspray and overwatering from landscape irrigation) due to customers in the inefficient and wasteful tiers who use water that ends up running off their properties and into storm drains, which then must be separately treated to remove contaminants.

As explained in more detail below, each property receives its own budget based on individual property characteristics. That property is then billed for water consumption based on the cost to provide water service for each tier of water it uses compared to that budget. Table 5 shows the District's residential water budget consumption tiers, for both single-family and multi-family customers, and the proposed FY 2025-26 commodity rates.

**Table 5: FY 2025-26 Residential Water Budget Consumption Tiers**

| Usage Tier | Single Family and Multi-Family Residential Consumption Tiers | FY 2025-26 Rates ($/ccf) (Noticed but Not Implemented) (1) |
|---|---|---|
| Tier 1: Low Volume | 0 - 40% of budget | $2.07 |
| Tier 2: Base | 41 - 100% of budget | $2.72 |
| Tier 3: Inefficient | 101 - 140% of budget | $7.51 |
| Tier 4: Wasteful | 141% + of budget | $18.60 |

(1) Development of the rates is covered beginning in Section 4.3.1

### 4.1.2. SINGLE FAMILY RESIDENTIAL WATER BUDGET CALCULATION

The monthly water budget developed for each individual customer features an indoor usage component and an outdoor usage component. The sum of these two components reflects the District's determination of efficient monthly water usage based on the unique requirements of each customer. As shown in Table 5 above, 40% of a customer's total monthly budget is billed at the lowest commodity rate in the low volume tier. This represents the expected reasonable indoor use. The remaining portion of a customer's total monthly budget is billed in the base tier, which reflects the expected reasonable outdoor use. Usage above a customer's total water budget is billed in the inefficient and wasteful tiers at the highest commodity rates.

The general formula used to determine a customer's indoor water budget is shown below. The approach used by the District is a reasonable method for quantifying efficient indoor water usage and no modifications are recommended.

***Single Family Residential Indoor Budget (ccf) =***

*Persons per Household (1) * 50 gallons per person (2) * Days in the Billing Cycle ÷ 748 Conversion Factor (3)*

(1) The default assumption used is four persons per household. Customers can request a variance to adjust this factor.

(2) Although Water Code section 10609.4 sets a current State of California standard at 55 gallons per person per day, the state standard is slated to decrease to 52.547 gallons per person per day in 2025 and to 42 gallons per person per day in 2030 onward. The typical District customer uses approximately 50 gallons per person per day.
(3) 748 is a factor to convert gallons to one hundred cubic feet (ccf).

The fundamental metric used in the District's calculation of efficient outdoor water usage is the evapotranspiration (ET) rate of landscape plants and the amount of planted surface area. Evapotranspiration is the process by which water is lost to the atmosphere through evaporation and transpiration. ET rates are measured at three monitoring stations located throughout the District's service territory. Having established the ET rate for each day of the monthly billing cycle based on actual weather conditions, the District applies an adjustment factor. The District's ET Adjustment Factor (ETAF) of 0.75 is based on the typical residential landscape plant mix and the efficiency of a typical residential irrigation system. Typical residential landscapes in IRWD's service area are primarily grass turf (approximately 60% of the landscape) usually with borders or other landscape features that can include trees, shrubs and other plants (approximately 40%). Different plants have different watering requirements, called plant factors, which can be quantified compared to a reference crop such as cool-season turf, which requires 100% of ET. Warm season grass has a plant factor of 0.65, or requires 65% of ET, and drought tolerant and lower water use plants are assumed to have a plant factor of 0.5, or 50% of ET. A weighted average, based on 60% warm-season grass and 40% drought tolerant plants results in an average plant factor of 0.6. The irrigation system is assumed to be 80% efficient, or 0.8. ETAF = Plant Factor/Irrigation Efficiency. Dividing the plant factor by the irrigation efficiency (0.6/0.8) = 0.75. This can also be calculated as follows using Plant Factor = 0.6 and Irrigation Efficiency = 1/0.8 = 1.25. Therefore, ETAF = 0.6 x 1.25 = 0.75.

A simplified representation of the general formula used to determine a customer's outdoor water budget is shown below. The approach used to quantify efficient outdoor water usage is based on horticultural science, is reasonable, and no modifications are recommended.

***Single Family Residential Outdoor Budget (ccf)*** =
*Irrigated Landscape Area (1) * Evapotranspiration (ET) Rate (2) * 0.75 ET Adjustment Factor (3) * 36.3 Conversion Factor (4)*

(1) Area measured in acres.
(2) Evapotranspiration rate during each day of the monthly billing cycle based on actual temperature, humidity, and other factors.
(3) Adjustment factor assuming 60% efficient warm season turf, 40% drought tolerant plants and 20% irrigation system inefficiency.
(4) 36.3 is a factor to convert acre-inches of water to one hundred cubic feet (ccf).

The typical single family residential customer served by the District has an average monthly usage of 12 ccf. Table 6 provides an example of the calculation of the indoor, outdoor, and total monthly water budgets for this average customer.

**Table 6: Example Calculation of a Single Family Residential Monthly Water Budget**

| Example Monthly Water Budget Calculation for an Average Single Family Residential Customer (Default Household Occupancy of 4 persons and 0.3 acres of Irrigated Landscape) | | |
|---|---|---|
| Line | Indoor Water Budget Calculation | |
| 1 | Default Persons per Household | 4.0 |
| 2 | Required Gallons per Person per Day | 50.0 |
| 3 | Days in Billing Cycle | 30 |
| 4 | Monthly Indoor Water Budget (gallons) | 6,000 (Lines 1 * 2 * 3) |
| 5 | Monthly Indoor Water Budget (ccf) | 8.0 (Line 4 / 748 Conversion Factor) |
| | | |
| | Outdoor Water Budget Calculation | |
| 6 | Average Daily ET Rate During the Billing Cycle Based on Measured Temperature, Humidity and other factors (Inches) | 0.136986 |

| | | |
|---|---|---|
| 7 | Adjustment for 60% warm season turf & 40% drought tolerant landscaping | 0.6 |
| 8 | Adjustment for Irrigation System Efficiency | 0.8 |
| 9 | ET Adjustment Factor | 0.75 (Line 6 / Line 8) |
| 10 | Adjusted Daily ET Rate | 0.10274 (Line 6 * Line 9) |
| | | |
| 11 | Customer Irrigated Landscape Area (acres) | 0.03 |
| 12 | Required Inches of Water per Acre | 0.003082 (Line 10 * Line 11) |
| | | |
| 13 | Days in Billing Cycle | 30.0 |
| 14 | Required Inches per Acre | 0.092466 (Line 12 * Line 13) |
| | | |
| 15 | Monthly Outdoor Water Budget (ccf) | 3.4 (Line 14 * 36.3 Conversion Factor) |
| | | |
| | **Total Water Budget** | |
| 16 | Total Monthly Water Budget Before Rounding (ccf) | 11.4 (Line 5 + Line 15) |
| 17 | Total Monthly Water Budget Used in Customer Billing (ccf) | 12.0 |

### 4.1.3. SINGLE FAMILY RESIDENTIAL CONSUMPTION TIERS

Water utilities that employ inclining tier rate structures develop their tiers based on the cost of the amount of water allocated for use in each consumption tier. For example, tier 1 (the lowest commodity rate) is defined as the winter water usage of an average single family residential customer, which typically represents interior water use because exterior irrigation needs normally are minimal during the typical winter wet season. Tier 2 reflects the addition of estimated outdoor watering needs for single family residential customers with an average size lot. Finally, tier 3 represents additional demands from 100% warm season turf for a customer with an average sized lot and tier 4 is defined as any amount of usage in excess of tier 3.

The District takes a more sophisticated approach to developing cost-justified consumption tiers. Instead of using "one-size-fits-all" fixed consumption tiers, the District calculates custom, individualized water budgets that fairly allocate the lower-cost and higher-cost components of the District's water supply across a broad spectrum of customer types. To ensure equity in the bills paid by customers, a common definition of the usage allowed in each tier is expressed on a percentage rather than a specific fixed level of consumption.

The example in Table 6 above showed the calculation of a 12 ccf monthly water budget for a hypothetical single family residential customer. Table 7 shows how this single family residential customer would be billed under the water budget tier structure if their actual water usage equaled 18 ccf and no variance was submitted.

**Table 7: Allocation Usage Between Consumption Tiers (based on a 12 ccf Budget)**

| Usage Tier | Single Family Residential Consumption Tiers | Amount Billed in Each Tier Based on Usage of 18 ccf |
|---|---|---|
| Tier 1: Low Volume | 0 - 40% of budget | 5 ccf =12 ccf total budget * 40% |
| Tier 2: Base | 41 - 100% of budget | 7 ccf =12 ccf total budget * 60% |
| Tier 3: Inefficient | 101 - 140% of budget | 5 ccf =12 ccf total budget * (140% - 100%) |
| Tier 4: Wasteful | 141% + of budget | 1 ccf =18 ccf actual usage - 17 ccf allocated in Tiers 1 - 3 |

**40% Breakpoint Between the Low Volume and Base Tiers**: The low volume tier, which reflects usage between 0 - 40% of each customer's total monthly water budget, is designed to provide all customers with an amount of indoor water usage equivalent to 20 gallons per person per day in order to meet minimum health and safety requirements plus an amount of water for outdoor irrigation adequate to sustain outdoor landscaping, regardless of the size of a customer's irrigated landscaped area.

The 40% breakpoint is appropriate because it ensures that all single-family residential customers, regardless of the irrigated area, receive an allocation of the lowest cost water that is adequate to sustain their basic indoor and outdoor usage requirements.

**100% Breakpoint Between the Base and Inefficient Tiers**: Under the District's water budget rate structure, 100% of a customer's total monthly water budget is allocated to the low volume plus base tiers. Water consumption that exceeds 100% of the budget for that property (up to 140%) is charged at the Inefficient rate.

**140% Breakpoint Between the Inefficient and Wasteful Tiers**: The 140% breakpoint between the inefficient and wasteful tiers is based on the customer exceeding a 40% factor that accounts for a combination of leaks and inefficient irrigation and/or devices. Table 8 illustrates this calculation. The 40% is an average derived from various end-use studies on residential water use.[1] No changes are recommended to this approach.

**Table 8: Derivation of the 140% Inefficient Tier/Wasteful Tier Breakpoint**

| Water Budget Metric | Efficient Use (ccf) | Inefficient Use (ccf) |
|---|---|---|
| Indoor Water Use (1) | 8.29 | 11.49 |
| Outdoor Water Use (2) | 3.68 | 5.15 |
| Total Monthly Water Use Before Rounding (ccf) | 11.97 | 16.64 |
| Total Monthly Water Budget Used in Customer Billing (ccf) | 12.0 | 17.0 |
| | | |
| Ratio of Efficient to Inefficient Before Rounding | 16.8 | 139% |
| Ratio of Efficient to Inefficient After Rounding | 17 | 140% |

(1) Single Family Residential - Default Household Occupancy of 4 persons
(2) 0.3 acres of Irrigated Landscaping Water Budget

### 4.1.4. MULTI-FAMILY RESIDENTIAL CONSUMPTION TIERS

Similar to the single family residential rate, the breakpoint for multi-family residential parcels represents an allocation for both indoor and outdoor demands that provides for health and safety and is fair and equitable. The District defines the 40% breakpoint between the low volume and base tiers as follows:

> "The low volume tier, which reflects usage between 0 - 40% of each customer's total monthly water budget, is designed to provide all customers with an amount of indoor water usage equivalent to 20 gallons per person per day in order to meet minimum health and safety requirements plus an amount of water for outdoor irrigation, as applicable, adequate to sustain outdoor landscaping, regardless of the size of a customer's irrigated landscaped area."

The 40% breakpoint ensures that all residential customers, regardless of the irrigated area, receive an allocation of the lowest cost water that is adequate to sustain their basic usage requirements.

**Multi-Family Condominiums**

When calculating water budgets for multi-family condominiums (condo), the District assumes a default occupancy of 3 persons per household and 435 square feet of outdoor irrigation. Assuming that a customer does not request a variance, this results in an average total monthly water budget of 8 ccf per condo. The 140% breakpoint between the inefficient and wasteful tiers is based on the customer exceeding a 40% factor that accounts for a combination of leaks and inefficient irrigation and/or devices. The 40% is an average derived from various end-use studies on residential water use.

[1] *California Single Family Water Use Efficiency Study*, 2011, De Oreo et al.
*Future Potential Water Efficiency Study*, 2019, IRWD, Prepared by EKI Environment & Water, Inc.
*Residential End Uses of Water Version 2*, 2016, Water Research Foundation

**Multi-Family Apartments**
When calculating water budgets for multi-family apartment customers, the District assumes a default occupancy of 2 persons per household with no outdoor irrigation demands. Assuming that a customer does not request a variance, this results in a total monthly water budget of 5 ccf per apartment.

Customers with higher occupancy can request variances that will adjust their budgets upward to account for the additional reasonable usage per person.

### 4.1.5. WATER BUDGET RATE STRUCTURE FOR LANDSCAPE CUSTOMERS

Landscape customers are served by potable water or recycled water connections that are solely used for the purposes of meeting outdoor irrigation. Similar to residential customers, the District recovers the annual variable cost of providing water service to landscape customers through a water-budget-based rate structure that features four consumption tiers. However, the amount of water included in each customer's monthly water budget does not include an allowance for any indoor consumption. Instead, it is based on the District's assessment of efficient water use, based on principles of horticultural science as determined by the irrigated landscaped area.

A representation of the general formula used to determine the water budget for a landscape customer served by a potable water connection is shown below. The approach used by the District for quantifying efficient outdoor water usage is reasonable and no modifications are recommended. The low volume tier allocation for landscape customers assumes the demand necessary to sustain the landscape as defined in the table below.

***Landscape Customer Served by a Potable Water Connection (ccf) =***
*Irrigated Landscape Area (1) * Evapotranspiration (ET) Rate (2) * 0.75 ET Adjustment Factor (3) * 36.3 Conversion Factor (4)*

(1) Area measured in acres.
(2) Evapotranspiration rate during each day of the monthly billing cycle based on actual temperature, humidity, and other factors.
(3) Adjustment factor assuming 60% efficient warm season turf, 40% drought tolerant plants and 20% irrigation system inefficiency.
(4) 36.3 is a factor that converts acre-inches of water to one hundred cubic feet (ccf).

A representation of the general formula used to determine the water budget for a landscape customer served by a recycled water connection is shown below. Note that the ET adjustment factor of 0.75 used for potable water has been modified to 0.87. This is because landscape customers served by a recycled water connection are assumed to have 100% warm season turf and 0% drought tolerant plants and would be more likely to require the use of less efficient overhead spray irrigation. The low volume tier allocation for landscape customers assumes the water necessary to sustain 100% warm season turf. The inefficient tier includes water use exceeding budget by 40%, or up to 140%. This is based on leaks and inefficient landscape irrigation.

***Landscape Customer Served by a Recycled Water Connection (ccf) =***
*Irrigated Landscape Area (1) * Evapotranspiration (ET) Rate (2) * 0.87 ET Adjustment Factor (3) * 36.3 Conversion Factor (4)*

(1) Area measured in acres.
(2) Evapotranspiration rate during each day of the monthly billing cycle based on actual temperature, humidity, and other factors.
(3) Adjustment factor assuming 100% efficient warm season turf, and 25% irrigation system inefficiency.
(4) 36.3 is a factor that converts acre-inches of water to one hundred cubic feet (ccf).

Table 9 shows the water budget consumption tiers and proposed FY 2025-26 commodity rates for landscape customers.

**Table 9: FY 2025-26 Landscape Consumption Tiers**

| Usage Tier | Consumption Tiers | Potable Water FY 2025-26 Rates ($/ccf) (Noticed but Not Implemented) (1) | Recycled Water FY 2025-26 Rates ($/ccf) (Noticed but Not Implemented) (1) |
|---|---|---|---|
| Tier 1: Low Volume | 0 - 40% of budget | $2.07 | $1.38 |
| Tier 2: Base | 41 - 100% of budget | $2.72 | $2.39 |
| Tier 3: Inefficient | 101 - 140% of budget | $7.51 | $5.43 |
| Tier 4: Wasteful | 141% + of budget | $18.60 | $9.93 |

(1) Development of the rates is covered beginning in Section 4.3.1

### 4.1.6. WATER BUDGET RATE STRUCTURE FOR COMMERCIAL CUSTOMERS

Given the diversity of water usage characteristics, it is virtually impossible to develop customized water budgets for commercial customers based on standardized metrics regarding efficient indoor and outdoor water use. For this reason, the District establishes an individualized water budget for each customer based on an analysis of business water use needs. This may include an on-site assessment. This allows the water budget of each commercial customer to be tailored to their specific needs and requirements.

Because the water budgets are tailored to each commercial customer, rather than using four consumption tiers, the commodity rates of commercial customers are assessed over two consumption tiers. The base consumption tier reflects 100% of the customer's total monthly water budget. The wasteful tier reflects all usage above the monthly budget allocation. Table 10 shows the proposed FY 2025-26 commercial customer consumption tiers and proposed commodity rates.

**Table 10: FY 2025-26 Commercial Water Budget Structure and Commodity Rates**

| Usage Tier | Consumption Tiers | Potable Water FY 2025-26 Rates ($/ccf) (Noticed but Not Implemented) (1) | Recycled Water FY 2025-26 Rates ($/ccf) (Noticed but Not Implemented) (1) |
|---|---|---|---|
| Tier 1: Base | 0 - 100% of budget | $2.72 (2) | $1.38 (4) |
| Tier 2: Wasteful | 100% + of budget | $18.60 (3) | $9.93 (5) |

(1) Development of rates is covered beginning in Section 4.3.1
(2) Reflects the Tier 2 potable rate paid by residential and landscape customers.
(3) Reflects the Tier 4 potable rate paid by residential and landscape customers.
(4) Reflects the Tier 1 recycled rate paid by landscape customers.
(5) Reflects the Tier 4 recycled rate paid by landscape customers.

## 4.2. District Approach to Cost Recovery

The District separates the components of its annual revenue requirement from rates into three specific types of costs: variable costs recovered from commodity rates, fixed operating costs recovered through monthly meter charges, and replacement and enhancement costs which are also recovered from monthly meter charges. No modifications are recommended to this approach.

**Variable Operating Costs**: Variable operating costs are those operations and maintenance costs that vary with the volume of water consumed by customers. These costs are recovered through commodity rates assessed on a $/ccf basis.

**Fixed Operating Costs**: Fixed operating costs are those operations and maintenance costs that, in the short-term, do not vary with the volume of water consumed by customers. These costs are recovered through monthly service charges.

**Replacement and Enhancement Capital Costs**: Capital costs incurred by the District to replace and repair existing infrastructure and to update existing infrastructure to meet new regulatory requirements are referred to as "Replacement and Enhancement Capital Costs." Replacement and enhancement capital costs do not increase the capacity of the water utility system to serve demand growth from new customers. The District pays for a portion of its replacement and enhancement capital costs via ad valorem property tax assessments. The remainder is funded by operational cash flows provided by rate revenues.

The District's growth-related capital costs (i.e., capital costs that increase system capacity to serve new customers) are not recovered through recurring water rates. Instead, they are recovered via ad valorem property tax assessments and connection fees. A review of the growth-related capital costs and their recovery was not included as part of this Study. Table 11 summarizes the process used to allocate and recover its annual water utility revenue requirement from water service rates including an allocation of general and administrative expense based on direct labor charges.

**Table 11: District Cost Allocation and Revenue Recovery Philosophy**

| Type of Cost | Description of Cost | Cost Recovery Mechanism |
|---|---|---|
| Variable Operating Costs | Direct cost of producing/purchasing water supplies, including water treatment costs that vary.<br><br>Allocated indirect general and administrative overhead costs. | Commodity rates ($/ccf) for each applicable consumption tier. |
| Fixed Operating Costs | Direct operations and maintenance costs that do not vary based on customer consumption.<br><br>Allocated indirect general and administrative overhead costs. | Monthly meter service charge based on meter size. |
| Replacement and Enhancement Capital Costs | Direct costs incurred to replace and repair existing infrastructure and meet new regulatory requirements | Included in the monthly meter service charge based on meter size. |

## 4.3. FY 2025-26 Water Revenue Requirement

The FY 2025-26 water revenue requirement was determined to be $127,651,952 (see Tables 12 and 13). Of this amount, $78,583,884 (61.2%) is associated with variable costs that are incurred to acquire and treat water supplies. These costs vary with the amount of water used by customers and are recovered through commodity rates. Note that the variable cost revenue requirement includes $16,852,103 in costs for universal conservation, targeted conservation, water banking operations, and the District's natural treatment system used to control runoff from customers who use water in the inefficient and wasteful tiers. Table 12 provides details of the FY 2025-26 variable revenue requirement.

### Table 12: FY 2025-26 Potable Water Variable Cost Revenue Requirement

| Revenue Requirement Component | Amount |
|---|---|
| Water Supplies | |
| Dyer Road Wellfield | $26,085,882 |
| Baker Treatment Facilities | $16,822,931 |
| Imported Water Purchases (MWDOC) | $8,218,964 |
| Deep Aquifer Treatment System | $8,795,636 |
| Irvine Desalter Project (potable) | $6,421,381 |
| Wells 21 & 22 Desalter Treatment Plant | $4,325,647 |
| Orange Park Acres | $2,991,696 |
| Howiler Treatment Facility | $784,118 |
| Total Gross Water Supply Costs | $74,446,254 |
| | |
| Revenue Requirement Offsets to Water Supply Costs | |
| Revenue from Baker Treatment Plant Partners | $6,896,473 |
| Revenue from Sinking Fund | $1,700,000 |
| Revenue from Water Banking Operations | $2,093,000 |
| MWDOC PTP/IDP Credits | $2,025,000 |
| Total Revenue Requirement Offsets | $12,714,473 |
| | |
| Net Revenue Requirement for Water Supply Costs | $61,731,781 |
| | |
| Conservation and Supply Reliability | |
| Targeted Conservation | $1,723,580 |
| Natural Treatment System | $7,668,602 |
| Water Banking | $5,286,796 |
| Universal Conservation | $2,173,125 |
| Total Conservation and Supply Reliability Costs | $16,852,103 |
| | |
| Net Variable Cost Revenue Requirement | $78,583,884 |
| Net Untreated Water Variable Cost Revenue Requirement | ($817,258) |

Fixed costs do not vary with the volume of water used by customers. The fixed cost portion of the total FY 2025-26 revenue requirement is $49,885,325 (38.8%) as shown in Table 13. Of these fixed costs, $10,702,638 were associated with expenditures for replacement and enhancement capital costs that do not increase the capacity of the water utility system to serve new customer demand growth. Table 13 provides details of the FY 2025-26 fixed revenue requirement.

**Table 13: FY 2025-26 Potable Water Fixed Cost Revenue Requirement**

| Revenue Requirement Component | Total |
|---|---|
| Fixed Operating Costs | |
| System Operations and Maintenance | $34,567,378 |
| Customer Service | $5,819,096 |
| Fleet | $1,604,133 |
| General Plant | $1,032,519 |
| Building Maintenance | $2,401,634 |
| Total Fixed Operating Costs | $45,424,761 |
| | |
| Replacement and Enhancement Capital Costs | |
| Replacement | $8,422,715 |
| Enhancement | $2,279,924 |
| Total Capital Costs | $10,702,638 |
| | |
| Gross Fixed Cost Revenue Requirement | $56,127,399 |
| | |
| Revenue Requirement Offsets | |
| Fireline Revenues | $2,926,822 |
| Miscellaneous Revenue | $1,792,326 |
| Pumping Surcharge Revenue | $1,171,156 |
| Low Volume Benefit | $351,770 |
| Total Revenue Requirement Offsets | $6,242,074 |
| | |
| Net Fixed Cost Revenue Requirement from Rates | $49,885,325 |

### 4.3.1. VARIABLE COST RECOVERY - COMMODITY RATES

The District recovers water supply costs through commodity rates with the lowest cost water supplies being recovered in the low volume and base consumption tiers and the highest cost water supplies being recovered in the inefficient and wasteful tiers. The District's method for recovering variable costs is compliant with Proposition 218 because of the direct linkage between the revenue recovered in each tier to the costs incurred to provide service to customers with demand in each consumption tier.

The District also recovers the cost of water conservation and water supply reliability programs through its commodity rates with targeted costs being allocated to customers with consumption in the inefficient and wasteful tiers. This approach is reasonable because customers who exceed their monthly water budget allocation impose higher costs on the District. Thus, the commodity rates charged in these two upper tiers are designed to not only recover the cost of more expensive water supplies, but also the additional costs of:

- Targeted conservation programs designed to reduce excessive use.
- Water banking operational costs to enhance water supply reliability.
- Rebates for long-term improvements in customer water use efficiency.
- Urban runoff source control programs referred to as the NTS, which treats runoff from customers who use water in the inefficient and wasteful tiers.

In FY 2025-26, the District projected total water demand of 53,404 acre feet based on historical averages by tier, adjusted for customer account growth and other relevant factors. Table 14 details the FY 2025-26 unit cost of water supplies ($/ccf) from each supply source as determined using cost and demand data provided by the District.

## Table 14: Unit Cost of FY 2025-26 Water Supplies

| Metric | Dyer Road Wellfield | Deep Aquifer Treatment System | Baker Treatment Facilities | Irvine Desalter Domestic | Wells 21 & 22 Desalter Treatment Plant | Imported Water Purchases | Orange Park Acres Well 1 | Total Cost and Acre Feet |
|---|---|---|---|---|---|---|---|---|
| Net Cost (1) | $24,105,058 | $7,922,267 | $9,926,458 | $4,449,325 | $3,661,409 | $8,218,964 | $2,664,182 | $61,731,781 |
| Demand in Acre Feet (net) | 26,740 | 7,280 | 6,552 | 4,560 | 1,920 | 3,622 | 2,730 | 53,404 |
| CCF (2) | 11,647,944 | 3,171,168 | 2,854,051 | 1,986,336 | 836,352 | 1,577,830 | 1,189,188 | 23,262,870 |
| Unit Cost per ccf (1) divided by (2) | $2.07 | $2.50 | $3.48 | $2.24 | $4.38 | $5.21 | $2.24 | |

(1) From Table 12

(2) Acre feet is multiplied by 435.6 to convert to CCF

The District allocates the water supply in the order of cost for each source. The higher cost water supplies are appropriately allocated to the inefficient and wasteful tiers. Table 15 details this allocation for FY 2025-26 using cost and demand data provided by the District.

## Table 15: Allocation of Potable Water Supplies to Consumption Tiers for Unit Costs

| Metric (acre feet) | Dyer Road Wellfield | Deep Aquifer Treatment System | Baker Treatment Facilities | Irvine Desalter Domestic | Wells 21 & 22 Desalter Treatment Plant | Imported Water Purchases | Orange Park Acres Well 1 | Unit Cost by Tier |
|---|---|---|---|---|---|---|---|---|
| Unit Cost | $2.07 | $2.50 | $3.48 | $2.24 | $4.38 | $5.21 | $2.24 | |
| T1: Low Volume | 20,189 | 0 | 0 | 0 | 0 | 0 | 0 | $2.07 |
| T2: Base | 6,551 | 7,280 | 6,552 | 4,560 | 535 | 0 | 2,730 | $2.60 |
| T3: Inefficient | 0 | 0 | 0 | 0 | 1,385 | 1,232 | 0 | $4.77 |
| T4: Wasteful | 0 | 0 | 0 | 0 | 0 | 2,390 | 0 | $5.21 |

(1) 20,189 acre feet are used to meet projected low volume demand estimated based on historic demand as adjusted for customer account growth and other relevant factors. The remainder (6,551 acre feet) is allocated to partially meet the base demand.

(2) The Unit Cost by Tier is the blended cost of the sources. Example: T2 = ((6,551*435.6*$2.07)+(7,820*435.6*$2.50)+(6,552*435.6*$3.48)+(4,560*435.6*$2.24)+(535*435.6*$4.38)+(0*435.6*$5.21)+(2,730*435.6*$2.24))/(28,209*435.6) = $2.60

Having determined the unit cost of water supplies by consumption tier as shown in Table 16 above, the District then allocates the cost of conservation programs and supply reliability programs to the water budget tiers as described below:

**Universal Conservation**: Universal conservation costs are incurred to encourage customers to use water as efficiently as possible. Universal program costs are added to the commodity rate in the base, inefficient, and wasteful tiers. This cost is not included in the low volume rate since customers who remain in this usage tier do not need assistance to efficiently use water.

**Targeted Conservation**: Targeted conservation costs reflect programs specifically designed to encourage efficient water practices of customers whose usage exceeds their water budgets. Therefore, these costs are added to the commodity rates of customers in the inefficient and wasteful tiers. Based on a historical estimate of customers who have been provided assistance in these programs, approximately 77% of the customers are in the wasteful tier with the remainder of customers being in the inefficient tier. Therefore, 77% of the targeted conservation costs are allocated to the wasteful tier with the remaining 23% of the costs being allocated to the inefficient tier-.

**NTS Costs**: These costs are incurred by the District to deal with urban water runoff produced by customers whose usage exceeds their water budgets. These costs are added to the commodity rates of customers in the inefficient and wasteful tiers because their excessive water usage creates urban water runoff. The allocation is based on an estimate of the historic mix of urban runoff created by customers in the inefficient and wasteful tiers primarily from hosing down hardscape and excess irrigation running off the landscape into the storm drains. The District estimates 82% of NTS costs are created by customers in the wasteful tier because wasteful outdoor demand flows to NTS sites. The remaining 18% of urban runoff costs results from inefficient customers overwatering landscape.

**Water Banking**: Water banking costs are incurred to support the reliability of the District's water supplies. These costs are added to the commodity rates of customers in the wasteful tier because their excessive water usage creates the need for enhanced reliability of costly imported water supplies as previously discussed.

Table 16 shows the outcome of derivation of the unit costs for the District's conservation and supply reliability programs.

### Table 16: FY 2025-26 Conservation and Supply Reliability Unit Costs ($/ccf)

| Program | FY 2025-2026 Revenue Requirement (1) (A) | FY 2025-26 Units of Demand (ccf) (2) (B) | Demand Adjustment Factor for Price Elasticity (C) | FY 2025-26 Adjusted Units of Demand B x C = (D) | Unit Cost Included in FY 2025-26 Commodity Rates A ÷ D = (E) |
|---|---|---|---|---|---|
| Universal Conservation | $1,723,580 | 14,468,574 | 100% | 14,468,574 | $0.12 |
| Water Banking | | | | | |
| Wasteful tier | $2,173,654 | 1,041,022 | 90% | 936,920 | $2.32 |
| Targeted Conservation | | | | | |
| Inefficient tier (77%) | $1,757,388 | 1,139,869 | 90% | 1,025,882 | $1.71 |
| Wasteful tier (23%) | $5,911,214 | 1,041,022 | 90% | 936,920 | $6.31 |
| Natural Treatment System | | | | | |
| Inefficient tier (18%) | $936,901 | 1,139,869 | 90% | 1,025,882 | $.91 |
| Wasteful tier (82%) | $4,349,895 | 1,041,022 | 90% | 936,920 | $4.64 |

(1) From Table 12
(2) FY 2025-26 Units of Demand are based on the cumulative projected units of sale for the tiers. Universal Conservation includes the base, inefficient, and wasteful tiers.

Table 17 shows the FY 2025-26 commodity rates as calculated by Raftelis. The slight differences in the calculated commodity rates calculated by Raftelis and the commodity rates originally published in the District's FY 2025-26 Proposition 218 notice can be attributed to recommended minor cost allocation adjustments.

### Table 17: FY 2025-26 Potable Water Commodity Rates ($/ccf)

| Consumption Tier | Unit Cost of Water Supplies (1) | Unit Cost of Universal Conservation (2) | Unit Cost of Water Banking (2) | Unit Cost of Targeted Conservation (2) | Unit Cost of Natural Treatment System (2) | FY 2025-26 Rates (Noticed but Not Implemented) |
|---|---|---|---|---|---|---|
| T1: Low Volume | $2.07 | | | | | $2.07 |
| T2: Base | $2.60 | $0.12 | | | | $2.72 |
| T3: Inefficient | $4.77 | $0.12 | | $1.71 | $0.91 | $7.51 |
| T4: Wasteful | $5.21 | $0.12 | $2.32 | $6.31 | $4.64 | $18.60 |

(1) From Table 15
(2) From Table 16. Water used in the low volume tier is efficient and universal conservation efforts are not necessary.
(3) Rate differences are due to minor cost allocation adjustment recommendations.

### 4.3.2. VARIABLE COST RECOVERY - AGRICULTURAL RATES

Allocated fixed costs and variable costs are combined to calculate the agricultural commodity rate, and these customers are charged a single volumetric rate for all water used. Due to the variable nature of water demands for seasonal growing (i.e. not permanent crops), these customers do not have a budget. The variable rate is based on the total available source of supply. The variable rate component is based on the respective proportions of those available sources using the same allocation of available sources used for residential and commercial customers. DRWF provides 50% of the source of supply at a cost of $2.07/ccf and imported water provides 7% at a cost of $5.21/ccf. The remaining 43% is the blended cost of the other sources at $2.85/ccf (Table 15). This results in a blended variable cost of $2.62/ccf. The fixed component is based on an allocation of fixed expense which includes a component for replacement and enhancement capital to the agricultural customer class of $27,334. The fixed cost applied to the agricultural commodity rate adds $1.30 to the per ccf cost based on the estimated 21,045 ccf's. Table 18 shows the calculation of proposed FY 2025-26 agricultural rates.

**Table 18: FY 2025-26 Agricultural Water Commodity Rates ($/ccf)**

| System | FY 2025-26 Revenue Requirement | FY 2025-26 Projected Demand (CCF) | Variable Cost (CCF) | Fixed Component Cost (CCF) | FY 2025-26 Rates (Noticed but Not Implemented) |
|---|---|---|---|---|---|
| Potable Water | $82,472 | 21,045 | $2.62 | $1.30 | $3.92 |

### 4.3.3. FIXED COST RECOVERY - MONTHLY METER SERVICE CHARGES

The District recovers fixed operating costs and replacement and enhancement capital costs through monthly meter service charges. On the District potable water system, the baseline meter size serving customers is 5/8". Thus, the first step in developing the monthly meter service charge is to estimate the total number of 5/8" meter equivalent connections (MEUs) on the potable water system in order to establish the unit cost for a 5/8" equivalent meter. Table 19 shows a summary of this calculation using the District's fixed costs and meter count data.

**Table 19: FY 2025-26 Monthly Unit Cost of Serving a 5/8" Equivalent Meter**

| System | 5/8" MEU (A) | Operating Costs (B) | Capital Costs (C) | Total Fixed Cost Revenue Requirement (1) B + C=(D) | Operating Costs per 5/8" MEU B ÷ A=(E) | Capital Costs per 5/8" MEU C ÷ A=(F) | Total Unit Cost per 5/8" MEU ((2) E + F = G |
|---|---|---|---|---|---|---|---|
| Potable Water | 273,171 | $38,332,189 | $10,470,327 | $48,802,516 | $11.69 | $3.19 | $14.89 |

(1) Values prior to rounding

Having established the monthly fixed charge unit cost as being $14.89 per 5/8" meter equivalents, the final step in the process is to develop a schedule of monthly meter service charges for each meter size on the system. Table 20 presents this calculation. Note the $14.89 calculation in Table 21 is rounded up to $14.90.

**Table 20: FY 2025-26 Monthly Meter Service Charges**

| Meter Size and Technology | Meter Flow Rate Equivalency Ratio | Accounts | FY 2025-26 Rates (Noticed but Not Implemented) |
|---|---|---|---|
| 5/8" Disc | 1.00 | 66,102 | $14.90 |
| 3/4" Disc | 1.50 | 11,655 | $22.35 |
| 1" Disc | 2.50 | 33,573 | $37.25 |
| 1 1/2" Disc | 6.00 | 4,136 | $89.40 |
| 1 1/2" Single Jet | 5.00 | 1 | $74.50 |
| 2" Disc | 8.00 | 5,438 | $119.20 |
| 2" Single Jet | 8.00 | | $119.20 |
| 2" Turbo | 12.50 | 706 | $186.25 |
| 3" Turbo | 32.50 | 404 | $484.25 |
| 4" Turbo | 62.50 | 197 | $931.25 |
| 4" Turbo Omni F-2 | 50.00 | 1 | $745.00 |
| 6" Propeller | 45.00 | | $670.50 |
| 6" Single Jet | 50.00 | | $745.00 |
| 6" Turbo | 125.00 | 39 | $1,862.50 |
| 6" Turbo Omni F-2 | 100.00 | 3 | $1,490.00 |
| 6" Mag Meter | 144.55 | 0 | $2,153.80 |
| 8" Mag Meter | 248.70 | 0 | $3,705.65 |
| 8" Turbo | 175.00 | 10 | $2,607.50 |
| 8" Turbo Omni F-2 | 175.00 | 1 | $2,607.50 |
| 10" Turbo | 350.00 | 5 | $5,215.00 |
| 6" Propeller | 45.00 | | $670.50 |
| 8" Propeller | 60.00 | | $894.00 |
| 10" Propeller | 80.00 | | $1,192.00 |
| 12" Propeller | 110.00 | | $1,639.00 |
| 16" Propeller | 190.00 | | $2,831.00 |

### 4.3.4. MONTHLY PRIVATE FIRELINE CHARGES

Private firelines provide water to sprinkler systems for fire suppression within private improvements such as buildings and other structures. The District, like many utilities, provides private fireline service to its customers. In FY 2025-26, the District estimates that it will collect private fireline revenues of $2,926,822 as shown in Table 21. These revenues are used as an offset to the total fixed cost revenue requirement. No change was made to the methodology used to calculate private fireline rates.

### 4.3.5. PROPOSED FIRELINE TESTING RATE

In California, the requirement for annual testing of private fire service mains is outlined in Title 19 of the California Code of Regulations (CCR). Specifically, Section 901(a) requires that private firelines be tested on an annual basis. Annual testing requires a minimal amount of water that is estimated by District Staff to be one (1) ccf. The District will provide one (1) ccf for annual fireline testing. This water would be charged at the proposed FY 2025-26 potable water Low Volume (Tier 1) rate shown in Table 17. Private fireline water consumption in excess of one (1) ccf not associated with actual firefighting usage is proposed to be charged at the proposed FY 2025-26 Wasteful (Tier 4) rate. There would be no charge for fireline water usage required for actual firefighting usage. Raftelis supports this proposal.

### Table 21: Proposed FY 2025-26 Private Fireline Charges

| Private Fireline Size | Number of Lines | Potential Demand Based on Pipe Diameter (1) | Customer Related Costs (2) | Private Fire O&M Peaking Costs (3) | Capital Cost Component (4) | FY 2025-26 Rates (Noticed But not Implemented) | Total Revenue |
|---|---|---|---|---|---|---|---|
| 1" | 16 | 1.00 | $7.70 | $0.17 | $0.23 | $8.10 | $1,555 |
| 2" | 1,043 | 6.19 | $7.70 | $1.08 | $1.42 | $10.20 | $127,663 |
| 3" | 32 | 17.98 | $7.70 | $3.13 | $4.12 | $14.95 | $5,741 |
| 4" | 1,080 | 38.32 | $7.70 | $6.67 | $8.78 | $23.15 | $300,024 |
| 6" | 1,210 | 111.31 | $7.70 | $19.38 | $25.51 | $52.60 | $763,752 |
| 8" | 1,088 | 237.21 | $7.70 | $41.30 | $54.36 | $103.35 | $1,349,338 |
| 10" | 150 | 426.58 | $7.70 | $74.27 | $97.76 | $179.75 | $323,550 |
| 11" | 1 | 548.10 | $7.70 | $95.43 | $125.61 | $228.75 | $2,745 |
| 12" | 2 | 689.04 | $7.70 | $119.96 | $157.91 | $285.60 | $6,854 |
| Total | 4,622 | | | | | | $2,881,222 |
| | | | | | | Fire Flow Testing Revenue | $45,600 |
| | | | | | | Total Fireline Revenue | **$2,926,822** |

(1) Potential demand based on the Hazen-Williams Equation which estimates flow based on factors such as pipe diameter, friction and the velocity of flow.

(2) $11,738,937 customer related operating costs/126,987 bills = $7.70.

(3) $1,059,472 peaking costs/507,113 private fire demand units = $0.17. For pipe diameters > 1", $0.17 is increased by the potential demand based on pipe diameter (Hazen-Williams).

(4) $2.50 capital cost for a 1" meter equivalent * 3.19 MEUs x 2.9% allocation to private firelines = $0.23. For pipe diameters > 1", $0.23 is increased by potential pipe diameter (Hazen-Williams).

## 4.3.6. PUBLIC FIRE HYDRANT WATER SERVICE COSTS

Fire hydrant water service is a component of water service and is one of several property-related services that aids in the provision of fire service provided to properties. To meet fire protection demands, the District must design, operate, and maintain a water system that meets peak fire demand requirements. Land developers typically install or pay for the fire hydrants and related infrastructure as part of a condition of approval imposed by a land-use agency (city or county) to ensure the availability of an adequate water supply to protect the homes and commercial or industrial facilities that will be constructed pursuant to the land-use approvals. These are property related expenses as defined by Government Code Section 53750.5 b. which says:

> *"The fees or charges for property-related water service imposed or increased pursuant to Section 6 of Article XIII D of the California Constitution may include the costs to construct, maintain, repair, or replace hydrants as needed or consistent with applicable fire codes and industry standards, and may include the cost of water distributed through hydrants. In addition to any other method consistent with Section 6 of Article XIII D of the California Constitution, fees or charges for the aspects of water service related to hydrants and the water distributed through them may be fixed and collected as a separate fee or charge, or included in the other water rates and charges fixed and collected by a public agency, as provided for in Section 53069.9 of the Government Code."*

The District recovers all its potable water fixed operating costs, including the cost of maintaining and testing public fire hydrants, through its monthly meter service charge. The recovery of public fire protection costs through the District's monthly meter service charge allocates the cost of maintaining these assets to the properties that will benefit from their availability if these resources are used. This provides a fair and equitable allocation of the associated costs and it is consistent with Proposition 218 requirements.

# 5. SEWER COST OF SERVICE

As is the case with its potable water, the District separates the components of its annual sewer revenue requirement from rates into three specific types of costs: variable operating costs, fixed operating costs, and replacement and enhancement costs. However, as described in Section 5.1.1 below, the rate structure used to recover these costs differs from that of potable water service.

Sewer growth-related capital costs (i.e., capital costs that increase system capacity to serve new customers) are not recovered through monthly sewer service rates. Instead, they are recovered via ad valorem property tax assessments and connection fees. This study did not include a review of the growth-related capital costs or their recovery.

## 5.1. FY 2026-25 Sewer Revenue Requirement

The FY 2025-26 sewer revenue requirement was determined to be $77,973,003 (see tables 22 and 23). Of this amount, $27,832,222 (35.7%) is associated with variable costs that are incurred to treat sewage for discharge. These costs vary with the amount of water used by customers that returns to the District's sewage treatment facilities and is recovered through IRWD's commodity rates. The District separates operational expenses between sewage treatment and recycled production with tertiary treatment and similar processes included in the cost for recycled water. Table 22 shows the FY 2025-26 sewer variable cost revenue requirement.

**Table 22: FY 2025-26 Sewer Variable Cost Revenue Requirement**

| Revenue Requirement Component | Amount |
|---|---|
| Variable Operating Costs | |
| Sewage Treatment | $11,712,793 |
| Biosolids Treatment | 11,792,321 |
| OC San Treatment and Disposal | 4,673,296 |
| Gross Variable Cost Revenue Requirement | $28,178,410 |
| | |
| Revenue Requirement Offsets | |
| Direct Billing Revenue and FOG | $346,188 |
| Total Revenue Requirement Offsets | $346,188 |
| | |
| Net Variable Revenue Requirement from Rates | $27,832,222 |

Fixed costs do not vary with the volume of water used by customers and returned to the District's wastewater treatment facilities. The fixed cost portion of the total FY 2025-26 revenue requirement was $50,140,781 (64.3%). Table 23 provides a detail of the FY 2025-26 sewer fixed cost revenue requirement.

**Table 23: FY 2025-26 Sewer Fixed Cost Revenue Requirement**

| Revenue Requirement Component | Total |
|---|---|
| Fixed Operating Costs | |
| Sewage System Monitoring and Fixed Costs | $11,866,513 |
| Biosolids Fixed Operating Costs | 6,302,931 |
| OC San Sewage Fixed Costs | 1,000 |
| Customer Service | $2,909,548 |
| Fleet | 1,057,270 |
| General Plant | 541,791 |
| Building Maintenance | $1,200,817 |
| Total Fixed Operating Costs | **$23,879,870** |
| | |
| Replacement and Enhancement Capital Costs | |
| Replacement | $25,319,749 |
| Enhancement | 1,564,833 |
| Total Capital Costs | **$26,884,582** |
| | |
| Gross Fixed Cost Revenue Requirement | **$50,764,452** |
| | |
| Revenue Offsets | |
| Direct Billing Revenue and FOG | $623,671 |
| Total Revenue Offsets | **$623,671** |
| | |
| Net Fixed Revenue Requirement from Rates | **$50,140,781** |

### 5.1.1. SEWER COST RECOVERY (RATE DESIGN)

The District recovers its sewer revenue requirement's variable and fixed components through a rate structure with three fixed consumption blocks. Unlike water, most sewer discharges to the collection system are not metered. Therefore, blocks are determined by engineering estimates of wastewater flow to the sewer system. The District uses the average of the three lowest water service meter readings during the twelve-month period ending December 31 to adjust for monthly anomalies in a ratepayer's water use and seasonal variations. Indoor potable water usage generates sewage flows. In order to identify this demand, the District targets the lowest three months of potable demand, to estimate each customer's impact on the sewer system. The lowest water service meter readings typically reflect indoor potable water usage during the winter wet season, when outdoor landscape irrigation is low or inactive. The block breakpoints are based on a review of historical data for average usage during cooler months (November through March from FY 2022 through FY 2024) because of the limited demand for landscape during winter months.

The analysis identified that the average usage for all multi-family units was 5 ccf which aligns with the first block. The second block includes average usage below 10 ccf as single family residential customers averaged 10 ccf during the same low usage months. The third block, which includes all commercial, industrial, and institutional (CII) customers, exceeds 10 ccf. (The average usage for CII customers exceeds 10 ccf.) Non-residential/CII customers with billed water consumption of more than 10 ccf per month pay an additional commodity rate ($/ccf).

Table 24 shows proposed residential and non-residential sewer rates for FY 2025-26.

### 5.1.2. PROPOSED MODIFICATION TO COLLECTION ONLY RATES

The District provides sewer collection-only service to approximately 3,300 customers. The sanitary discharges of these customers are not treated by the District but are conveyed to an adjacent agency. The rate paid by collection-only customers is currently calculated and billed on a *per account* basis. This can result in the District recovering revenue from high volume dischargers that may be less than the costs incurred to provide service. The District is proposing to calculate and bill the collection-only rate on a *per equivalent dwelling unit* basis. This change, especially

for high volume dischargers, will result in an improved alignment of the costs incurred to provide service and actual revenue recovery. Raftelis supports this modification. The sewer rates for collection-only service shown in this section of the report (Tabe 29) reflect this change.

### Table 24: FY 2025-26 Sewer Rate Structure and Rates

| Rate/Charge | FY 2025-26 Rates (Noticed but Not Implemented) |
|---|---|
| Residential Fixed Monthly Charge | |
| Residential Fixed Charge Tiers | |
| Block 1: Average Water Usage < 5 ccf per month | $28.80 |
| Block 2: Average Water Usage between 5 and 10 ccf per month | $37.00 |
| Block 3: Average Water Usage > 10 ccf per month | $43.45 |
| | |
| Residential Collection Only Service | $13.05 |
| Residential Treatment Only Service | $23.95 |
| | |
| Non-Residential Monthly Rates | |
| Monthly Fixed Charge (Discharges <= 10 ccf per month) | $43.45 |
| Commodity Rate ($/ccf for Discharges > 10 ccf per month) | $3.94 |

.

The first step in the sewer cost-of-service process is to determine the projected FY 2025-26 customer units of service (equivalent dwelling units and demand) for the collection and treatment functions. Table 25 provides a summary of these units of service values.

### Table 25: FY 2025-26 Sewer Units of Service

| Customer Type | Block 1 | Block 2 | Block 3 | Usage > 10 | Total |
|---|---|---|---|---|---|
| Collection (All Customers Receiving Collection Service) | | | | | |
| Dwelling Units | 101,586 | 56,387 | 14,353 | | 172,326 |
| Sewer Flows (ccf) | 3,900,902 | 4,736,508 | 1,722,360 | 2,938,122 | 13,297,892 |
| | | | | | |
| Treatment (All Customers Receiving Collection and Treatment Service)' | | | | | |
| Dwelling Units | 100,489 | 55,153 | 13,367 | | 169,009 |
| Sewer Flows (ccf) | 3,858,778 | 4,632,852 | 1,604,040 | 2,825,701 | 12,921,370 |

After determining the sewer units of service, the fixed and variable revenue requirement components for both the collection and treatment functions are determined. Table 26 summarizes the outcome of this process.

## Table 26: FY 2025-26 Sewer Fixed and Variable Costs

| Total Sewer Cost | Fixed | Variable | Total |
|---|---|---|---|
| Sewer Operational Expenses | $23,879,870 | $28,178,410 | $52,058,280 |
| Enhancement & Replacement | $26,884,583 | | $26,884,583 |
| Revenue Offsets | | | |
| Misc/Fats, Oil & Grease (FOG) Revenue | ($329,709) | ($183,016) | ($512,725) |
| Other Direct Billing Revenue | ($293,962) | ($163,173) | ($457,135) |
| Total Sewer Service Costs | $50,140,781 | $27,832,221 | $77,973,003 |
| | | | |
| Total Sewer Service Cost | | | |
| Sewer Operational Expenses | $23,586,491 | $27,832,221 | $51,418,713 |
| Enhancement & Replacement | $26,554,290 | | $26,554,290 |
| Total Sewer Service Costs | $50,140,781 | $27,832,221 | $77,973,003 |
| | | | |
| Collection | | | |
| Sewer Operational Expenses | $14,151,895 | $0 | $14,151,895 |
| Enhancement & Replacement | $15,932,574 | $0 | $15,932,574 |
| Total Collection Costs | $30,084,469 | $0 | $30,084,469 |
| | | | |
| Treatment | | | |
| Sewer Operational Expenses | $9,434,597 | $27,832,221 | $37,266,818 |
| Enhancement & Replacement | $10,621,716 | $0 | $10,621,716 |
| Total Treatment Costs | $20,056,312 | $27,832,221 | $47,888,534 |

The next step in the process is to determine the fixed and variable unit cost of service for the collection and treatment functions. Table 27 shows the outcome of the unit cost of service calculation process for the fixed components of the collection and treatment revenue requirements.

## Table 27: FY 2025-26 Fixed Cost Unit Cost of Service

| Fixed Allocation | Discharge | Allocation | Cost Allocation | Unit Cost of Service | Unit of Measure |
|---|---|---|---|---|---|
| Collection | | | | | |
| O&M Allocated to Fixed Charge | 10,359,770 | 78% | $11,025,084 | $5.33 | per account |
| Capital Allocated to Fixed Charge | | 100% | $15,932,574 | $7.70 | per account |
| O&M Allocated to Discharge >10 ccf' | 2,938,122 | 22% | $3,126,811 | $1.06 | per ccf |
| Capital Allocated to Discharge >10 ccf' | | 0% | | | |
| Total | 13,297,892 | 100% | $30,084,469 | | |
| | | | | | |
| Treatment | | | | | |
| O&M Allocated to Fixed Charge | 10,095,670 | 78% | $7,371,399 | $3.63 | per account |
| Capital Allocated to Fixed Charge | | 100% | $10,621,716 | $5.24 | per account |
| O&M Allocated to Discharge >10 ccf' | 2,825,701 | 22% | $2,063,198 | $0.73 | per ccf |
| Capital Allocated to Discharge >10 ccf' | | 0% | | | |
| Total | 12,921,370 | 100% | $20,056,312 | | |

Table 28 shows the outcome of the unit cost of service calculation process for the variable cost component of the FY 2025-26 revenue requirement.

## Table 28: FY 2025-26 Variable Cost Unit Cost of Service

| Variable Allocation | Discharges (ccf) | Cost Allocation | Unit Cost of Service | Unit of Measure |
|---|---|---|---|---|
| Collection Costs Allocated to the Variable Rate | 13,297,892 | $0 | $0.00 | per ccf |
| Treatment Costs Allocated ot the Variable Rate | 12,921,370 | $27,832,221 | $2.15 | per ccf |

After calculating the fixed and variable unit cost of service for collection and treatment functions, proposed FY 2025-26 rates can be determined for collection only service, treatment only service, and consolidated treatment and collection service. Tables 29 - 31 show the calculation of proposed FY 2025-26 Residential Sewer rates.

### Table 29: Proposed FY 2025-26 Residential Collection-Only Monthly Fixed Charge

| Sewer Fixed Charge Tier | A<br>Avg Monthly CCF' Discharges | B<br>O&M Allocated to Fixed Charge | C<br>Capital Allocated to Fixed Charge | D = B +C<br>Total Rate | E<br>FY 2025-26 Rates (Noticed but Not Implemented) |
|---|---|---|---|---|---|
| Block 1: Average Water Usage < 5 ccf per month | 3.2 | $5.33 | $7.70 | $13.04 | $13.05 |
| Block 2: Average Water Usage between 5 and 10 ccf per month | 7.0 | $5.33 | $7.70 | $13.04 | $13.05 |
| Block 3: Average Water Usage > 10 ccf per month | 10.0 | $5.33 | $7.70 | $13.04 | $13.05 |

### Table 30: Proposed FY 2025-26 Residential Treatment-Only Monthly Fixed Charge

| Sewer Fixed Charge Tier | A<br>Avg Monthly CCF Discharges | B<br>Treatment Variable Rate | C=A*B<br>Treatment Component | D<br>O&M Allocated to Fixed Charge | E<br>Capital Allocated to Fixed Charge | F=C+D+F<br>Total Rate | G<br>FY 2025-26 Rates (Noticed but Not Implemented) |
|---|---|---|---|---|---|---|---|
| Block 1: Average Water Usage < 5 ccf per month | 3.2 | $2.15 | $6.89 | $3.63 | $5.24 | $15.76 | $15.75 |
| Block 2: Average Water Usage between 5 and 10 ccf per month | 7.0 | $2.15 | $15.08 | $3.63 | $5.24 | $23.95 | $23.95 |
| Block 3: Average Water Usage > 10 ccf per month | 10.0 | $2.15 | $21.54 | $3.63 | $5.24 | $30.41 | $30.40 |

### Table 31: Proposed Residential FY 2025-26 Treatment and Collection Monthly Fixed Charge

| Sewer Fixed Charge Tier | A<br>Avg Monthly CCF' Discharged | B<br>Collection Only Component | C<br>Treatment Only Component | D = B+C<br>Total Rate | E<br>FY 2025-26 Rates (Noticed but Not Implemented) |
|---|---|---|---|---|---|
| Block 1: Average Water Usage < 5 ccf per month | 3.2 | $13.04 | $15.76 | $28.80 | $28.80 |
| Block 2: Average Water Usage between 5 and 10 ccf per month | 7.0 | $13.04 | $23.95 | $36.99 | $37.00 |
| Block 3: Average Water Usage > 10 ccf per month | 10.0 | $13.04 | $30.41 | $43.45 | $43.45 |

Table 32 shows the proposed FY 2025-26 Non-Residential sewer rates which include a fixed component which consists of a fixed charge (the Block 2 treatment only fixed charge) and a variable commodity rate.

### Table 32: Proposed FY 2025-26 Non-Residential Rates

| Rate/Charge | A<br>Variable Collection Component | B<br>Variable Treatment Component | C = A+B<br>Total | D<br>FY 2025-26 Rates (Noticed but Not Implemented) |
|---|---|---|---|---|
| Commodity Rate ($/ccf) | $1.06 | $2.88 | $3.94 | $3.94 |
| Monthly Fixed Charge | | | | $43.45 |

# 6. RECYCLED WATER COST OF SERVICE

The method used by the District to develop recycled water rates is similar to that of potable water service (see Section 4 of this report) with one significant difference. The District does not calculate unique monthly meter service charges for recycled water. Instead, the monthly service charges for recycled water are set to the same as those charged for the potable water monthly meter service charge. The District takes this approach due to an imbalance between variable and fixed costs in the overall recycled water revenue requirement. This reallocation of fixed costs to variable revenue recovery through commodity rates is discussed in Section 6.1.2 below.

### 6.1.1. RECYCLED WATER BUDGET RATE STRUCTURE

Section 4.5.1 of this report provides a detailed discussion of the derivation of the District's water budget rate structure for landscape customers who purchase recycled water. Table 33 shows the consumption tier breakpoints employed to recover the variable costs incurred to provide service.

**Table 33: FY 2025-26 Landscape Water Budget Rate Structure and Commodity Rates**

| Usage Tier | Consumption Tiers | FY 2025-26 Rates ($ccf) (Noticed but Not Implemented) |
|---|---|---|
| Tier 1: Low Volume | 0 - 40% of budget | $1.38 |
| Tier 2: Base | 41 - 100% of budget | $2.39 |
| Tier 3: Inefficient | 101 - 160% of budget | $5.43 |
| Tier 4: Wasteful | 161% + of budget | $9.93 |

Section 4.6.1 of this report provides a detailed discussion of the derivation of the District's water budget rate structure for commercial customers who purchase recycled water. The base rate for these customers is the cost to produce recycled water. These customers are charged the wasteful tier rate when they exceed their budget.

### 6.1.2. FY 2025-26 RECYCLED WATER REVENUE REQUIREMENT

The District's recycled water revenue requirement from rates is $39,692,626. Prior to any adjustments, the composition of this revenue requirement is variable costs of $21,862,775 (55.1%) and fixed costs of $17,829,850 (44.9%). The District established the monthly fixed charge unit cost as being $14.90 per 5/8" meter equivalents in the potable water cost allocation and rate design process (see Table 20 in Section 4.3.3). Due to the high percentage of fixed costs identified in the recycled water revenue requirement, the District reallocates a portion of fixed costs not recovered by monthly meter service charges ($8,304,912) into the variable cost revenue requirement. The total fixed costs include costs that can be included with variable expenses such as the cost for transporting recycled water to reservoirs ($2,080,000). These costs are included in the recycled system and recycled revenue provides the funding which is consistent with Proposition 218 requirements. This strategy provides a fair and equitable application of these costs without deterring usage.

Raftelis concludes that the District's recycled water rates are compliant with Proposition 218 as the overall level of revenue recovery from recycled water customers remains proportionate to the total cost of providing service. Tables 34 and 35 provide a detail the FY 2025-26 variable and fixed recycled water revenue requirement before and after this reallocation.

### Table 34: FY 2025-26 Recycled Water Variable Cost Revenue Requirement

| Revenue Requirement Component | Amount |
|---|---|
| Water Supplies | |
| Untreated Water Purchases | $5,771,643 |
| Recycled Water Tertiary Treatment Michelson | $10,791,325 |
| El Toro Groundwater | $3,463,509 |
| Total Cost of Water Supplies | $20,026,476 |
| | |
| Conservation and Supply Reliability | |
| Natural Treatment System | $1,405,351 |
| Universal Conservation | $111,423 |
| Targeted Conservation | $319,525 |
| Total Conservation and Supply Reliability Costs | $1,836,299 |
| | |
| Total Variable Cost Revenue Requirement Before Adjustment | $21,862,775 |
| | |
| Adjustment to Reflect Reallocated Fixed Costs | $8,304,912 |
| Total Variable Cost Revenue Requirement After Adjustment | $30,167,687 |

### Table 35: FY 2025-26 Recycled Water Fixed Cost Revenue Requirement

| Revenue Requirement Component | Total |
|---|---|
| Fixed Operating Costs | |
| System Maintenance and Monitoring | $14,749,942 |
| Customer Service | $1,745,729 |
| Fleet | $72,915 |
| Building Maintenance | $720,490 |
| General Plant | $541,791 |
| Total Fixed Operating Costs | $17,830,867 |
| | |
| Replacement and Enhancement Capital Costs | |
| Enhancement | $1,098,064 |
| Replacement | $336,633 |
| Total Capital Costs | $1,434,697 |
| | |
| Gross Fixed Cost Revenue Requirement | $19,265,564 |
| | |
| Revenue Requirement Offsets | |
| Pumping | $949,345 |
| Miscellaneous Revenues | $486,369 |
| Total Revenue Requirement Offsets | $1,435,714 |
| | |
| Total Fixed Cost Revenue Requirement Before Adjustment | $17,829,850 |
| Adjustment to Reflect Reallocated Fixed Costs | ($8,304,912) |
| Net Fixed Revenue Requirement from Rates After Adjustment | $9,524,939 |

## 6.1.3. VARIABLE COST RECOVERY - COMMODITY RATES

The method used to determine recycled water commodity rates is similar to that used for potable water. In FY 2025-26, the District's projected total recycled water demand is 31,971 acre feet based on historical demand, customer growth factors and other relevant factors. Table 36 provides a detail of the FY 2025-26 unit cost of water supplies ($/ccf) from each supply source using the District's cost and demand data. Note that the net cost shown in each column include the reallocation of fixed costs of $8,304,912 discussed above.

### Table 36: Unit Cost of FY 2025-26 Recycled Water Supplies

| Metric | Produced from Treatment Plant | Processed from El Toro Remediation | Imported | Total |
|---|---|---|---|---|
| Net Cost | $14,943,781 | $4,294,000 | $9,093,608 | $28,331,388 |
| Acre Feet | 24,890 | 3,030 | 4,051 | 31,971 |
| Unit Cost per ccf (1) | $1.38 | $3.25 | $5.15 | |

(1) Acre feet is multiplied by 435.6 to convert to CCF.

The District allocates the lower cost water supplies to the low volume and base consumption tiers with higher cost water supplies being allocated to the inefficient and wasteful tiers. Table 37 details this allocation for FY 2025-26 using cost and demand data provided by the District.

The general formula used to determine the water budget for a landscape customer served by a recycled water connection is discussed in detail in 4.1.5.

***Landscape Customer Served by a Recycled Water Connection (ccf) =***
*Irrigated Landscape Area (1) * Evapotranspiration (ET) Rate (2) * 0.87 ET Adjustment Factor (3) * 36.3 Conversion Factor (4)*

(1) Area measured in acres.
(2) Evapotranspiration rate during each day of the monthly billing cycle based on actual temperature, humidity, and other factors.
(3) Adjustment factor assuming 100% efficient warm season turf, and 25% irrigation system inefficiency.
(4) 36.3 is a factor that converts acre-inches of water to one hundred cubic feet (ccf).

### Table 37: Allocation of Recycled Water Supplies to Consumption Tiers for Landscape Customers

| Metric | Produced from Treatment Plant | Processed from El Toro Remediation | Imported | Total Acre Feet | Unit Cost per $/ccf by Tier (1) |
|---|---|---|---|---|---|
| Unit Cost (Table 36) | $1.38 | $3.25 | $5.15 | | |
| T1: Low Volume | 15,458 | 0 | 0 | 15,458 | $1.38 |
| T2: Base | 9,432 | 3,030 | 1,904 | 14,367 | $2.27 |
| T3: Inefficient | 0 | 0 | 1,246 | 1,246 | $5.15 |
| T4: Wasteful | 0 | 0 | 901 | 901 | $5.15 |
| Total | 24,890 | 3,030 | 4,051 | 31,971 | |

(1) The Unit Cost per $/ccf by TIER is the blended cost of the sources.
Example: T2 =((9,432*435.6*$1.38)+(3,030*435.6*$3.25)+(1,904*435.6*$5.15))/(14,367*435.6) = $2.27

Having determined the unit cost of recycled water supplies by consumption tier for landscape customers as shown in Table 37 above, the District then allocates the cost of conservation programs and supply reliability programs, as shown in Table 34, to the appropriate water budget tiers.

Universal conservation costs are added to the commodity rate in the base, inefficient, and wasteful tiers to pay for conservation program costs that help customers in each of these tiers achieve efficient use of recycled water. This cost is not included in the low volume rate since customers who remain in this usage tier do not need assistance to efficiently use water.

Targeted conservation costs reflect programs specifically designed to encourage efficient water practices of customers whose usage reaches the wasteful tier. Costs are allocated to the wasteful tier based on expected usage.

Natural treatment system costs are incurred by the District to deal with urban water runoff produced by customers whose usage exceed their water budgets. The costs include prevention, control and treatment of the runoff of water from irrigation and other uses. These costs are added to the commodity rates of customers in the inefficient and wasteful tiers. Costs are allocated based on the expected usage in each tier.

Table 38 shows the outcome of derivation of the unit costs for the District's conservation and supply reliability programs.

### Table 38: FY 2025-26 Conservation and Supply Reliability Unit Costs ($/ccf)

| Program | FY 2025-2026 Revenue Requirement (A)* | FY 2025-26 Units of Demand (ccf) (B) | Demand Adjustment Factor for Price Elasticity (C) | FY 2025-26 Adjusted Units of Demand B x C = (D) | Unit Cost Included in FY 2025-26 Commodity Rates A ÷ D = (E) |
|---|---|---|---|---|---|
| Universal Conservation | $111,423 | 935,188 | 100% | 935,188 | $0.12 |
| Targeted Conservation | | | | | |
| **Inefficient tier** | $79,881 | 542,810 | 90% | 488,529 | $0.16 |
| Wasteful tier | $239,644 | 392,378 | 90% | 353,140 | $0.68 |
| Natural Treatment System | | | | | |
| Inefficient tier | $0 | 542,810 | 90% | 488,529 | $0.00 |
| Wasteful tier | $1,405,351 | 392,378 | 90% | 353,140 | $3.98 |

*See Table 34

Having determined the unit cost of recycled water supplies by consumption tier as shown in Table 37 and the unit cost of conservation and supply reliability in Table 38, the District must then allocate the cost of conservation programs and supply reliability programs to each conservation tier. Table 39 shows the outcome of this process as determined by Raftelis using the District's cost and demand data. As can be seen in Table 39, there are differences in the FY 2025-26 commodity rates calculated by Raftelis and the FY 2025-26 commodity rates originally published by the District in its Proposition 218 notice. These differences can be attributed to recommended minor cost allocation adjustments.

### Table 39: FY 2025-26 Recycled Water Commodity Rates ($/ccf)

| Consumption Tier | Unit Cost of Water Supplies (Table 37) | Unit Cost of Universal Conservation (Table 38) | Unit Cost of Targeted Conservation (Table 38) | Unit Cost of Natural Treatment System (Table 38) | FY 2025-26 Rates (Noticed but Not Implemented) |
|---|---|---|---|---|---|
| T1: Low Volume | $1.38 | | | | $1.38 |
| T2: Base | $2.27 | $0.12 | | | $2.39 |
| T3: Inefficient | $5.15 | $0.12 | $0.16 | $0.00 | $5.43 |
| T4: Wasteful | $5.15 | $0.12 | $0.68 | $3.98 | $9.93 |

## 6.1.4. FIXED COST RECOVERY - MONTHLY METER SERVICE CHARGE

Recycled water fixed charges are the same as potable water fixed charges (see Table 20 in Section 4.3.3). The costs allocation included in generating the fixed service charge align with the potable system strategy on a smaller scale but the number of accounts covering this cost is significantly lower in the recycled system (approximately 130,000 potable customers to 6,700 recycled customers). A portion of the fixed costs are reallocated to the tiered commodity sales as identified in Section 6.1.2.

# DRAFT COS STUDY UPDATE – APPENDICES 1-7

Christopher Smithson

Irvine Ranch Water District

# 1. Executive Summary

This is an update to the 2026 Cost of Service (COS) Study to support Irvine Ranch Water District's (District) water and sewer service rates for Fiscal Years (FY) 2025-26 and FY 2026-27. The 2025 COS Study described the costs of providing such service for FY 2025-26 and FY 2026-27 and described the method for allocating the costs to customers through rates.

The appendix attachments listed in Section 3, below, are a supplement to support the development of rates for FY 2025-26 through FY 2026-27. The methodology in the 2026 COS Study remains the same, however its tables are updated with detailed costs from the FY 2025-26 and FY 2026-27 proposed operating expense budgets.

# 2. Background

The proposed Fiscal Year (FY) 2025-26 Operating Budget for IRWD is $242.5 million, representing an increase of $8.0 million, or 3.4%, compared to the Operating Budget for FY 2024-25. The proposed FY 2026-27 Operating Budget for IRWD is $257.0 million, representing an increase of $14.5 million, or 6.0%, compared to the proposed Operating Budget for FY 2025-26. These budgets were adopted by the IRWD Board of Directors on June 23, 2025.

Staff and Raftelis updated IRWD's 2025 rate model based on Raftelis' findings and Committee recommendations. The same methodology was used to develop cost-of-service-based rates for FY 2025-26 and FY 2026-27.

The 2026 COS Study includes the following:

- Raftelis COS Study for FY 2026 and FY 2027;
- Exhibit A – Tech Memo re: Legal Basis for Fire Water in Service Charge;
- Exhibit B – Tech Memo re: Determination of Costs of Fire Water;

# 3. Appendices to the 2026 COS Study

The 2026 COS Study is the basis for rate setting. The following list are appendices provided to support rates for years after 2025.

- Appendices 1- 8 to support rates for years after 2025;
    - Appendix 1: Appendices to 2025 COS Study
    - Appendix 2: Rate Development for FY 2025-26
    - Appendix 3: Rate Development for FY 2026-27
    - Appendix 4: Costs for Public Fire Water for FY 2025-26
    - Appendix 5: Costs for Public Fire Water for FY 2026-27
    - Appendix 6: Rate Development for Water Shortage Contingency Plan FY 2025-26
    - Appendix 7: Rate Development for Water Shortage Contingency Plan FY 2026-27
    - Appendix 8: Rate Development for Surcharge
    - Appendix 9: Determination of Costs for Pumping Surcharges

# Executive Summary

This appendix is part of the Cost of Service update for Fiscal Year (FY) 2025-26 and FY 2026-27.

The IRWD Board of Directors adopted a two-year operating budget for FY 2025-26 and 2026-27 on June 23, 2025. Generally, rates are adopted and implemented to cover operating costs for each FY adopted budget.

Appendix 2 provides support for the development of rates to cover operating costs for FY 2025-26. Rate increases for FY 2025-26 will become effective July 1,2025; water rates are expected to increase the average residential bill by 8.4%. Appendix 3 provides support for the development of rates to cover operating costs for the full FY 2026-27. Rate increases for FY 2026-27 will become effective July 1,2026. Water rates are expected to increase by 5.1%.

## 4. Potable Water Cost of Service FY 2025-26

See section 4 of the COS Study for a complete discussion on the District's potable water cost of service.

The FY 2025-26 water revenue requirement was determined to be $127,651,952 (see sum of tables 13 and 14 below). Of this amount, $75,583,884 (61.2%) is associated with variable costs that are incurred to acquire, treat, and deliver water supplies. These costs vary with the amount of water used by customers and are recovered through commodity rates. Note that the variable cost revenue requirement includes $16,852,103 in costs for universal conservation, targeted conservation, water banking operations, and the District's natural treatment system used to control runoff from customers who use water in the inefficient and wasteful tiers. Table 13 provides details of the FY 2025-26 variable revenue requirement.

## 4.3. FY 2025-26 POTABLE WATER REVENUE REQUIREMENTTABLE 13: FY 2025-26 POTABLE WATER VARIABLE COST REVENUE REQUIREMENT

| Revenue Requirement Component | Amount |
|---|---|
| **Water Supplies** | |
| Dyer Road Wellfield | $26,085,882 |
| Baker Treatment Facilities | 16,822,931 |
| Imported Water Purchases | 8,218,964 |
| Deep Aquifer Treatment System | 8,795,636 |
| Irvine Desalter Domestic | 6,421,381 |
| Wells 21 & 22 Desalter Treatment Plant | 4,325,647 |
| Orange Park Acres | 2,991,696 |
| Howiler Treatment Facility | 784,118 |
| **Total Potable Water Supply Costs** | **$ 74,446,255** |
| | |
| **Revenue Requirement Offsets to Water Supply Costs** | |
| Baker Partners | 6,896,473 |
| Sinking Fund | 1,700,000 |
| Water Banking Operations | 2,093,000 |
| MWDOC PTP/IDP Credits | 2,025,000 |
| **Total Revenue Requirement Offsets** | **12,714,473** |
| | |
| **Net Revenue Requirement for Water Supply Costs** | **$ 61,731,781** |
| | |
| **Conservation and Supply Reliability** | |
| Universal Conservation | 1,723,580 |
| Targeted Conservation | 7,668,602 |
| Natural Treatment System | 5,286,796 |
| Water Banking | 2,173,125 |
| **Total Conservation and Supply Reliability Costs** | **16,852,103** |
| | |
| **Net Potable Variable Cost Revenue Requirement** | **$ 78,583,884** |
| | |
| **Untreated Water Supplies** | |
| Untreated Imported Water Purchases | 144,750 |
| Untreated Water System Maintenance | 473,215 |
| Native Water | 1,497,148 |
| **Total Untreated Water Supply Costs** | **2,115,113** |
| | |
| **Revenue Requirement Offsets to Untreated Water Supply Costs** | |
| Transferred to Recycled | 2,932,271 |
| **Total Revenue Requirement Offsets** | **2,932,271** |
| | |
| **Net Untreated Water Variable Cost Revenue Requirement** | **($ 817,258)** |
| | |

Fixed costs do not vary with the volume of water by customers. The fixed cost portion of the total FY 2025-26 revenue requirement was $49,885,325 (38.8%) as shown in Table 14. Of these fixed costs, $10,702,638 were associated with expenditures for replacement and enhancement capital costs that do not increase the capacity of the water utility system to serve new customer demand growth. Table 14 provides details of the FY 2025-26 fixed revenue requirement.

**Table 14: FY 2025-26 Potable Water Fixed Cost Revenue Requirement**

| Revenue Requirement Component | Amount |
|---|---|
| **Fixed Operating Costs** | |
| System Maintenance and Monitoring | 34,567,378 |
| Customer Service | 5,819,096 |
| Fleet | 1,604,133 |
| General Plant | 1,032,519 |
| Building Maintenance | 2,401,634 |
| **Total Fixed Operating Costs** | **45,424,760** |
| | |
| **Replacement and Enhancement Capital Costs** | |
| Replacement | 8,422,715 |
| Enhancement | 2,279,924 |
| **Total Capital Costs** | **10,702,639** |
| | |
| **Fixed Cost Revenue Requirement** | **$ 56,127,399** |
| | |
| **Revenue Requirement Offsets** | |
| Firelines | 2,926,822 |
| Pumping Surcharge | 1,792,326 |
| Miscellaneous/Other | 1,171,156 |
| Low Volume Benefit | 351,770 |
| **Total Revenue Requirement Offsets** | **6,242,074** |
| | |
| **Net Fixed Cost Revenue Requirement from Rates** | **$ 49,885,325** |
| | |
| **Total Water Revenue Requirement** | **$ 127,651,952** |

### 4.3.1 VARIABLE COST RECOVERY – COMMODITY RATES

The District recovers water supply costs through commodity rates with the lowest cost water supplies being recovered in the low volume and base consumption tiers and the highest cost water supplies being recovered in the inefficient and wasteful tiers. The District's method for recovering variable costs is compliant with Proposition 218 because of the direct linkage between the revenue recovered in each tier to the costs incurred to provide service to customers with demand in each consumption tier.

The District also recovers the cost of water conservation and water supply reliability programs through its commodity rates with targeted costs being allocated to customers with consumption in the inefficient and wasteful tiers. This approach is reasonable because customers who exceed their monthly water budget allocation impose higher costs on the District. Thus, the commodity rates charged in these two upper tiers are designed to not only recover the cost of more expensive water supplies, but also the additional costs of:

- Targeted conservation programs designed to reduce excessive use.

- Water banking operational costs to enhance water supply reliability.
- Rebates for long-term improvements in customer water use efficiency.
- Urban runoff source control programs referred to as the natural treatment system (NTS) treat runoff from customers who use water in the inefficient and wasteful tiers.

In FY 2025-26, the District's projected total water demand of 53,404 acre feet was based on historical averages by tier, adjusted for customer account growth and other relevant factors. This reflects a 2.1% decrease over the 54,551 acre feet of water demand projected in FY 2024-25. Table 15 details the FY 2025-26 unit cost of water supplies ($/CCF) from each supply source as determined using cost and demand data provided by the District.

### Table 15: Unit Cost of FY 2025-26 Water Supplies

| Metric | Dyer Road Wellfield | Deep Aquifer Treatment System | Baker Treatment Facilities | Irvine Desalter Domestic | Wells 21 & 22 Desalter Treatment Plant | Imported Water Purchases | Howiler Water Treatment Plant | Orange Park Acres Well 1 | Totals |
|---|---|---|---|---|---|---|---|---|---|
| Net Cost (1) | $24,105,058 | $7,922,267 | $9,926,458 | $4,449,325 | $3,661,409 | $8,218,964 | $784,118 | $2,664,182 | $61,731,781 |
| Demand in Acre Feet (net) | 26,740 | 7,280 | 6,552 | 4,560 | 1,920 | 3,622 | | 2,730 | 53,404 |
| CCF (2) | 11,647,944 | 3,171,168 | 2,854,051 | 1,986,336 | 836,352 | 1,577,830 | | 1,189,188 | 23,262,870 |
| Unit Cost per ccf (1) divided by (2) | $2.07 | $2.50 | $3.48 | $2.24 | $4.38 | $5.21 | | $2.24 | |

(1) From Table 14
(2) Acre feet is multiplied by 435.6 to convert to CCF

The District allocates the water supply in the order of cost for each source. The higher cost water supplies are appropriately allocated to the inefficient and wasteful tiers. Table 16 details this allocation for FY 2025-26 using cost and demand data provided by the District.

### Table 16: Allocation of Potable Water Supplies to Consumption Tiers for Unit Costs

| Metric | Dyer Road Wellfield (1) | Deep Aquifer Treatment System | Baker Treatment Facilities | Irvine Desalter Domestic | Wells 21 & 22 Desalter Treatment Plant | Imported Water Purchases | Orange Park Acres Well 1 | Total Acre Feet | Unit Cost by Tier ($ /ccf) (2) |
|---|---|---|---|---|---|---|---|---|---|
| Unit Cost | $2.07 | $2.50 | $3.48 | $2.24 | $4.38 | $5.21 | $2.24 | | |
| T1: Low Volume | 20,189 | - | - | - | - | - | - | 20,189 | $2.07 |
| T2: Base | 6,551 | 7,280 | 6,552 | 4,560 | 535 | - | 2,730 | 28,209 | $2.60 |
| T3: Inefficient | - | - | - | - | 1,385 | 1,232 | - | 2,617 | $4.77 |
| T4: Wasteful | - | - | - | - | - | 2,390 | - | 2,390 | $5.21 |

(1) 20,189 acre feet are used to meet projected low volume demand estimated based on historic demand as adjusted for customer account growth and other relevant factors. The remainder (6,551 acre feet) is allocated to partially meet the base demand.
(2) The Unit Cost by Tier is the blended cost of the sources.

Having determined the unit cost of water supplies by consumption tier as shown in Table 16 above, the District then allocates the cost of conservation programs and supply reliability programs to the water budget tiers as described below:

**Universal Conservation**: Universal conservation costs are incurred to encourage customers to use water as efficiently as possible. Universal program costs are added to the commodity rate in the base, inefficient, and wasteful tiers. This cost is not included in the low volume rate since customers who remain in this usage tier do not need assistance to efficiently use water.

**Targeted Conservation**: Targeted conservation costs reflect programs specifically designed to encourage efficient water practices of customers whose usage exceeds their water budgets. Therefore, these costs are added to the

commodity rates of customers in the inefficient and wasteful tiers. Based on a historical estimate of customers who have been provided assistance in these programs, approximately 77% of the customers are in the wasteful tier with the remainder of customers being in the inefficient tier. Therefore, 77% of the targeted conservation costs are allocated to the wasteful tier with the remaining 23% of the costs being allocated to the inefficient tier.

**NTS Costs**: These natural treatment system costs are incurred by the District to deal with urban water runoff produced by customers whose usage exceeds their water budgets. These costs are added to the commodity rates of customers in the inefficient and wasteful tiers because their excessive water usage creates urban water runoff. The allocation is based on an estimate of the historic mix of urban runoff created by customers in the inefficient and wasteful tiers primarily from hosing down hardscape and excess irrigation running off the landscape into the storm drains. The District estimates 82% of NTS costs are created by customers in the wasteful tier because wasteful outdoor demand flows to NTS sites. The remaining 18% of urban runoff costs results from inefficient customers overwatering drought tolerant landscape. The allocated costs provide the components and the anticipated sales result in the established rates.

**Water Banking**: Water banking costs are incurred to support the reliability of the District's water supplies. These costs are added to the commodity rates of customers in the wasteful tier because their excessive water usage creates the need for enhanced reliability of costly imported water supplies as previously discussed.

Table 17 shows the outcome of derivation of the unit costs for the District's conservation and supply reliability programs.

**Table 17: FY 2025-26 Conservation and Supply Reliability Unit Costs ($/CCF)**

| Program | FY 2025-26 Revenue Requirement (1) (A) | FY 2025-26 Units of Demand (ccf) (2) (B) | Demand Adjustment Factor for Price Elasticity (C) | FY 2025-26 Adjusted CCF B x C = (D) | Unit Cost Included in FY 2025-26 Commodity Rates A/B = (E) |
|---|---|---|---|---|---|
| Universal Conservation | $1,723,580 | 14,468,574 | 100% | 14,468,574 | $0.12 |
| Water Banking | | | | | |
| Wasteful tier | $2,173,398 | 1,041,022 | 90% | 936,920 | $2.32 |
| Targeted Conservation | | | | | |
| Inefficient tier (75%) | $1,757,388 | 1,139,869 | 90% | 1,025,882 | $1.71 |
| Wasteful tier (25%) | $5,911,214 | 1,041,022 | 90% | 936,920 | $6.31 |
| Natural Treatment System | | | | | |
| Inefficient tier (15%) | $936,901 | 1,139,869 | 90% | 1,025,882 | $0.91 |
| Wasteful tier (85%) | $4,349,895 | 1,041,022 | 90% | 936,920 | $4.64 |

(1) From Table 14
(2) Units of Demand are based on the cumulative projected units of sale for the tiers. Universal Conservation includes the base, inefficient, and wasteful tiers.

Table 18 shows the FY 2025-26 potable water commodity rates.

### Table 18: FY 2025-26 Potable Water Commodity Rates ($/CCF)

| Consumption Tier | Unit Cost of Water Supplies (1) | Unit Cost of Universal Conservation (2) | Unit Cost of Water Banking (2) | Unit Cost of Targeted Conservation (2) | Unit Cost of Natural Treatment System (2) | Rate Stabilization | FY 2025-26 Commodity Rates | FY 2025-26 CCF | FY 2025-26 Revenue |
|---|---|---|---|---|---|---|---|---|---|
| T1: Low Volume | $2.07 | | | | | | $2.07 | 8,794,249 | $18,204,096 |
| T2: Base | $2.60 | $0.12 | | | | | $2.72 | 12,287,683 | 33,422,498 |
| T3: Inefficient | $4.77 | $0.12 | | $1.71 | $0.91 | | $7.51 | 1,139,869 | 8,560,416 |
| T4: Wasteful | $5.21 | $0.12 | $2.32 | $6.31 | $4.64 | | $18.60 | 1,041,022 | 19,363,009 |
| **Totals** | | | | | | | | **23,262,823** | **$ 79,550,020** |

(1) From Table 16
(2) From Table 17. Water used in the low volume tier is efficient and universal conservation efforts are not necessary.

## 4.3.2. VARIABLE COST RECOVERY - AGRICULTURAL RATES

Allocated fixed costs and variable costs are combined to calculate the agricultural commodity rate, and these customers are charged a single volumetric rate for all water used. Due to the variable nature of water demands for seasonal growing (i.e. not permanent crops), these customers do not have a budget. The variable rate is based on the total available source of supply. The variable rate component is based on the respective proportions of those available sources using the same allocation of available sources used for residential and commercial customers. DRWF provides 50% of the source of supply at a cost of $2.07/CCF and imported water provides 7% at a cost of $5.21/CCF. The remaining 43% is the blended cost of the other sources at $2.85/CCF (Table 15). This results in a blended variable cost of $2.62/CCF. The fixed component is based on an allocation of fixed expenses which includes a component for replacement and enhancement capital to the agricultural customer class of $27,334. The fixed cost applied to the agricultural commodity rate adds $1.30 to the per CCF cost based on the estimated 21,045 CCF. Table 19 shows the calculation of FY 2025-26 agricultural rates.

### Table 19: FY 2025-26 Agricultural Water Commodity Rates ($/CCF)

| System | FY 2025-26 Revenue Rquirement | FY 2025-26 Projected Demand (CCF) | Variable Cost (CCF) (1) | Fixed Cost Component (CCF) (2) | FY 2025-26 Commodity Rates (1)+(2) |
|---|---|---|---|---|---|
| Potable Water | $82,472 | 21,045 | $2.62 | $1.30 | $3.92 |

## 4.3.3. FIXED COST RECOVERY - MONTHLY METER SERVICE CHARGES

The District recovers fixed operating costs and replacement and enhancement capital costs through monthly meter service charges. On the District potable water system, the baseline meter size serving customers is 5/8". Thus, the first step in developing the monthly meter service charge is to estimate the total number of 5/8" meter equivalent connections (MEUs) on the potable water system in order to establish the unit cost for a 5/8" equivalent meter. Table 20 shows a summary of this calculation using the District's fixed costs and meter count data.

### Table 20: FY 2025-26 Monthly Unit Cost of Serving a 5/8" Equivalent Meter

| System | 5/8" MEU (A) | Operating Costs (B) | Capital Costs (C) | Total Fixed Cost Revenue Requirement (1) B+C = (D) | Operating Costs per 5/8" MEU B/A = (E) | Capital Costs per 5/8" MEU C/A = (F) | Rate Stabilization (3) (G) | Total Unit Cost per 5/8" MEU(2) E+F+G = (H) |
|---|---|---|---|---|---|---|---|---|
| Potable Water | 273,171 | $38,332,189 | $10,470,327 | $48,802,516 | $11.69 | $3.19 | | $14.90 |

(1) From Table 14
(2) Values prior to rounding
(3) Use of the Replacement Fund as explained below table 18.

Having established the monthly fixed charge unit cost as being $14.90 per 5/8" meter equivalents, the final step in the process is to develop a schedule of monthly meter service charges for each meter size on the system. The cost per unit is rounded to the nearest $0.05. Table 21 presents this calculation.

**Table 21: FY 2025-26 Monthly Meter Service Charges**

| Meter Size and Technology * | Meter Flow Rate Equivalency Ratio | Number of Accounts | FY 2025-26 Rates (After Rounding) | FY 2025-26 Total MEUs | FY 2025-26 Revenue |
|---|---|---|---|---|---|
| 5/8" Disc | 1.0 | 66,102 | $14.90 | 793,224 | $11,819,038 |
| 3/4" Disc | 1.5 | 11,655 | $22.35 | 209,790 | 3,125,871 |
| 1" Disc | 2.5 | 33,573 | $37.25 | 1,007,190 | 15,007,131 |
| 1 1/2" Disc | 6.0 | 4,136 | $89.40 | 297,792 | 4,437,101 |
| 1 1/2" Single Jet | 5.0 | 1 | $74.50 | 60 | 894 |
| 2" Disc | 8.0 | 5,438 | $119.20 | 522,048 | 7,778,515 |
| 2" Single Jet | 8.0 | 0 | $119.20 | 0 | 0 |
| 2" Turbo | 12.5 | 706 | $186.25 | 105,900 | 1,577,910 |
| 3" Turbo | 32.5 | 404 | $484.25 | 157,560 | 2,347,644 |
| 4" Turbo | 62.5 | 197 | $931.25 | 147,750 | 2,201,475 |
| 4" Turbo Omni F-2 | 50.0 | 1 | $745.00 | 600 | 8,940 |
| 6" Turbo | 125.0 | 39 | $1,862.50 | 58,500 | 871,650 |
| 6" Turbo Omni F-2 | 100.0 | 3 | $1,490.00 | 3,600 | 53,640 |
| 8" Mag Meter | 248.7 | 0 | $3,705.65 | 0 | 0 |
| 8" Turbo | 175.0 | 10 | $2,607.50 | 21,000 | 312,900 |
| 8" Turbo Omni F-2 | 175.0 | 1 | $2,607.50 | 2,100 | 31,290 |
| 10" Turbo | 350.0 | 5 | $5,215.00 | 21,000 | 312,900 |
| **Totals** | | | | **3,348,114** | **$ 49,886,899** |

* Identified maxed capacity (GPM) updated for some meters based on data from meter manufacturers.

Customers who remain in the Low Volume tier for most of the year will have a larger percentage of their bill made up of the fixed service charge even though the reduced system demand can extend the life of system assets. The District provides a fixed service charge rate reduction based on the reduced impact on District assets. This concept provides a "lease-back" conservation credit to those whose use remains in the Low Volume tier via a fixed service charge reduction. With the "lease-back" approach, an agency recognizes that a low volume user is not fully using their budgeted capacity, and therefore, it is reasonable to provide a lease-back credit to users who are underutilizing that flow and effectively "leasing it back" to the system for other users. This prevents the District from having to upsize infrastructure as quickly as capacity is exhausted. The monthly service charge is reduced for customers that remain in the Low Volume tier for at least nine months of the prior calendar year resulting in a $2.00 credit per month, which is itemized on each bill. Nine months is deemed reasonable to account for a customer that may occasionally leave the Low Volume tier due to a leak, etc. The nexus is based on removing 75% (nine months) of the capital fixed service charge contribution which is approximately $2.00 per month.

### 4.3.4. MONTHLY PRIVATE FIRELINE CHARGES

Private firelines provide water to sprinkler systems for fire suppression within private improvements such as buildings and other structures. The District, like many utilities, provides private fireline service to its customers.

Table 22 shows the calculation of the FY 2025-26 private fireline rates. For a complete discussion of the calculation method for these rates, please see sections 4.3.4 in the 2026 COS Study.

**Table 22: Proposed FY 2025-26 Private Fireline Charges**

| Private Fireline Size | Number of Lines | Potential Demand Based on Pipe Diameter (1) | Customer Related Costs (2) | Private Fire O&M Peaking Costs (3) | Capital Cost Component (4) | FY 2025-26 Rates | FY 2025-26 Revenue |
|---|---|---|---|---|---|---|---|
| 1" | 16 | 1.00 | $7.70 | $0.17 | $0.23 | $8.10 | $1,555 |
| 2" | 1,043 | 6.19 | $7.70 | $1.08 | $1.42 | $10.20 | $127,663 |
| 3" | 32 | 17.98 | $7.70 | $3.13 | $4.12 | $14.95 | $5,741 |
| 4" | 1,080 | 38.32 | $7.70 | $6.67 | $8.78 | $23.15 | $300,024 |
| 6" | 1,210 | 111.31 | $7.70 | $19.38 | $25.51 | $52.60 | $763,752 |
| 8" | 1,088 | 237.21 | $7.70 | $41.30 | $54.36 | $103.35 | $1,349,338 |
| 10" | 150 | 426.58 | $7.70 | $74.27 | $97.76 | $179.75 | $323,550 |
| 11" | 1 | 548.10 | $7.70 | $95.43 | $125.61 | $228.75 | $2,745 |
| 12" | 2 | 689.04 | $7.70 | $119.96 | $157.91 | $285.60 | $6,854 |
| **Total** | **4,622** | | | | | | **$ 2,881,222** |
| | | | | | | Fire Flow Testing Revenue | $ 45,600 |
| | | | | | | Total Fireline Revenue | $2,926,822 |

(1) Potential demand based on the Hazen-Williams Equation which estimates flow based on factors such as pipe diameter, friction, and the velocity of flow.
(2) $11,738,937 customer related operating costs/126,987 bills/12 months = $7.70.
(3) $1,059,472 peaking costs/ 507,113 private fire demand units/ 12 months = $0.17. For pipe diameters > 1", $0.17 is increased by the potential demand based on pipe diameter (Hazen-Williams).
(4) $2.50 capital cost for a 1" meter equivalent X $3.19 capital cost per MEU x 2.9% allocation to private firelines = $0.23. For pipe diameters > 1", $0.23 is increased by potential pipe diameter (Hazen-Williams).

### 4.3.5. PUBLIC FIRE WATER SERVICE COSTS

There are two cost components associated with public fire water service: direct costs and indirect costs. The budgeted costs for FY 2025-26 are:

| | |
|---|---|
| Direct costs | $ 791,000 |
| Indirect costs | $3,685,000 |
| Total Public Fire Water Service Costs | $4,476,000 |

Direct costs are associated primarily with maintenance of the fire hydrants. These include inspections, painting, and flushing of the hydrants. Flushing is an important maintenance activity that verifies the proper operation of the hydrant to ensure adequate water flow will be available when the need to extinguish a structure fire arises. Flushing also removes the sediment that naturally accumulates in the hydrant.

Indirect costs are the District's costs for design and sizing of the infrastructure to support the "fire flow" (volume and pressure of water) prescribed to meet peak firefighting water demand. The District's water system is designed to provide capacity to handle two defined hypothetical fires. Capacity is measured in terms of maximum hourly and maximum daily water flow. See Appendix 5 for a more detailed discussion on these costs.

# 5. Sewer Cost of Service FY 2025-26

See section 5 of the COS Study for a complete discussion on the District's sewer cost of service.

As is the case with its potable water, the District separates the components of its annual sewer revenue requirement from rates into three specific types of costs: variable operating costs, fixed operating costs, and replacement and

enhancement costs. However, as described in Section 5.1.1 in the COS Study, the rate structure used to recover these costs differs from that of potable water service.

## 5.1. FY 2025-26 SEWER REVENUE REQUIREMENT

The FY 2025-26 sewer revenue requirement was determined to be $77,973,003 (see tables 23 and 24 below). Of this amount, $27,832,221 (35.7%) is associated with variable costs that are incurred to treat sewage for discharge. These costs vary with the amount of water used by customers that returns to the District's sewage treatment facilities and are recovered through IRWD's commodity rates. The District separates operational expenses between sewage treatment and recycled water production with tertiary treatment and similar processes included in the cost for recycled water. Table 23 shows the FY 2025-26 sewer variable cost revenue requirement.

**Table 23: FY 2025-26 Sewer Variable Cost Revenue Requirement**

| Revenue Requirement Component | Amount |
|---|---|
| **Variable Operating Costs** | |
| Sewage Treatment | $11,712,793 |
| Biosolids Treatment | 11,792,321 |
| OC San Treatment and Disposal | 4,673,296 |
| **Gross Variable Cost Revenue Requirement** | **$ 28,178,410** |
| | |
| **Revenue Requirement Offsets** | |
| Direct Billing Revenue and FOG | $346,188 |
| **Total Revenue Requirement Offsets** | **$ 346,188** |
| | |
| **Net Variable Revenue Requirement from Rates** | **$ 27,832,222** |

Fixed costs do not vary with the volume of water used by customers and returned to the District's sewage treatment facilities. The fixed cost portion of the total FY 2025-26 revenue requirement was $50,140,781 (64.3%). Table 24 provides details of the FY 2025-26 sewer fixed cost revenue requirement.

**Table 24: FY 2025-26 Sewer Fixed Cost Revenue Requirement**

| Revenue Requirement Component | Total |
|---|---|
| **Fixed Operating Costs** | |
| Sewage System Monitoring and Fixed Costs | $11,866,513 |
| Biosolids Fixed Operating Costs | 6,302,931 |
| OC San Sewage Fixed Costs | 1,000 |
| Customer Service | $2,909,548 |
| Fleet | 1,057,270 |
| General Plant | 541,791 |
| Building Maintenance | $1,200,817 |
| **Total Fixed Operating Costs** | **$ 23,879,870** |
| | |
| **Replacement and Enhancement Capital Costs** | |
| Replacement | $25,319,749 |
| Enhancement | 1,564,833 |
| **Total Capital Costs** | **$ 26,884,582** |
| | |
| **Gross Fixed Cost Revenue Requirement** | **$ 50,764,452** |
| | |
| **Revenue Offsets** | |
| Direct Billing Revenue and FOG | $623,671 |
| **Total Revenue Offsets** | **$ 623,671** |
| | |
| **Net Fixed Revenue Requirement from Rates** | **$ 50,140,781** |

### 5.1.1. SEWER COST RECOVERY (RATE DESIGN)

The District uses the average of the three lowest water meter readings during the twelve month period ending December 31 to adjust for monthly anomalies in a ratepayer's water use and seasonal variations. The consumption block breakpoints are based on a review of historical data for average usage during cooler months because of the limited demand for landscape during winter months.

The analysis identified the average usage for all multi-family units was 5 CCF which aligns with the first block. The second block includes average usage below 10 CCF as single family residential customers averaged 10 CCF during the same low usage months. The third block, which includes all commercial, industrial, and institutional (CII) customers, exceeds 10 CCF (The average usage for CII customers exceeds 10 CCF). Non-residential/CII customers with billed water consumption of more than 10 CCF per month pay an additional commodity rate ($/CCF).

See Table 24 in the COS Study to view the FY 2025-26 Sewer Rate Structure and Rates.

### 5.1.2. PROPOSED MODIFICATION TO COLLECTION ONLY RATES

The District provides sewer collection-only service to approximately 3,300 customers. The sanitary discharges of these customers are not treated by the District but are conveyed to an adjacent agency. The rate paid by collection-only customers is currently calculated and billed on a per account basis. This can result in the District recovering revenue from high volume dischargers that may be less than the costs incurred to provide service. The District is proposing to calculate and bill the collection-only rate on a per equivalent dwelling unit basis. This change,

especially for high volume dischargers, will result in an improved alignment of the costs incurred to provide service and actual revenue recovery. Raftelis supports this modification. The sewer rates for collection-only service shown in this section of the report (Tabe 29) reflect this change.

This rate structure is compliant with Proposition 218 because it provides a mechanism for recovering rate revenue from customers in a manner that is proportionate to the costs incurred by the District to provide service. It includes a fixed component for all three blocks that does not change. A variable component is included that is based on the historic average of estimated sewage flow by treatment customers within each block.

**Step 1:** Determine the number of sewer customer accounts with usage in each consumption block as shown in Table 26. Some customers require only collection services, while others need both collection and treatment services. To clearly differentiate costs, sewer customer accounts have been categorized into "collection only" and "collection and treatment." Tables are included to show the total costs for each category.

### Tables 25.1 and 25.2: FY 2025-26 Sewer Customer Dwelling Units by Consumption Block

#### Table 25.1- Collection Only

| Customer Class | Block 1 | Block 2 | Block 3 | Total |
|---|---|---|---|---|
| Single Family Residence | 1,095 | 1,234 | 775 | 3,104 |
| Multi Family Residence | 2 | | | 2 |
| Residence Sewer Only | | | | 0 |
| Commercial | | | 203 | 203 |
| Industrial | | | | 0 |
| Public Authority | | | 8 | 8 |
| Construction | | | | 0 |
| **Total** | **1,097** | **1,234** | **986** | **3,317** |

#### Table 25.2- Collection and Treatment

| Customer Class | Block 1 | Block 2 | Block 3 | Total |
|---|---|---|---|---|
| Single Family Residence | 46,504 | 44,095 | 6,725 | 97,324 |
| Multi Family Residence | 53,103 | 11,058 | 521 | 64,682 |
| Residence Sewer Only | 882 | | 286 | 1,168 |
| Commercial | | | 4,807 | 4,807 |
| Industrial | | | 798 | 798 |
| Public Authority | | | 226 | 226 |
| Construction | | | 4 | 4 |
| **Total** | **100,489** | **55,153** | **13,367** | **169,009** |

**Step 2**: Determine the fixed and variable unit cost of service as shown in Tables 26.

### Tables 26: FY 2025-26 Sewer Fixed and Variable Costs

| Total Sewer Cost | Fixed | Variable | Total |
|---|---|---|---|
| Sewer Operational Expenses | $23,879,870 | $28,178,410 | $52,058,280 |
| Enhancement & Replacement | $26,884,583 | | $26,884,583 |
| Revenue Offsets | | | |
| Misc/FOG Revenue | ($329,709) | ($183,016) | ($512,725) |
| Other Direct Billing Revenue | ($293,962) | ($163,173) | ($457,135) |
| Total Sewer Service Costs | $50,140,781 | $27,832,221 | $77,973,003 |
| | | | |

| | | | |
|---|---|---|---|
| Total Sewer Service Cost | | | |
| Sewer Operational Expenses | $23,586,491 | $27,832,221 | $51,418,713 |
| Enhancement & Replacement | $26,554,290 | | $26,554,290 |
| Total Sewer Service Costs | $50,140,781 | $27,832,221 | $77,973,003 |
| | | | |
| Collection | | | |
| Sewer Operational Expenses | $14,151,895 | $0 | $14,151,895 |
| Enhancement & Replacement | $15,932,574 | $0 | $15,932,574 |
| Total Collection Costs | $30,084,469 | $0 | $30,084,469 |
| | | | |
| Treatment | | | |
| Sewer Operational Expenses | $9,434,597 | $27,832,221 | $37,266,818 |
| Enhancement & Replacement | $10,621,716 | $0 | $10,621,716 |
| Total Treatment Costs | $20,056,312 | $27,832,221 | $47,888,534 |

**Step 3**: Determine the fixed and variable unit cost of service for the collection and treatment functions. Table 27 shows the outcome of the unit cost of service calculation process for the fixed components of the collection and treatment revenue requirements.

### Tables 27: FY 2025-26 Fixed Cost Unit Cost of Service

| Fixed Allocation | Discharge | Allocation | Cost Allocation | Unit Cost of Service | Unit of Measure |
|---|---|---|---|---|---|
| Collection | | | | | |
| O&M Allocated to Fixed Charge | 10,359,770 | 78% | $11,025,084 | $5.33 | per account |
| Capital Allocated to Fixed Charge | | 100% | $15,932,574 | $7.70 | per account |
| O&M Allocated to Discharge >10 ccf' | 2,938,122 | 22% | $3,126,811 | $1.06 | per ccf |
| Capital Allocated to Discharge >10 ccf' | | 0% | | | |
| Total | 13,297,892 | 100% | $30,084,469 | | |
| | | | | | |
| Treatment | | | | | |
| O&M Allocated to Fixed Charge | 10,095,670 | 78% | $7,371,399 | $3.63 | per account |
| Capital Allocated to Fixed Charge | | 100% | $10,621,716 | $5.24 | per account |
| O&M Allocated to Discharge >10 ccf' | 2,825,701 | 22% | $2,063,198 | $0.73 | per ccf |
| Capital Allocated to Discharge >10 ccf' | | 0% | | | |
| Total | 12,921,370 | 100% | $20,056,312 | | |

**Step 4**: Table 28 shows the outcome of the unit cost of service calculation process for the variable cost component of the FY 2025-26 revenue requirement.

### Tables 28: FY 2025-26 Variable Cost Unit Cost of Service

| Variable Allocation | Discharges (ccf) | Cost Allocation | Unit Cost of Service | Unit of Measure |
|---|---|---|---|---|
| Collection Costs Allocated to the Variable Rate | 13,297,892 | $0 | $0.00 | per ccf |
| Treatment Costs Allocated ot the Variable Rate | 12,921,370 | $27,832,221 | $2.15 | per ccf |

**Step 5**: After calculating the fixed and variable unit cost of service for collection and treatment functions, proposed FY 2025-26 rates can be determined for collection only service, treatment only service, and consolidated treatment and collection service. Tables 29 - 31 show the calculation of proposed FY 2025-26 Residential Sewer rates.

### Table 29: Proposed FY 2025-26 Residential Collection-Only Monthly Fixed Charge

| Sewer Fixed Charge Tier | A<br>Avg Monthly CCF' Discharges | B<br>O&M Allocated to Fixed Charge | C<br>Capital Allocated to Fixed Charge | D = B +C<br>Total Rate | E<br>FY 2025-26 Rates (Noticed but Not Implemented) |
|---|---|---|---|---|---|
| Block 1: Average Water Usage < 5 ccf per month | 3.2 | $5.33 | $7.70 | $13.04 | $13.05 |
| Block 2: Average Water Usage between 5 and 10 ccf per month | 7.0 | $5.33 | $7.70 | $13.04 | $13.05 |
| Block 3: Average Water Usage > 10 ccf per month | 10.0 | $5.33 | $7.70 | $13.04 | $13.05 |

### Table 30: Proposed FY 2025-26 Residential Treatment-Only Monthly Fixed Charge

| Sewer Fixed Charge Tier | A<br>Avg Monthly CCF Discharges | B<br>Treatment Variable Rate | C=A*B<br>Treatment Component | D<br>O&M Allocated to Fixed Charge | E<br>Capital Allocated to Fixed Charge | F=C+D+F<br>Total Rate | G<br>FY 2025-26 Rates (Noticed but Not Implemented) |
|---|---|---|---|---|---|---|---|
| Block 1: Average Water Usage < 5 ccf per month | 3.2 | $2.15 | $6.89 | $3.63 | $5.24 | $15.76 | $15.75 |
| Block 2: Average Water Usage between 5 and 10 ccf per month | 7.0 | $2.15 | $15.08 | $3.63 | $5.24 | $23.95 | $23.95 |
| Block 3: Average Water Usage > 10 ccf per month | 10.0 | $2.15 | $21.54 | $3.63 | $5.24 | $30.41 | $30.40 |

### Table 31: Proposed Residential FY 2025-26 Treatment and Collection Monthly Fixed Charge

| Sewer Fixed Charge Tier | A<br>Avg Monthly CCF' Discharged | B<br>Collection Only Component | C<br>Treatment Only Component | D = B+C<br>Total Rate | E<br>FY 2025-26 Rates (Noticed but Not Implemented) |
|---|---|---|---|---|---|
| Block 1: Average Water Usage < 5 ccf per month | 3.2 | $13.04 | $15.76 | $28.80 | $28.80 |
| Block 2: Average Water Usage between 5 and 10 ccf per month | 7.0 | $13.04 | $23.95 | $36.99 | $37.00 |
| Block 3: Average Water Usage > 10 ccf per month | 10.0 | $13.04 | $30.41 | $43.45 | $43.45 |

**Step 6:** Table 32 shows the proposed FY 2025-26 Non-Residential sewer rates which include a fixed component which consists of a fixed charge (the Block 2 treatment only fixed charge) and a variable commodity rate.

### Table 1: Proposed FY 2025-26 Non-Residential Rates

| Rate/Charge | A<br>Variable Collection Component | B<br>Variable Treatment Component | C = A+B<br>Total | D<br>FY 2025-26 Rates (Noticed but Not Implemented) |
|---|---|---|---|---|
| Commodity Rate ($/ccf) | $1.06 | $2.88 | $3.94 | $3.94 |
| Monthly Fixed Charge | | | | $43.45 |

# 6. RECYCLED WATER COST OF SERVICE

See section 6 of the COS Study for a complete discussion on the District's recycled water cost of service.

The method used by the District to develop recycled water rates is similar to that for potable water service (see Section 2 of this report) with one significant difference. The District does not calculate unique monthly meter

service charges for recycled water. Instead, the monthly service charges for recycled water are set to the same as those charged for the potable water monthly meter service charge (see Table 21 in section 4.3.3). The District takes this approach due to an imbalance between variable and fixed costs in the overall recycled water revenue requirement. This reallocation of fixed costs to variable revenue recovery through commodity rates is discussed in Section 6.1. below.

### 6.1.2. FY 2025-26 RECYCLED WATER REVENUE REQUIREMENT

The District's recycled water revenue requirement from rates is $39,692,626. Prior to any adjustments, the composition of this revenue requirement is variable costs of $21,862,775 (55.1%) and fixed costs of $17,829,850 (44.9%). The District established the monthly fixed charge unit cost as being $14.90 per 5/8" meter equivalents in the potable water service process (see Table 21 in section 4.3.3). Due to the high percentage of fixed costs identified in the recycled water revenue requirement, the District reallocates a portion of fixed costs not recovered by monthly meter service charges ($8,304,912) into the variable cost revenue requirement. These costs are included in the recycled system and recycled water revenue provides the funding consistent with Proposition 218 requirements. This strategy provides a fair and equitable application of these costs without deterring usage.

Tables 34 and 35 details the FY 2025-26 variable and fixed recycled water revenue requirement before and after this reallocation.

**Table 34: FY 2025-26 Recycled Water Variable Cost Revenue Requirement**

| Revenue Requirement Component | Amount |
|---|---|
| **Water Supplies** | |
| Untreated Water Purchases | $5,771,643 |
| Recycled Water Treatment | 10,791,325 |
| El Toro Groundwater | 3,463,509 |
| **Total Cost of Water Supplies** | **$ 20,026,477** |
| | |
| **Conservation and Supply Reliability** | |
| Universal Conservation | 111,423 |
| Targeted Conservation | 319,525 |
| Natural Treatment System | 1,405,351 |
| **Total Cost of Water Supplies** | **1,836,299** |
| | |
| **Total Variable Cost Revenue Requirement Before Adjustment** | **$ 21,862,776** |
| | |
| Adjustment to Reflect Reallocated Fixed Costs | $8,304,912 |
| **Total Variable Cost Revenue Requirement After Adjustment** | **$ 30,167,688** |

### Table 35: FY 2025-26 Recycled Water Fixed Cost Revenue Requirement

| | |
|---|---|
| **Fixed Operating Costs** | |
| System Maintenance and Monitoring | $14,749,942 |
| Customer Service | 1,745,729 |
| Fleet | 72,915 |
| General Plant | 541,791 |
| Building Maintenance | 720,490 |
| **Total Fixed Operating Costs** | **$17,830,867** |
| | |
| **Replacement and Enhancement Capital Costs** | |
| Replacement | $1,098,064 |
| Enhancement | 336,633 |
| **Total Capital Costs** | **1,434,697** |
| | |
| **Gross Fixed Cost Revenue Requirement** | **19,265,564** |
| | |
| **Revenue Requirement Offsets** | |
| Pumping | 949,345 |
| Miscellaneous/Other Revenues | 486,369 |
| **Total Revenue Requirement Offsets** | **1,435,714** |
| | |
| **Total Fixed Cost Revenue Requirement Before Adjustment** | **17,829,850** |
| | |
| **Adjustment to Reflect Reallocated Fixed Costs** | **($8,304,912)** |
| **Net Fixed Revenue Requirement from Rates After Adjustment** | **9,524,938** |

## 6.1.3. VARIABLE COST RECOVERY - COMMODITY RATES

The method used to determine recycled water commodity rates is similar to that used for potable water. In FY 2025-26, the District's projected total recycled water demand was 31,971 acre feet based on historical demand, customer growth factors and other relevant factors. Table 36 provides a detail of the FY 2025-26 unit cost of water supplies ($/CCF) from each supply source using the District's cost and demand data. Note that the net cost shown in each column includes the reallocation of fixed costs of $8,304,912 as discussed above.

### Table 36: Unit Cost of FY 2025-26 Recycled Water Supplies

| Metric | Produced from Treatment Plant | Processed from El Toro Remediation | Imported (Supplemental) | Total |
|---|---|---|---|---|
| Net Cost | $14,943,781 | $4,294,000 | $9,093,608 | $28,331,389 |
| Acre Feet | 24,890 | 3,030 | 4,051 | 31,971 |
| Unit Cost per ccf (1) | $1.38 | $3.25 | $5.15 | |

(1) Acre feet is multiplied by 435.6 to convert to CCF.

The District allocates the lower cost water supplies to the low volume and base consumption tiers with higher cost water supplies being allocated to the inefficient and wasteful tiers. Table 37 details this allocation for FY 2025-26 using cost and demand data provided by the District.

The general formula used to determine the water budget for a landscape customer served by a recycled water connection is discussed in detail in 4.1.5. in the COS Study.

### Table 37: Allocation of Recycled Water Supplies to Consumption Tiers for Landscape Customers

| Metric | Produced from Treatment Plant | Processed from El Toro Remediation | Imported | Total Acre Feet | Unit Cost per $ /ccf by Tier (1) |
|---|---|---|---|---|---|
| Unit Cost (Table 36) | $1.38 | $3.25 | $5.15 | | |
| T1: Low Volume | 15,458 | - | - | 15,458 | $1.38 |
| T2: Base | 9,432 | 3,030 | 1,904 | 14,367 | $2.27 |
| T3: Inefficient | - | - | 1,246 | 1,246 | $5.15 |
| T4: Wasteful | - | - | 901 | 901 | $5.15 |
| Total | 24,890 | 3,030 | 4,051 | 31,971 | |

(1) The Unit Cost per $/CCF by TIER is the blended cost of the sources.

Having determined the unit cost of recycled water supplies by consumption tier for landscape customers as shown in Table 37 above, the District then allocates the cost of conservation programs, as shown in table 34, to the appropriate water budget tiers.

Universal conservation costs are added to the commodity rate in the inefficient, and wasteful tiers to pay for conservation program costs that help customers in each of these tiers achieve efficient use of recycled water. This cost is not included in the low volume or base rates since customers who remain in these usage tiers do not need assistance to stay within their water budgets.

Targeted conservation costs reflect programs specifically designed to encourage efficient water practices of customers whose usage exceed their water budgets. Costs are allocated to each tier based on expected usage.

Natural treatment system costs are incurred by the District to deal with urban water runoff produced by customers whose usage reaches the wasteful tier. The costs include prevention, control and treatment of the runoff of water from irrigation and other uses and are added to the commodity rates of customers in the wasteful tier. Costs are allocated based on the expected usage in each tier.

Table 38 shows the outcome of derivation of the unit costs for the District's conservation programs.

### Table 38: FY 2025-26 Conservation Program Unit Costs ($/CCF)

| Program | FY 2025-26 Revenue Requirement (A)(1) | FY 2025-26 Units of Demand (ccf) (B) | Demand Adjustment Factor for Price Elasticity (C) | FY 2025-26 Adjusted Units of Demand B x C = (D) | Rate Stabilization Adjustment (E)(2) | Unit Cost Included in FY 2025-26 Commodity Rates A/D - E = (F) |
|---|---|---|---|---|---|---|
| Universal Conservation | $111,423 | 935,188 | 100% | 935,188 | | $0.12 |
| Targeted Conservation | | | | | | |
| Inefficient tier | $79,881 | 542,810 | 90% | 488,529 | | $0.16 |
| Wasteful tier | $239,644 | $392,378 | 90% | 353,140 | | $0.68 |
| Natural Treatment System | | | | | | |
| Inefficient tier | | 542,810 | 90% | 488,529 | | |
| Wasteful tier | $1,405,351 | $392,378 | 90% | 353,140 | | $3.98 |

(1) See Table 34

(2) Use of the Replacement Fund as explained below table 18.

Having determined the unit cost of recycled water supplies by consumption tier as shown in Table 37 and the unit cost of conservation program cost in Table 38, the District must then allocate the cost of conservation programs to each consumption tier. Table 39 shows the outcome of this process using the District's cost and demand data.

**Table 39: FY 2025-26 Recycled Water Commodity Rates ($/CCF)**

| Consumption Tier | Unit Cost of Water Supplies (Table 37) | Unit Cost of Universal Conservation (Table 38) | Unit Cost of Targeted Conservation (Table 38) | Unit Cost of Natural Treatment System (Table 38) | FY 2025-26 Commodity Rates | FY 2025-26 CCF | FY 2025-26 Revenue |
|---|---|---|---|---|---|---|---|
| T1: Low Volume | $1.38 | | | | $1.38 | 6,733,294 | $9,291,946 |
| T2: Base | $2.27 | $0.12 | | | $2.39 | 6,258,086 | 14,956,826 |
| T3: Inefficient | $5.15 | $0.12 | $0.16 | $0.00 | $5.33 | 542,810 | 2,893,177 |
| T4: Wasteful | $5.15 | $0.12 | $0.68 | $3.98 | $9.93 | 392,378 | 3,896,314 |
| **Totals** | | | | | | **13,926,568** | **$31,038,262** |

### 6.1.4. FIXED COST RECOVERY - MONTHLY METER SERVICE CHARGE

Recycled water fixed charges are the same as potable water fixed charges (see Table 21 in Section 4.3.3).

### 6.1.5. VARIABLE COST RECOVERY – RECYCLED WATER AGRICULTURAL RATES

As discussed in section 4.3.2, allocated fixed costs and variable costs are combined to calculate the agricultural commodity rate, and these customers are charged a single volumetric rate for all water used and these customers do not have a budget. The variable rate is based on the total available source of supply. The variable rate component is based on the respective proportions of those available sources using the same allocation of available sources used for residential and commercial customers. It is assumed that produced water provides 78% of the source of supply, 9% is the cost of processed water, and imported water provides 13%. The fixed component is based on an allocation of fixed expense which includes a component for replacement and enhancement capital to the agricultural customer class of $11,735. A portion of the fixed cost is included in the variable rate component as described in section 6.1.3. An additional fixed cost of $0.01 per CCF is, which is not recovered through the commodity rate, is applied based on an estimated 1,173,478 CCF. Table 40 shows the calculation of FY 2025-26 recycled water agricultural rates.

**Table 40: FY 2025-26 Recycled Water Agricultural Water Commodity Rates ($/CCF)**

| Customer Class | FY 2025-26 Revenue Rquirement | FY 2025-26 Projected Demand (CCF) | Variable Cost (CCF) (1) | Fixed Component Cost (CCF) (2) | FY 2025-26 Commodity Rates (1)+(2) | FY 2023-24 Revenue |
|---|---|---|---|---|---|---|
| Agricultural | $2,393,895 | 1,173,478 | $2.03 | $0.01 | $2.04 | $2,393,895 |

# 8. Untreated Water Cost of Service FY 2025-26

Section 8 of the COS Study is updated to describe projected costs to serve untreated water.

## 8.1. UNTREATED WATER COMMODITY RATE

The FY 2025-26 variable revenue requirement for untreated water was determined to be $144,750. The source of this water comes from the Santiago Aqueduct Commission (SAC), and this is the cost incurred to acquire water supplies (See Table 13). Table 41 shows the calculation of the variable rate for untreated water.

**Table 41: FY 2025-26 Untreated Water Commodity Rate ($/CCF)**

| Consumption Tier | FY 2025-26 Revenue Rquirement | FY 2025-26 SAC Purchases (AF) | Variable Cost (AF) | Variable Cost (CCF) (1) | FY 2025-26 Commodity Rates |
|---|---|---|---|---|---|
| Untreated Water | $144,750 | 134 | $827 | $2.05 | $2.05 |

(1) Acre feet is multiplied by 435.6 to convert to CCF

### 8.1.1. UNTREATED WATER AGRICULTURAL COMMODITY RATE

The fixed cost revenue requirement for all untreated water uses was determined to be $434,293 for FY 2025-26. These include capacity, readiness to serve, and meter costs that do not vary based upon the amount of water used. The untreated agricultural rate includes a fixed charge component that is based upon an allocated portion of the untreated water costs for all untreated imported water uses. This includes untreated water supplies used by the Baker Treatment Plant (7,200 AF), the Recycled System (5,360 AF), and water sold directly to customers (134 AF). The total projected demand for these customers is 12,694 AF. Table 42 shows the calculation of the rate included for fixed costs for untreated agricultural customers.

**Table 42: FY 2025-26 Untreated Water Agricultural Commodity Rates ($/CCF)**

| FY 2025-26 Revenue Requirement | FY 2025-26 Projected Demand (AF) | FY 2025-26 Projected Demand (CCF)(1) | Variable Cost (CCF)(2) | Fixed Cost Component (CCF) | FY 2025-26 Commodity Rate |
|---|---|---|---|---|---|
| $434,293 | 5,494 | 2,393,186 | $2.05 | $0.23 | $2.28 |

(1) Acre feet is multiplied by 435.6 to convert to CCF
(2) From table 41

Due to the variable nature of water demands for seasonal growing (i.e. not permanent crops), these customers do not have a budget. As discussed in section 4.3.2, allocated fixed and variable costs are combined to calculate the agricultural commodity rate, and these customers are charged a single volumetric rate for all water used. The untreated water agricultural rate is calculated by combining the variable cost shown in Table 41 and the fixed cost component as shown in Table 42.

**Table 43: FY 2025-26 Untreated Water Agricultural Commodity Rates ($/CCF)**

| Consumption Tier | Variable Cost (CCF) | Fixed Cost Component (CCF) | FY 2025-26 Commodity Rates |
|---|---|---|---|
| Untreated Water | $2.05 | $0.23 | $2.28 |

# 9. Setup and Reconnect Fees Cost of Service FY 2025-26

Section 9 of the COS Study is updated to describe projected costs of setup and reconnection fees.

## 9.1. SETUP AND RECONNECT FEES

New customers pay a setup fee to offset labor, general and administrative (G&A) costs related to establishing a new account with the District. The fee is $26.00 and has not changed since June 2015 since this fee is sufficient to offset new account costs.

When service is discontinued because of delinquency in payment of a water, sewer, or recycled water bill, the service shall not be restored until all delinquent charges, late charges and interest charges, and a trip charge (reconnection fee) have been paid.

The costs for the reconnection fee include labor, G&A, and vehicle costs. Reconnecting after hours is at a higher cost due to labor overtime and minimum guaranteed hours. Estimated costs are shown in Table 44.

**Table 44: Reconnection Fee Costs**

| Estimated Cost | Normal Hours | After Hours Average |
|---|---|---|
| Labor and G&A | $64 | $194 |
| Vehicle Costs | $14 | $14 |
| Estimated Total Cost | $78 | $208 |

In 2019, the California Health and Safety Code § 116914(a) limited reconnection fees for urban water systems for very low-income households to $50 during working hours and $150 at other times and allowed for Consumer Price Index (CPI) adjustments starting in 2021. The District applied the December Los Angeles CPI rates rates for 2021 through 2025 for the low income reconnection fee rate increases. Fees are rounded to nearest five dollars.

**Table 45: FY 2025-26 Reconnection Fees**

| Reconnection Fees | Normal Hours | After Hours |
|---|---|---|
| Standard Fee | $78 | $208 |
| Low Income | $57 | $172 |

# Executive Summary

This appendix is part of the Cost of Service update for Fiscal Year (FY) 2025-26 and FY 2026-27.

Appendix 2 provides support for the development of rates to cover proposed operating costs for FY 2025-26. Appendix 3 provides support for the development of rates to cover proposed operating costs for FY 2026-27.

The tables are updated with the detailed costs from the FY 2026-27 operating budget. The methodology from the 2026 Cost of Service (COS) Study remains the same and the tables included in this appendix use the same reference numbering scheme as those in the 2026 COS Study. Section 8 has been added to address rates for untreated water.

## 4. Potable Water Cost of Service FY 2026-27

See section 4 of the COS Study for a complete discussion on the District's potable water cost of service.

The FY 2026-27 water revenue requirement was determined to be $135,926,552 (see sum of tables 13 and 14 below). Of this amount, $84,087,180 (61.4%) is associated with variable costs that are incurred to acquire, treat, and deliver water supplies. These costs vary with the amount of water used by customers and are recovered through commodity rates. Note that the variable cost revenue requirement includes $17,549,364 in costs for universal conservation, targeted conservation, water banking operations, and the District's natural treatment system used to control runoff from customers who use water in the inefficient and wasteful tiers. Table 13 provides detail of the FY 2026-27 variable revenue requirement.

## 4.3. FY 2024-25 POTABLE WATER REVENUE REQUIREMENT

### Table 13: FY 2026-27 Potable Water Variable Cost Revenue Requirement

| Revenue Requirement Component | Amount |
|---|---|
| **Water Supplies** | |
| Dyer Road Wellfield | $27,455,832 |
| Baker Treatment Facilities | 17,835,367 |
| Imported Water Purchases | 9,805,273 |
| Deep Aquifer Treatment System | 9,255,618 |
| Irvine Desalter Domestic | 6,764,014 |
| Wells 21 & 22 Desalter Treatment Plant | 4,552,569 |
| Orange Park Acres | 3,157,954 |
| Howiler Treatment Facility | 829,028 |
| **Total Potable Water Supply Costs** | **$ 79,655,655** |
| | |
| **Revenue Requirement Offsets to Water Supply Costs** | |
| Baker Partners | 7,190,839 |
| Sinking Fund | 1,700,000 |
| Water Banking Operations | 2,202,000 |
| MWDOC PTP/IDP Credits | 2,025,000 |
| **Total Revenue Requirement Offsets** | **13,117,839** |
| | |
| **Net Revenue Requirement for Water Supply Costs** | **$ 66,537,816** |
| | |
| **Conservation and Supply Reliability** | |
| Universal Conservation | 1,817,141 |
| Targeted Conservation | 8,011,858 |
| Natural Treatment System | 5,604,264 |
| Water Banking | 2,116,102 |
| **Total Conservation and Supply Reliability Costs** | **17,549,365** |
| | |
| **Net Potable Variable Cost Revenue Requirement** | **$ 84,087,181** |
| | |
| **Untreated Water Supplies** | |
| Untreated Imported Water Purchases | 156,075 |
| Untreated Water System Maintenance | 505,302 |
| Native Water | 1,153,763 |
| **Total Untreated Water Supply Costs** | **1,815,140** |
| | |
| **Revenue Requirement Offsets to Untreated Water Supply Costs** | |
| Transferred to Recycled | 2,732,966 |
| **Total Revenue Requirement Offsets** | **2,732,966** |
| | |

Fixed costs do not vary with the volume of water by customers. The fixed cost portion of the total FY 2026-27 revenue requirement was $52,757,199 (38.6%) as shown in Table 14. Of these fixed costs, $11,399,366 were

associated with expenditures for replacement and enhancement capital costs that do not increase the capacity of the water utility system to serve new customer demand growth. Table 14 provides a detail of the FY 2026-27 fixed revenue requirement.

**Table 14: FY 2024-25 Potable Water Fixed Cost Revenue Requirement**

| Revenue Requirement Component | Amount |
|---|---|
| **Fixed Operating Costs** | |
| System Maintenance and Monitoring | 37,105,462 |
| Customer Service | 6,076,730 |
| Fleet | 1,688,939 |
| General Plant | 846,449 |
| Building Maintenance | 2,516,531 |
| **Total Fixed Operating Costs** | **48,234,111** |
| | |
| **Replacement and Enhancement Capital Costs** | |
| Replacement | 9,096,532 |
| Enhancement | 2,302,723 |
| **Total Capital Costs** | **11,399,255** |
| | |
| **Fixed Cost Revenue Requirement** | **59,633,366** |
| | |
| **Revenue Requirement Offsets** | |
| Firelines | 3,330,711 |
| Pumping Surcharge | 1,995,238 |
| Miscellaneous/Other | 1,194,578 |
| Low Volume Benefit | 355,639 |
| **Total Revenue Requirement Offsets** | **6,876,166** |
| | |
| **Net Fixed Cost Revenue Requirement from Rates** | **52,757,200** |
| | |
| **Total Water Revenue Requirement** | **$ 135,926,552** |

### 4.3.1. VARIABLE COST RECOVERY – COMMODITY RATES

The District recovers water supply costs through commodity rates with the lowest cost water supplies being recovered in the low volume and base consumption tiers and the highest cost water supplies being recovered in the inefficient and wasteful tiers. The District's method for recovering variable costs is compliant with Proposition 218 because of the direct linkage between the revenue recovered in each tier to the costs incurred to provide service to customers with demand in each consumption tier.

The District also recovers the cost of water conservation and water supply reliability programs through its commodity rates with targeted costs being allocated to customers with consumption in the inefficient and wasteful tiers. This approach is reasonable because customers who exceed their monthly water budget allocation impose higher costs on the District. Thus, the commodity rates charged in these two upper tiers are designed to not only recover the cost of more expensive water supplies, but also the additional costs of:

- Targeted conservation programs designed to reduce excessive use.
- Water banking operational costs to enhance water supply reliability.
- Rebates for long-term improvements in customer water use efficiency.

- Urban runoff source control programs referred to as the natural treatment system (NTS) treat runoff from customers who use water in the inefficient and wasteful tiers.

In FY 2026-27, the District's projected total water demand of 53,936 acre feet was based on historical averages by tier, adjusted for customer account growth and other relevant factors. This reflects a 1.0% increase over the 53,404 acre feet of water demand projected in FY 2025-26. Table 15 details the FY 2026-27 unit cost of water supplies ($/CCF) from each supply source as determined using cost and demand data provided by the District.

### Table 15: Unit Cost of FY 2024-25 Water Supplies

| Metric | Dyer Road Wellfield | Deep Aquifer Treatment System | Baker Treatment Facilities | Irvine Desalter Domestic | Wells 21 & 22 Desalter Treatment Plant | Imported Water Purchases | Howiler Water Treatment Plant | Orange Park Acres Well 1 | Totals |
|---|---|---|---|---|---|---|---|---|---|
| Net Cost (1) | $25,401,330 | $8,395,080 | $10,644,528 | $4,799,973 | $3,827,366 | $9,805,273 | $829,028 | $2,835,238 | $66,537,816 |
| Demand in Acre Feet (net) | 26,749 | 7,280 | 6,552 | 4,560 | 1,920 | 4,147 | | 2730 | 53,938 |
| CCF (2) | 11,651,864 | 3,171,030 | 2,854,051 | 1,986,336 | 836,352 | 1,806,390 | | 1,189,188 | 23,495,211 |
| Unit Cost per ccf (1) divided by (2) | $2.18 | $2.65 | $3.73 | $2.42 | $4.58 | $5.43 | | $2.38 | |

(1) From Table 14
(2) Acre feet is multiplied by 435.6 to convert to CCF

The District allocates the water supply in the order of cost for each source. The higher cost water supplies are appropriately allocated to the inefficient and wasteful tiers. Table 16 details this allocation for FY 2026-27 using cost and demand data provided by the District.

### Table 16: Allocation of Potable Water Supplies to Consumption Tiers for Unit Costs

| Metric | Dyer Road Wellfield (1) | Deep Aquifer Treatment System | Baker Treatment Facilities | Irvine Desalter Domestic | Wells 21 & 22 Desalter Treatment Plant | Imported Water Purchases | Orange Park Acres Well 1 | Total Acre Feet | Unit Cost by Tier ($ /ccf) (2) |
|---|---|---|---|---|---|---|---|---|---|
| Unit Cost | $2.18 | $2.65 | $3.73 | $2.42 | $4.58 | $5.43 | $2.38 | | |
| T1: Low Volume | 20,411 | - | - | - | - | - | - | 20,411 | $2.18 |
| T2: Base | 6,338 | 7,280 | 6,552 | 4,560 | 1,059 | - | 2,730 | 28,514 | $2.80 |
| T3: Inefficient | - | - | - | - | 861 | 1,756 | - | 2,617 | $5.15 |
| T4: Wasteful | - | - | - | - | - | 2,390 | - | 2,390 | $5.43 |

(1) 26,749 acre feet are used to meet projected low volume demand estimated based on historic demand as adjusted for customer account growth and other relevant factors. The remainder (6,338 acre feet) is allocated to partially meet the base demand.
(2) The Unit Cost by Tier is the blended cost of the sources.

Having determined the unit cost of water supplies by consumption tier as shown in Table 16 above, the District then allocates the cost of conservation programs and supply reliability programs to the water budget tiers as described below:

**Universal Conservation**: Universal conservation costs are incurred to encourage customers to use water as efficiently as possible. Universal program costs are added to the commodity rate in the base, inefficient, and wasteful tiers. This cost is not included in the low volume rate since customers who remain in this usage tier do not need assistance to efficiently use water.

**Targeted Conservation**: Targeted conservation costs reflect programs specifically designed to encourage efficient water practices of customers whose usage exceeds their water budgets. Therefore, these costs are added to the commodity rates of customers in the inefficient and wasteful tiers. Based on a historical estimate of customers who

have been provided assistance in these programs, approximately 77% of the customers are in the wasteful tier with the remainder of customers being in the inefficient tier. Therefore, 77% of the targeted conservation costs are allocated to the wasteful tier with the remaining 23% of the costs being allocated to the inefficient tier.

**NTS Costs**: These natural treatment system costs are incurred by the District to deal with urban water runoff produced by customers whose usage exceeds their water budgets. These costs are added to the commodity rates of customers in the inefficient and wasteful tiers because their excessive water usage creates urban water runoff. The allocation is based on an estimate of the historic mix of urban runoff created by customers in the inefficient and wasteful tiers primarily from hosing down hardscape and excess irrigation running off the landscape into the storm drains. The District estimates 82% of NTS costs are created by customers in the wasteful tier because wasteful outdoor demand flows to NTS sites. The remaining 18% of urban runoff costs results from inefficient customers overwatering drought tolerant landscape. The allocated costs provide the components and the anticipated sales result in the established rates.

**Water Banking**: Water banking costs are incurred to support the reliability of the District's water supplies. These costs are added to the commodity rates of customers in the wasteful tier because their excessive water usage creates the need for enhanced reliability of costly imported water supplies as previously discussed.

Table 17 shows the outcome of derivation of the unit costs for the District's conservation and supply reliability programs.

**Table 17: FY 2026-27 Conservation and Supply Reliability Unit Costs ($/CCF)**

| Program | FY 2026-27 Revenue Requirement (1) (A) | FY 2026-27 Units of Demand (ccf) (2) (B) | Demand Adjustment Factor for Price Elasticity (C) | FY 2026-27 Adjusted CCF B x C = (D) | Unit Cost Included in FY 2026-27 Commodity Rates A/B = (E) |
|---|---|---|---|---|---|
| Universal Conservation | $1,817,141 | 14,603,739 | 100% | 14,603,739 | $0.12 |
| Water Banking | | | | | |
| Wasteful tier | $2,116,102 | 1,041,022 | 90% | 936,920 | $2.26 |
| Targeted Conservation | | | | | |
| Inefficient tier (75%) | $1,836,051 | 1,139,869 | 90% | 1,025,882 | $1.79 |
| Wasteful tier (25%) | $6,175,807 | 1,041,022 | 90% | 936,920 | $6.59 |
| Natural Treatment System | | | | | |
| Inefficient tier (15%) | $993,161 | 1,139,869 | 90% | 1,025,882 | $0.97 |
| Wasteful tier (85%) | $4,611,104 | 1,041,022 | 90% | 936,920 | $4.92 |

(3) From Table 14
(4) Units of Demand are based on the cumulative projected units of sale for the tiers. Universal Conservation includes the base, inefficient, and wasteful tiers.

Table 18 shows the FY 2024-25 potable water commodity rates.

| Consumption Tier | Unit Cost of Water Supplies (1) | Unit Cost of Universal Conservation (2) | Unit Cost of Water Banking (2) | Unit Cost of Targeted Conservation (2) | Unit Cost of Natural Treatment System (2) | FY 2026-27 Commodity Rates | FY 2026-27 CCF | FY 2026-27 Revenue |
|---|---|---|---|---|---|---|---|---|
| T1: Low Volume | $2.18 | | | | | $2.18 | 8,890,986 | $19,382,350 |
| T2: Base | $2.80 | $0.12 | | | | $2.92 | 12,422,848 | 36,274,715 |
| T3: Inefficient | $5.15 | $0.12 | | $1.79 | $0.97 | $8.03 | 1,139,869 | 9,153,148 |
| T4: Wasteful | $5.43 | $0.12 | $2.26 | $6.59 | $4.92 | $19.32 | 1,041,022 | 20,112,545 |
| **Totals** | | | | | | | **23,494,725** | **$ 84,922,758** |

**Table 18: FY 2026-27 Potable Water Commodity Rates ($/CCF)**

(3) From Table 16
(4) From Table 17. Water used in the low volume tier is efficient and universal conservation efforts are not necessary.

## 4.3.2. VARIABLE COST RECOVERY - AGRICULTURAL RATES

Allocated fixed costs and variable costs are combined to calculate the agricultural commodity rate, and these customers are charged a single volumetric rate for all water used. Due to the variable nature of water demands for seasonal growing (i.e. not permanent crops), these customers do not have a budget. The variable rate is based on the total available source of supply. The variable rate component is based on the respective proportions of those available sources using the same allocation of available sources used for residential and commercial customers. DRWF provides 50% of the source of supply at a cost of $2.18/CCF and imported water provides 8% at a cost of $5.43/CCF. The remaining 43% is the blended cost of the other sources at $3.04/CCF (Table 15). This results in a blended variable cost of $2.80/CCF. The fixed component is based on an allocation of fixed expense which includes a component for replacement and enhancement capital to the agricultural customer class of $28,624. The fixed cost applied to the agricultural commodity rate adds $1.35 to the per CCF cost based on the estimated 21,255 CCF. Table 19 shows the calculation of FY 2026-27 agricultural rates.

**Table 19: FY 2026-27 Agricultural Water Commodity Rates ($/CCF)**

| System | FY 2026-27 Revenue Rquirement | FY 2026-27 Projected Demand (CCF) | Variable Cost (CCF) (1) | Fixed Cost Component (CCF) (2) | FY 2026-27 Commodity Rates (1)+(2) |
|---|---|---|---|---|---|
| Potable Water | $88,068 | 21,255 | $2.80 | $1.35 | $4.14 |

## 4.3.3. FIXED COST RECOVERY - MONTHLY METER SERVICE CHARGES

The District recovers fixed operating costs and replacement and enhancement capital costs through monthly meter service charges. On the District potable water system, the baseline meter size serving customers is 5/8". Thus, the first step in developing the monthly meter service charge is to estimate the total number of 5/8" meter equivalent connections (MEUs) on the potable water system in order to establish the unit cost for a 5/8" equivalent meter. Table 20 shows a summary of this calculation using the District's fixed costs and meter count data.

**Table 20: FY 2026-27 Monthly Unit Cost of Serving a 5/8" Equivalent Meter**

| System | 5/8" MEU (A) | Operating Costs (B) | Capital Costs (C) | Total Fixed Cost Revenue Requirement (1) B + C = (D) | Operating Costs per 5/8" MEU B/A = (E) | Capital Costs per 5/8" MEU C/A = (F) | Rate Stabilization (G) | Total Unit Cost per 5/8" MEU(2) E+F+G= (H) |
|---|---|---|---|---|---|---|---|---|
| Potable Water | 275,873 | $40,460,224 | $11,151,821 | $51,612,045 | $12.22 | $3.37 | | $15.60 |

(1) From Table 14
(2) Values prior to rounding

Having established the monthly fixed charge unit cost as being $15.60 per 5/8" meter equivalents, the final step in the process is to develop a schedule of monthly meter service charges for each meter size on the system. The cost per unit is rounded to the nearest $0.05. Table 21 presents this calculation.

### Table 21: FY 2026-27 Monthly Meter Service Charges

| Meter Size and Technology | Meter Flow Rate Equivalency Ratio | Number of Accounts | FY 2026-27 Rates (After Rounding) | FY 2026-27 Total MEUs | FY 2026-27 Revenue |
|---|---|---|---|---|---|
| 5/8" Disc | 1.0 | 67,423 | $15.60 | 809,076 | $12,621,586 |
| 3/4" Disc | 1.5 | 11,888 | $23.40 | 213,984 | 3,338,150 |
| 1" Disc | 2.5 | 34,244 | $39.00 | 1,027,320 | 16,026,192 |
| 1 1/2" Disc | 6.0 | 4,219 | $93.60 | 303,768 | 4,738,781 |
| 1 1/2" Single Jet | 5.0 | 1 | $78.00 | 60 | 936 |
| 2" Disc | 8.0 | 5,547 | $124.80 | 532,512 | 8,307,187 |
| 2" Single Jet | 8.0 | 0 | $124.80 | 0 | 0 |
| 2" Turbo | 12.5 | 719 | $195.00 | 107,850 | 1,682,460 |
| 3" Turbo | 32.5 | 411 | $507.00 | 160,290 | 2,500,524 |
| 4" Turbo | 62.5 | 201 | $975.00 | 150,750 | 2,351,700 |
| 4" Turbo Omni F-2 | 50.0 | 1 | $780.00 | 600 | 9,360 |
| 6" Turbo | 125.0 | 39 | $1,950.00 | 58,500 | 912,600 |
| 6" Turbo Omni F-2 | 100.0 | 3 | $1,560.00 | 3,600 | 56,160 |
| 8" Mag Meter | 248.7 | 0 | $3,879.70 | 0 | 0 |
| 8" Turbo | 175.0 | 10 | $2,730.00 | 21,000 | 327,600 |
| 8" Turbo Omni F-2 | 175.0 | 1 | $2,730.00 | 2,100 | 32,760 |
| 10" Turbo | 350.0 | 5 | $5,460.00 | 21,000 | 327,600 |
| **Totals** | | | | **3,412,410** | **$ 53,233,596** |

Customers who remain in the Low Volume tier for most of the year will have a larger percentage of their bill made up of the fixed service charge even though the reduced system demand can extend the life of system assets. The District provides a fixed service charge rate reduction based on the reduced impact on District assets. This concept provides a "lease-back" conservation credit to those whose use remains in the Low Volume tier via a fixed service charge reduction. With the "lease-back" approach, an agency recognizes that a low volume user is not fully using their budgeted capacity, and therefore, it is reasonable to provide a lease-back credit to users who are underutilizing that flow and effectively "leasing it back" to the system for other users. This prevents the District from having to upsize infrastructure as quickly as capacity is exhausted. The monthly service charge is reduced for customers that remain in the Low Volume tier for at least nine months of the prior calendar year resulting in a $2.00 credit per month, which is itemized on each bill. Nine months is deemed reasonable to account for a customer that may occasionally leave the Low Volume tier due to a leak, etc. The nexus is based on removing 75% (nine months) of the capital fixed service charge contribution which is approximately $2.00 per month.

### 4.3.4. MONTHLY PRIVATE FIRELINE CHARGES

Private firelines provide water to sprinkler systems for fire suppression within private improvements such as buildings and other structures. The District, like many utilities, provides private fireline service to its customers.

Table 22 shows the calculation of the FY 2026-27 private fireline rates. For a complete discussion of the calculation method for these rates, please see sections 4.3.4 in the 2026 COS Study.

**Table 22: Proposed FY 2026-27 Private Fireline Charges**

| Private Fireline Size | Number of Lines | Potential Demand Based on Pipe Diameter (1) | Customer Related Costs (2) | Private Fire O&M Peaking Costs (3) | Capital Cost Component (4) | FY 2026-27 Rates | FY 2026-27 Revenue |
|---|---|---|---|---|---|---|---|
| 1" | 16 | 1.00 | $8.03 | $0.19 | $0.27 | $8.50 | $1,632 |
| 2" | 1,064 | 6.19 | $8.03 | $1.16 | $1.66 | $10.85 | $138,532.80 |
| 3" | 33 | 17.98 | $8.03 | $3.38 | $4.82 | $16.25 | $6,435.00 |
| 4" | 1,102 | 38.32 | $8.03 | $7.20 | $10.28 | $25.50 | $337,212.00 |
| 6" | 1,234 | 111.31 | $8.03 | $20.92 | $29.85 | $58.80 | $870,710.40 |
| 8" | 1,110 | 237.21 | $8.03 | $44.57 | $63.61 | $116.20 | $1,547,784.00 |
| 10" | 153 | 426.58 | $8.03 | $80.16 | $114.40 | $202.60 | $371,973.60 |
| 11" | 1 | 548.10 | $8.03 | $102.99 | $146.99 | $258.00 | $3,096.00 |
| 12" | 2 | 689.04 | $8.03 | $129.48 | $184.79 | $322.30 | $7,735.20 |
| **Total** | **4,715** | | | | | | **$ 3,285,111** |
| | | | | | | Fire Flow Testing and Hydrant Revenue | $ 45,600 |
| | | | | | | Total Fireline Revenue | $3,330,711 |

(5) Potential demand based on the Hazen-Williams Equation which estimates flow based on factors such as pipe diameter, friction, and the velocity of flow.
(6) $12,475,239 customer related operating costs/129,527 bills/ 12 months = $8.03.
(7) $1,166,413 peaking costs/ 517,274 private fire demand units/ 12 months = $0.19. For pipe diameters > 1", $0.19 is increased by the potential demand based on pipe diameter (Hazen-Williams).
(8) $2.50 capital cost for a 1" meter equivalent X $3.37 capital cost per MEU x 3.2% allocation to private firelines = $0.27. For pipe diameters > 1", $0.28 is increased by potential pipe diameter (Hazen-Williams).

### 4.3.5. PUBLIC FIRE WATER SERVICE COSTS

There are two cost components associated with public fire water service: direct costs and indirect costs. The budgeted costs for FY 2024-25 are:

| | |
|---|---|
| Direct costs | $ 852,000 |
| Indirect costs | $3,862,000 |
| Total Public Fire Water Service Costs | $4,714,000 |

Direct costs are associated primarily with maintenance of the fire hydrants. These include inspections, painting, and flushing of the hydrants. Flushing is an important maintenance activity that verifies the proper operation of the hydrant to ensure adequate water flow will be available when the need to extinguish a structure fire arises. Flushing also removes the sediment that naturally accumulates in the hydrant.

Indirect costs are the District's costs for design and sizing of the infrastructure to support the "fire flow" (volume and pressure of water) prescribed to meet peak firefighting water demand. The District's water system is designed to provide capacity to handle two defined hypothetical fires. Capacity is measured in terms of maximum hourly and maximum daily water flow. See Appendix 5 for a more detailed discussion on these costs.

# 5. Sewer Cost of Service FY 2026-27

See section 5 of the COS Study for a complete discussion on the District's sewer cost of service.

As is the case with its potable water, the District separates the components of its annual sewer revenue requirement from rates into three specific types of costs: variable operating costs, fixed operating costs, and replacement and

enhancement costs. However, as described in Section 5.1.1 in the COS Study, the rate structure used to recover these costs differs from that of potable water service.

## 5.1. FY 2026-27 SEWER REVENUE REQUIREMENT

The FY 2026-27 sewer revenue requirement was determined to be $82,293,333 (see tables 23 and 24 below). Of this amount, $29,483,716 (35.4%) is associated with variable costs that are incurred to treat sewage for discharge. These costs vary with the amount of water used by customers that returns to the District's sewage treatment facilities and are recovered through IRWD's commodity rates. The District separates operational expenses between sewage treatment and recycled water production with tertiary treatment and similar processes included in the cost for recycled water. Table 23 shows the FY 2026-27 sewer variable cost revenue requirement.

**Table 23: FY 2026-27 Sewer Variable Cost Revenue Requirement**

| Revenue Requirement Component | Amount |
|---|---|
| **Variable Operating Costs** | |
| Sewage Treatment | $12,483,681 |
| Biosolids Treatment | 12,675,440 |
| OC San Treatment and Disposal | 4,685,620 |
| **Gross Variable Cost Revenue Requirement** | **$ 29,844,741** |
| | |
| **Revenue Requirement Offsets** | |
| Direct Billing Revenue and FOG | $361,025 |
| **Total Revenue Requirement Offsets** | **$ 361,025** |
| | |
| **Net Variable Revenue Requirement from Rates** | **$ 29,483,716** |

Fixed costs do not vary with the volume of water used by customers and returned to the District's sewage treatment facilities. The fixed cost portion of the total FY 2026-27 revenue requirement was $53,809,616 (64.6%). Table 24 provides a detail of the FY 2026-27 sewer fixed cost revenue requirement.

**Table 24: FY 2026-27 Sewer Fixed Cost Revenue Requirement**

| Revenue Requirement Component | Total |
|---|---|
| **Fixed Operating Costs** | |
| Sewage System Monitoring and Fixed Costs | $12,590,048 |
| Biosolids Fixed Operating Costs | 6,703,780 |
| OC San Sewage Fixed Costs | 1,000 |
| Customer Service | $3,038,365 |
| Fleet | 1,113,165 |
| General Plant | 838,076 |
| Building Maintenance | $1,258,265 |
| **Total Fixed Operating Costs** | **$ 25,542,699** |
| | |
| **Replacement and Enhancement Capital Costs** | |
| Replacement | $27,345,329 |
| Enhancement | 1,580,482 |
| **Total Capital Costs** | **$ 28,925,811** |
| | |
| **Gross Fixed Cost Revenue Requirement** | **$ 54,468,510** |
| | |
| **Revenue Offsets** | |
| Direct Billing Revenue and FOG | $658,893 |
| **Total Revenue Offsets** | **$ 658,893** |
| | |
| **Net Fixed Revenue Requirement from Rates** | **$ 53,809,616** |

### 5.1.1. SEWER COST RECOVERY (RATE DESIGN)

The District uses the average of the three lowest water meter readings during the twelve month period ending December 31 to adjust for monthly anomalies in a ratepayer's water use and seasonal variations. The consumption block breakpoints (table 26) are based on a review of historical data for average usage during cooler months because of the limited demand for landscape during winter months.

The analysis identified the average usage for all multi-family units was 5 CCF which aligns with the first block. The second block includes average usage below 10 CCF as single family residential customers averaged 10 CCF during the same low usage months. The third block, which includes all commercial, industrial, and institutional (CII) customers, exceeds 10 CCF (The average usage for CII customers exceeds 10 CCF). Non-residential/CII customers with billed water consumption of more than 10 CCF per month pay an additional commodity rate ($/CCF).

### 5.1.2. PROPOSED MODIFICATION TO COLLECTION ONLY RATES

The District provides sewer collection-only service to approximately 3,300 customers. The sanitary discharges of these customers are not treated by the District but are conveyed to an adjacent agency. The rate paid by collection-only customers is currently calculated and billed on a per account basis. This can result in the District recovering revenue from high volume dischargers that may be less than the costs incurred to provide service. The District is proposing to calculate and bill the collection-only rate on a per equivalent dwelling unit basis. This change, especially for high volume dischargers, will result in an improved alignment of the costs incurred to provide service and actual revenue recovery. Raftelis supports this modification. The sewer rates for collection-only service shown in this section of the report (Tabe 29) reflect this change.

This rate structure is compliant with Proposition 218 because it provides a mechanism for recovering rate revenue from customers in a manner that is proportionate to the costs incurred by the District to provide service. It includes a fixed component for all three blocks that does not change. A variable component is included that is based on the historic average of estimated sewage flow by treatment customers within each block.

**Step 1:** Determine the number of sewer customer accounts with usage in each consumption block as shown in Table 26. Some customers require only collection services, while others need both collection and treatment services. To clearly differentiate costs, sewer customer accounts have been categorized into "collection only" and "collection and treatment." Tables are included to show the total costs for each category.

### Table 25.1 AND 25.2: FY 2026-27 Sewer Customer Dwelling Units by Consumption Block

#### Table 25.1- Collection Only

| Customer Class | Block 1 | Block 2 | Block 3 | Total |
|---|---|---|---|---|
| Single Family Residence | 1,106 | 1,246 | 783 | 3,135 |
| Multi Family Residence | 2 | | | 2 |
| Residence Sewer Only | | | | 0 |
| Commercial | | | 201 | 201 |
| Industrial | | | | 0 |
| Public Authority | | | 8 | 8 |
| **Total** | **1,108** | **1,246** | **992** | **3,346** |

#### Table 25.2- Collection & Treatment

| Customer Class | Block 1 | Block 2 | Block 3 | Total |
|---|---|---|---|---|
| Single Family Residence | 46,969 | 44,536 | 6,792 | 98,297 |
| Multi Family Residence | 53,634 | 11,169 | 526 | 65,329 |
| Residence Sewer Only | 873 | | 283 | 1,156 |
| Commercial | | | 4,759 | 4,759 |
| Industrial | | | 790 | 790 |
| Public Authority | | | 224 | 224 |
| Construction | | | 4 | 4 |
| **Total** | **101,476** | **55,705** | **13,378** | **170,559** |

**Step 2**: Determine the fixed and variable unit cost of service as shown in table 26.

### Table 26: FY 2026-27 Sewer Fixed and Variable Costs

| Total Sewer Cost | Fixed | Variable | Total |
|---|---|---|---|
| Sewer Operational Expenses | $25,542,699 | $29,844,741 | $53,387,440 |
| Enhancement & Replacement | $28,925,811 | | $28,925,811 |
| Revenue Offsets | | | |
| Misc/FOG Revenue | ($340,110) | ($186,355) | ($526,465) |
| Other Direct Billing Revenue | ($318,783) | ($174,670) | ($493,453) |
| Total Sewer Service Costs | $53,809,616 | $29,483,716 | $83,293,333 |
| | | | |
| Total Sewer Service Cost | | | |
| Sewer Operational Expenses | $25,233,714 | $29,483,716 | $54,717,431 |
| Enhancement & Replacement | $28,575,902 | | $28,575,902 |
| Total Sewer Service Costs | $53,809,616 | $29,483,716 | $82,293,333 |
| | | | |
| Collection | | | |
| Sewer Operational Expenses | $15,140,229 | $0 | $15,140,229 |
| Enhancement & Replacement | $17,145,541 | $0 | $17,145,541 |

| | | | |
|---|---|---|---|
| Total Collection Costs | $32,285,770 | $0 | $32,285,770 |
| | | | |
| Treatment | | | |
| Sewer Operational Expenses | $10,093,486 | $29,483,716 | $39,577,202 |
| Enhancement & Replacement | $11,430,361 | $0 | $11,430,361 |
| Total Treatment Costs | $21,523,847 | $29,483,716 | $51,007,563 |

**Step 3**: Determine the fixed and variable unit cost of service for the collection and treatment functions. Table 27 shows the outcome of the unit cost of service calculation process for the fixed components of the collection and treatment revenue requirements.

### Table 27: FY 2026-27 Fixed Cost Unit Cost of Service

| Fixed Allocation | Discharge | Allocation | Cost Allocation | Unit Cost of Service | Unit of Measure |
|---|---|---|---|---|---|
| Collection | | | | | |
| O&M Allocated to Fixed Charge | 10,447,510 | 75% | $11,312,354 | $5.42 | per account |
| Capital Allocated to Fixed Charge | | 100% | $15,932,574 | $8.22 | per account |
| O&M Allocated to Discharge >10 ccf' | 3,535,228 | 25% | $3,827,874 | $1.08 | per ccf |
| Capital Allocated to Discharge >10 ccf' | | 0% | | | |
| Total | 13,982,738 | 100% | $32,285,770 | | |
| | | | | | |
| Treatment | | | | | |
| O&M Allocated to Fixed Charge | 10,181,258 | 78% | $7,553,947 | $3.69 | per account |
| Capital Allocated to Fixed Charge | | 100% | $11,430,361 | $5.58 | per account |
| O&M Allocated to Discharge >10 ccf' | 3,422,807 | 22% | $2,539,539 | $0.734 | per ccf |
| Capital Allocated to Discharge >10 ccf' | | 0% | | | |
| Total | 13,604,066 | 100% | $21,523,847 | | |

**Step 4**: Table 28 shows the outcome of the unit cost of service calculation process for the variable cost component of the FY 2026-27 revenue requirement.

### Table 28: FY 2026-27 Variable Cost Unit Cost of Service

| Variable Allocation | Discharges (ccf) | Cost Allocation | Unit Cost of Service | Unit of Measure |
|---|---|---|---|---|
| Collection Costs Allocated to the Variable Rate | 13,982,738 | $0 | $0.00 | per ccf |
| Treatment Costs Allocated ot the Variable Rate | 13,604,066 | $29,483,716 | $2.17 | per ccf |

**Step 5**: After calculating the fixed and variable unit cost of service for collection and treatment functions, proposed FY 2026-27 rates can be determined for collection only service, treatment only service, and consolidated treatment and collection service. Tables 29 - 31 show the calculation of proposed FY 2026-27 Residential Sewer rates.

### Table 29: Proposed FY 2026-27 Residential Collection-Only Monthly Fixed Charge

| | A | B | C | D = B +C | E |
|---|---|---|---|---|---|
| Sewer Fixed Charge Tier | Avg Monthly CCF' Discharges | O&M Allocated to Fixed Charge | Capital Allocated to Fixed Charge | Total Rate | FY 2025-26 Rates (Noticed but Not Implemented) |
| Block 1: Average Water Usage < 5 ccf per month | 3.2 | $5.42 | $8.22 | $13.64 | $13.65 |
| Block 2: Average Water Usage between 5 and 10 ccf per month | 7.0 | $5.42 | $8.22 | $13.64 | $13.65 |
| Block 3: Average Water Usage > 10 ccf per month | 10.0 | $5.42 | $8.22 | $13.64 | $13.656 |

### Table 30: Proposed FY 2025-26 Residential Treatment-Only Monthly Fixed Charge

| Sewer Fixed Charge Tier | A Avg Monthly CCF Discharges | B Treatment Variable Rate | C=A*B Treatment Component | D O&M Allocated to Fixed Charge | E Capital Allocated to Fixed Charge | F=C+D+F Total Rate | G FY 2025-26 Rates (Noticed but Not Implemented) |
|---|---|---|---|---|---|---|---|
| Block 1: Average Water Usage < 5 ccf per month | 3.2 | $2.17 | $6.94 | $3.69 | $5.58 | $16.21 | $16.20 |
| Block 2: Average Water Usage between 5 and 10 ccf per month | 7.0 | $2.17 | $15.19 | $3.69 | $5.58 | $24.46 | $24.45 |
| Block 3: Average Water Usage > 10 ccf per month | 10.0 | $2.17 | $21.70 | $3.69 | $5.58 | $30.97 | $30.95 |

### Table 31: Proposed Residential FY 2026-27 Treatment and Collection Monthly Fixed Charge

| Sewer Fixed Charge Tier | A Avg Monthly CCF' Discharged | B Collection Only Component | C Treatment Only Component | D = B+C Total Rate | E FY 2025-26 Rates (Noticed but Not Implemented) |
|---|---|---|---|---|---|
| Block 1: Average Water Usage < 5 ccf per month | 3.2 | $13.64 | $16.21 | $29.85 | $29.85 |
| Block 2: Average Water Usage between 5 and 10 ccf per month | 7.0 | $13.64 | $24.45 | $38.08 | $38.10 |
| Block 3: Average Water Usage > 10 ccf per month | 10.0 | $13.64 | $30.95 | $44.58 | $44.60 |

**Step 6:** Table 32 shows the proposed FY 2026-27 Non-Residential sewer rates which include a fixed component which consists of a fixed charge (the Block 2 treatment only fixed charge) and a variable commodity rate.

| Rate/Charge | A Variable Collection Component | B Variable Treatment Component | C = A+B Total | D FY 2025-26 Rates (Noticed but Not Implemented) |
|---|---|---|---|---|
| Commodity Rate ($/ccf) | $1.08 | $2.91 | $3.99 | $3.99 |
| Monthly Fixed Charge | | | | $44.60 |

# 6. RECYCLED WATER COST OF SERVICE

See section 6 of the COS Study for a complete discussion on the District's recycled water cost of service.

The method used by the District to develop recycled water rates is similar to that for potable water service (see Section 2 of this report) with one significant difference. The District does not calculate unique monthly meter service charges for recycled water. Instead, the monthly service charges for recycled water are set to the same as those charged for the potable water monthly meter service charge (see Table 21 in section 4.3.3). The District takes this approach due to an imbalance between variable and fixed costs in the overall recycled water revenue requirement. This reallocation of fixed costs to variable revenue recovery through commodity rates is discussed in Section 6.1. below.

### 6.1.2. FY 2026-27 RECYCLED WATER REVENUE REQUIREMENT

The District's recycled water revenue requirement from rates is $41,382,973. Prior to any adjustments, the composition of this revenue requirement is variable costs of $22,300,730 (53.9%) and fixed costs of $19,082,244 (46.1%). The District established the monthly fixed charge unit cost as being $15.60 per 5/8" meter equivalents in the potable water service process (see Table 21 in section 4.3.3). Due to the high percentage of fixed costs identified in the recycled water revenue requirement, the District reallocates a portion of fixed costs not recovered by monthly meter service charges ($8,818,301) into the variable cost revenue requirement. These costs are included in

the recycled system and recycled water revenue provides the funding consistent with Proposition 218 requirements. This strategy provides a fair and equitable application of these costs without deterring usage.

Tables 34 and 35 detail the FY 2026-27 variable and fixed recycled water revenue requirement before and after this reallocation.

**Table 34: FY 2026-27 Recycled Water Variable Cost Revenue Requirement**

| Revenue Requirement Component | Amount |
|---|---|
| **Water Supplies** | |
| Untreated Water Purchases | $5,011,600 |
| Recycled Water Treatment | 11,268,306 |
| El Toro Groundwater | 4,079,123 |
| **Total Cost of Water Supplies** | **$ 20,359,029** |
| | |
| **Conservation and Supply Reliability** | |
| Universal Conservation | 118,132 |
| Targeted Conservation | 333,827 |
| Natural Treatment System | 1,489,741 |
| **Total Cost of Water Supplies** | **1,941,700** |
| | |
| **Total Variable Cost Revenue Requirement Before Adjustment** | **$ 22,300,729** |
| | |
| Adjustment to Reflect Reallocated Fixed Costs | $8,818,301 |
| **Total Variable Cost Revenue Requirement After Adjustment** | **$ 31,119,030** |

### Table 35: FY 2026-27 Recycled Water Fixed Cost Revenue Requirement

| Revenue Requirement Component | Total |
|---|---|
| **Fixed Operating Costs** | |
| System Maintenance and Monitoring | $15,618,741 |
| Customer Service | 1,823,019 |
| Fleet | 76,770 |
| General Plant | 838,076 |
| Building Maintenance | 754,959 |
| **Total Fixed Operating Costs** | **$19,111,565** |
| | |
| **Replacement and Enhancement Capital Costs** | |
| Replacement | $1,185,910 |
| Enhancement | 339,999 |
| **Total Capital Costs** | **1,525,909** |
| | |
| **Gross Fixed Cost Revenue Requirement** | **20,637,474** |
| | |
| **Revenue Requirement Offsets** | |
| Pumping | 1,059,134 |
| Miscellaneous/Other Revenues | 496,096 |
| **Total Revenue Requirement Offsets** | **1,555,230** |
| | |
| **Total Fixed Cost Revenue Requirement Before Adjustment** | **19,082,244** |
| | |
| **Adjustment to Reflect Reallocated Fixed Costs** | **($8,818,301)** |
| **Net Fixed Revenue Requirement from Rates After Adjustment** | **10,263,943** |

## 6.1.3. VARIABLE COST RECOVERY - COMMODITY RATES

The method used to determine recycled water commodity rates is similar to that used for potable water. In FY 2026-27, the District's projected total recycled water demand was 32,947 acre feet based on historical demand, customer growth factors and other relevant factors. Table 36 provides a detail of the FY 2026-27 unit cost of water supplies ($/CCF) from each supply source using the District's cost and demand data. Note that the net cost shown in each column includes the reallocation of fixed costs of $8,818,301 as discussed above.

### Table 36: Unit Cost of FY 2026-27 Recycled Water Supplies

| Metric | Produced from Treatment Plant | Processed from El Toro Remediation | Imported (Supplemental) | Total |
|---|---|---|---|---|
| Net Cost | $15,677,456 | $4,960,954 | $8,538,921 | $29,177,331 |
| Acre Feet | 24,890 | 3,736 | 3,571 | 32,197 |
| Unit Cost per ccf (1) | $1.45 | $3.05 | $5.49 | |

(1) Acre feet is multiplied by 435.6 to convert to CCF.

The District allocates the lower cost water supplies to the low volume and base consumption tiers with higher cost water supplies being allocated to the inefficient and wasteful tiers. Table 37 details this allocation for FY 2026-27 using cost and demand data provided by the District.

The general formula used to determine the water budget for a landscape customer served by a recycled water connection is discussed in detail in 4.1.5. in the COS Study.

### Table 37: Allocation of Recycled Water Supplies to Consumption Tiers for Landscape Customers

| Metric | Produced from Treatment Plant | Processed from El Toro Remediation | Imported | Total Acre Feet | Unit Cost per $ /ccf by Tier (1) |
|---|---|---|---|---|---|
| Unit Cost (Table 36) | $1.45 | $3.05 | $5.49 | | |
| T1: Low Volume | 15,585 | - | - | 15,585 | $1.45 |
| T2: Base | 9,305 | 3,736 | 1,392 | 14,433 | $2.25 |
| T3: Inefficient | - | - | 1,265 | 1,265 | $5.49 |
| T4: Wasteful | - | - | 914 | 914 | $5.49 |
| Total | 24,890 | 3,736 | 3,571 | 32,197 | |

(2) The Unit Cost per $/CCF by TIER is the blended cost of the sources.

Having determined the unit cost of recycled water supplies by consumption tier for landscape customers as shown in Table 37 above, the District then allocates the cost of conservation programs, as shown in table 34, to the appropriate water budget tiers.

Universal conservation costs are added to the commodity rate in the inefficient, and wasteful tiers to pay for conservation program costs that help customers in each of these tiers achieve efficient use of recycled water. This cost is not included in the low volume or base rates since customers who remain in these usage tiers do not need assistance to stay within their water budgets.

Targeted conservation costs reflect programs specifically designed to encourage efficient water practices of customers whose usage exceed their water budgets. Costs are allocated to each tier based on expected usage.

Natural treatment system costs are incurred by the District to deal with urban water runoff produced by customers whose usage reaches the wasteful tier. The costs include prevention, control and treatment of the runoff of water from irrigation and other uses and are added to the commodity rates of customers in the wasteful tier. Costs are allocated based on the expected usage in each tier.

Table 38 shows the outcome of derivation of the unit costs for the District's conservation programs.

### Table 38: FY 2026-27 Conservation Program Unit Costs ($/CCF)

| Program | FY 2026-27 Revenue Requirement (A)* | FY 2026-27 Units of Demand (ccf) (B) | Demand Adjustment Factor for Price Elasticity (C) | FY 2026-27 Adjusted Units of Demand B x C = (D) | Unit Cost Included in FY 2026-27 Commodity Rates A/D = (E) |
|---|---|---|---|---|---|
| Universal Conservation | $118,132 | 949,256 | 100% | 949,256 | $0.12 |
| Targeted Conservation | | | | | |
| Inefficient tier | $83,457 | 550,960 | 90% | 495,864 | $0.17 |
| Wasteful tier | $250,371 | 398,295 | 90% | 358,466 | $0.70 |
| Natural Treatment System | | | | | |
| Inefficient tier | | 550,960 | 90% | 495,864 | $0.00 |
| Wasteful tier | $1,489,741 | 398,295 | 90% | 358,466 | $4.15 |

*See Table 34

Having determined the unit cost of recycled water supplies by consumption tier as shown in Table 37 and the unit cost of conservation program cost in Table 38, the District must then allocate the cost of conservation programs to each consumption tier. Table 39 shows the outcome of this process using the District's cost and demand data.

**Table 39: FY 2024-25 Recycled Water Commodity Rates ($/CCF)**

| Consumption Tier | Unit Cost of Water Supplies (Table 37) | Unit Cost of Universal Conservation (Table 38) | Unit Cost of Targeted Conservation (Table 38) | Unit Cost of Natural Treatment System (Table 38) | FY 2026-27 Commodity Rates | FY 2026-27 CCF | FY 2026-27 Revenue |
|---|---|---|---|---|---|---|---|
| T1: Low Volume | $1.45 | | | | $1.45 | 6,788,777 | $9,843,727 |
| T2: Base | $2.25 | $0.12 | | | $2.25 | 6,286,980 | 14,145,705 |
| T3: Inefficient | $5.49 | $0.12 | $0.17 | | $5.78 | 550,960 | 3,184,551 |
| T4: Wasteful | $5.49 | $0.12 | $0.70 | $4.15 | $10.46 | 398,295 | 4,166,168 |
| **Totals** | | | | | | **14,025,012** | **$ 31,340,151** |

### 6.1.4. FIXED COST RECOVERY - MONTHLY METER SERVICE CHARGE

Recycled water fixed charges are the same as potable water fixed charges (see Table 21 in Section 4.3.3).

### 6.1.5. VARIABLE COST RECOVERY – RECYCLED WATER AGRICULTURAL RATES

As discussed in section 4.3.2, allocated fixed costs and variable costs are combined to calculate the agricultural commodity rate, and these customers are charged a single volumetric rate for all water used and these customers do not have a budget. The variable rate is based on the total available source of supply. The variable rate component is based on the respective proportions of those available sources using the same allocation of available sources used for residential and commercial customers. It is assumed that produced water provides 77% of the source of supply,12% is the cost of processed water, and imported water provides 11%. The fixed component is based on an allocation of fixed expense which includes a component for replacement and enhancement capital to the agricultural customer class of $14,697. A portion of the fixed cost is included in the variable rate component as described in section 6.1.3. An additional fixed cost of $0.01 per CCF is, which is not recovered through the commodity rate, is applied based on an estimated 1,469,734 CCF. Table 40 shows the calculation of FY 2026-27 recycled water agricultural rates.

**Table 40: FY 2026-27 Recycled Water Agricultural Water Commodity Rates ($/CCF)**

| Customer Class | FY 2026-27 Revenue Rquirement | FY 2026-27 Projected Demand (CCF) | Variable Cost (CCF) (1) | Fixed Component Cost (CCF) (2) | FY 2026-27 Commodity Rates (1)+(2) | FY 2026-27 Revenue |
|---|---|---|---|---|---|---|
| Agricultural | $3,159,928 | 1,469,734 | $2.15 | $0.01 | $2.16 | $3,174,625 |

# 8. Untreated Water Cost of Service FY 2026-27

Section 8 of the COS Study is updated to describe projected costs to serve untreated water.

## 8.1. UNTREATED WATER COMMODITY RATE

The FY 2026-27 variable revenue requirement for untreated water was determined to be $156,075. The source of this water comes from the Santiago Aqueduct Commission (SAC), and this is the cost incurred to acquire water supplies (See Table 13). Table 41 shows the calculation of the variable rate for untreated water

**Table 41: FY 2026-27 Untreated Water Commodity Rate ($/CCF)**

| Consumption Tier | FY 2026-27 Revenue Rquirement | FY 2026-27 SAC Purchases (AF) | Variable Cost (AF) | Variable Cost (CCF) (1) | FY 2026-27 Commodity Rates |
|---|---|---|---|---|---|
| Untreated Water | $156,075 | 105 | $892 | $2.05 | $2.05 |

(1) Acre feet is multiplied by 435.6 to convert to CCF

### 8.1.1. UNTREATED WATER AGRICULTURAL COMMODITY RATE

The fixed cost revenue requirement for all untreated water uses was determined to be $455,344 for FY 2026-27. These include capacity, readiness to serve, and meter costs that do not vary based upon the amount of water used. The untreated agricultural rate includes a fixed charge component that is based upon an allocated portion of the untreated water costs for all untreated imported water uses. This includes untreated water supplies used by the Baker Treatment Plant (7,200 AF), the Recycled System (4,556 AF), and water sold directly to customers (105 AF). The total projected demand for these customers is 11,861. Table 42 shows the calculation of the rate included for fixed costs for untreated agricultural customers.

**Table 42: FY 2026-27 Untreated Water Agricultural Commodity Rates ($/CCF)**

| FY 2024-25 Revenue Requirement | FY 2026-27 Projected Demand (AF) | FY 2026-27 Projected Demand (CCF)(1) | Variable Cost (CCF)(2) | Fixed Cost Component (CCF) | FY 2026-27 Commodity Rate |
|---|---|---|---|---|---|
| $455,344 | 4,661 | 2,400,592 | $2.23 | $0.27 | $2.50 |

(3) Acre feet is multiplied by 435.6 to convert to CCF
(4) From table 41

Due to the variable nature of water demands for seasonal growing (i.e. not permanent crops), these customers do not have a budget. As discussed in section 4.3.2, allocated fixed and variable costs are combined to calculate the agricultural commodity rate, and these customers are charged a single volumetric rate for all water used. The untreated water agricultural rate is calculated by combining the variable cost shown in Table 41 and the fixed cost component as shown in Table 42.

**Table 43: FY 2026-27 Untreated Water Agricultural Commodity Rates ($/CCF)**

| Consumption Tier | Variable Cost (CCF) | Fixed Cost Component (CCF) | FY 2024-25 Commodity Rates |
|---|---|---|---|
| Untreated Water | $2.23 | $0.27 | $2.50 |

# 9. Setup and Reconnect Fees Cost of Service FY 2026-27

Section 9 of the COS Study is updated to describe projected costs of reconnection fees.

## 9.1. SETUP AND RECONNECT FEES

New customers pay a setup fee to offset labor, general and administrative (G&A) costs related to establishing a new account with the District. The fee is $27.00 and has not changed since June 2015 since this fee is sufficient to offset new account costs.

When service is discontinued because of delinquency in payment of a water, sewer, or recycled water bill, the service shall not be restored until all delinquent charges, late charges and interest charges, and a trip charge (reconnection fee) have been paid.

The costs for the reconnection fee include labor, G&A, and vehicle costs. Reconnecting after hours is at a higher cost due to labor overtime and minimum guaranteed hours. Estimated costs are shown in Table 44.

**Table 44: Reconnection Fee Costs**

| Estimated Cost | Normal Hours | After Hours Average |
|---|---|---|
| Labor and G&A | $62 | $186 |
| Vehicle Costs | $14 | $14 |
| Estimated Total Cost | $76 | $200 |

In 2019, the California Health and Safety Code § 116914(a) limited reconnection fees for urban water systems for very low-income households to $50 during working hours and $150 at other times and allowed for Consumer Price Index (CPI) adjustments starting in 2021. The District applied the December Los Angeles CPI rates for 2021 (6.6%) and 2022 (4.9%) for the low income reconnection fee rate increases. Fees are rounded to nearest five dollars.

**Table 45: FY 2026-27 Reconnection Fees**

| Reconnection Fees | Normal Hours | After Hours |
|---|---|---|
| Standard Fee | $81 | $216 |
| Low Income | $59 | $165 |

# Executive Summary

This appendix is part of the Cost of Service update for Fiscal Year (FY) 2025-26 and FY 2026-27.

Appendix 12 provides the support for public fire water costs for FY 2025-26. Appendix 13 provides support for public fire water costs for FY 2025-26. The tables are updated with the details from the FY 2025-26 operating budget. The methodology from the 2026 Cost of Service (COS) Study Appendices 5 and 6 (Appendices) remains the same, and tables included in this appendix use the same alphabetical reference scheme as those in the 2026 COS Study Public Fire Water Costs Technical Memos.

## 1.1. COST COMPONENTS ASSOCIATED WITH PUBLIC FIRE WATER SERVICE

See Appendices 5 and 6 of the COS Study for a complete discussion on the District's public fire water service cost components and how public fire water service costs are calculated.

The following steps are used to calculate indirect fire water service costs:

a. Identify total system peaking factors allocated to Base, Max Day, and Max Hour demands;
b. Apply functional allocation percentages to the asset categories;
c. Allocate asset values by function;
d. Allocate functions to peaking factors;
e. Determine asset value by peaking factor;
f. Allocate operating costs by their demands on the system;
g. Summarize peaking factor percentages for all operating costs by demand category;
h. Identify operating costs by demand category;
i. Calculate the cost of service by peaking factor;
j. Determine capacity requirements for fire flow and the allocation to public fire water supply capacity; and
k. Compute the public fire water supply cost-of-service.

The result is the cost estimate for the indirect component related to public fire water service.
Steps a through f of the fire water costs calculation are the same as calculated in Appendices 5 and 6.

**g. Summarize peaking factor percentages for all operating costs by demand category** - Peaking factor percentages for operating expenses by demand category are summarized in the table below.

**Table G: Summarized Peaking Factor Percentages for all Operating Costs FY 2025-26**

| Functional Group | Base | Max Day | Max Hour | Customer | Fire | General |
|---|---|---|---|---|---|---|
| Base Supply | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Excess Supply | 0.0% | 34.0% | 66.0% | 0.0% | 0.0% | 0.0% |
| Conservation and Supply Reliability | 8.3% | 41.8% | 49.8% | 0.0% | 0.0% | 0.0% |
| Customer Service | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% |
| System Maintenance | 96.9% | 0.0% | 0.0% | 0.0% | 3.1% | 0.0% |
| General & Administrative | 49.1% | 31.6% | 17.9% | 1.4% | 0.0% | 0.0% |
| General Plant | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% |
| Asset Mangement | 55.6% | 44.4% | 0.0% | 0.0% | 0.0% | 100.0% |

**h. Identify operating costs by demand category** – Amounts are assigned to demand categories shown in Table F. The net costs are explained in further detail in section 4.3 in the COS Study and are shown in Table 13 (variable revenue requirement) and Table 14 (fixed revenue requirement) in Appendix 10.

### Table H: Operating and Asset Maintenance Costs by System Demands FY 2025-26

| | Cost Group | Demand Category | Cost (Thousands) | Totals |
|---|---|---|---|---|
| Variable: | Water Supplies | Base Supply | $51,623 | |
| | Water Supplies | Excess Supply | 8,219 | |
| | Conservation and Supply Reliability | Water Banking | 2,173 | |
| | Conservation and Supply Reliability | Conservation and NTS | 14,680 | |
| | Conservation and Supply Reliability | Universal Conservation | 1,835 | $78,530 |
| Fixed: | Fixed Operating Costs | Customer Service | $5,819 | |
| | Fixed Operating Costs | System Maintenance | 22,361 | |
| | Fixed Operating Costs | General & Administrative | 16,063 | |
| | Fixed Operating Costs | General Plant | 1,033 | |
| | Fixed Operating Costs | Asset Management | 4,006 | $49,282 |
| | | | Net Allocated Costs | $127,811 |

**i. Calculate cost-of-service by peaking factor** - The allocated percentages identified in Table G are applied to the operating costs identified in Table H to calculate the cost by peaking factor. General and Administrative (G&A) cost is reallocated based on the total cost of service.

### Table I: Calculate Cost-of-Service by Peaking Factor FY 2025-26

| Demand Category | Base | Max Day | Max Hour | Customer | Fire | G&A | Total |
|---|---|---|---|---|---|---|---|
| Base Supply | $51,623 | $0 | $0 | $0 | $0 | $0 | $51,623 |
| Excess Supply | 0 | 2,796 | 5,423 | 0 | 0 | 0 | 8,219 |
| Conservation and Supply Reliability | 1,558 | 7,817 | 9,313 | 0 | 0 | 0 | 18,688 |
| Customer Service | 0 | 0 | 0 | 5,819 | 0 | 0 | 5,819 |
| System Maintenance | 21,668 | 0 | 0 | 0 | 693 | 0 | 22,361 |
| General & Administrative | 0 | 0 | 0 | 0 | 0 | 16,063 | 16,063 |
| General Plant | 574 | 459 | 0 | 0 | 0 | 0 | 1,033 |
| Asset Management | 1,967 | 1,265 | 718 | 55 | 0 | 0 | 4,005 |
| Total Allocated Costs | $77,390 | $12,337 | $15,454 | $5,874 | $693 | $16,063 | $127,811 |

**j. Determine capacity requirements for fire flow and the allocation to public fire water supply capacity –**

To estimate the costs associated with (and to provide capacity for) public fire water service, the methodology put forth in the AWWA M1 Manual was used.

To determine the capacity requirements for fire flow, the District uses two hypothetical fires with varying fire flow. The first fire requires flows of 2,500 gallons per minute for a minimum of 4 hours, and the second requires 8,000 gallons per minute for a minimum of 8 hours as shown below. These hypothetical fires were chosen based on the professional judgement and experience of Raftelis applied to the District's service area.

Fire flows as a percentage of total capacity is converted to a percentage and used to identify the indirect cost allocated to water supply for public and private fire protection. The water supply demand capacity for public and private fire water service are based on firelines and hydrant capacity.

Water is supplied for private fire service through pipes and appurtenances on private property. These include all water-based fire protection systems, such as fire protection sprinklers and fire hydrants that are not part of, but are connected to, the public water service. Costs are allocated to these systems in a similar fashion and billed separately to the individual customers owning the private fire protection systems.

Max Day capacity is the amount of water needed for the duration of a fire in one day (fire flow gallons per minute multiplied by the duration of fire in minutes).

Max Hour capacity is the amount of water needed if a similar fire lasted an entire day (fire flow gallons per minute multiplied by the number of minutes in a day), less the capacity already allocated to meeting Max Day demand. Capacity amounts in gallons are converted to CCF in the table below. (One CCF = 748.05 gallons.)

**Table J: Capacity Requirements for Fire Flow and Public Fire Allocation FY 2023-24**

| | Fire #1 | | Fire #2 | | Total | |
|---|---|---|---|---|---|---|
| **Fire Flow Estimate** | **Max Day (1)** | **Max Hour (2)** | **Max Day (1)** | **Max Hour (2)** | **Max Day** | **Max Hour** |
| Duration of Fire (Hours) | 4.00 | | 4.00 | | 8.00 | |
| Fire Flow (gpm) | 2,500 | 2,500 | 8,000 | 8,000 | 10,500 | 10,500 |
| Percent Allocated to Public Fire | 74.7% | 74.7% | 74.7% | 74.7% | 74.7% | 74.7% |
| Capacity Demanded for Fire (ccf) | 802 | 4,010 | 2,567 | 12,833 | 3,369 | 16,844 |
| Public Fire Capacity (ccf) (3) | 599 | 2,995 | 1,917 | 9,583 | 2,516 | 12,578 |
| Private Fire Capacity (ccf) (4) | 203 | 1,016 | 650 | 3,250 | 853 | 4,266 |
| Total Potable Capacity | 77,539 | 70,509 | | | | |
| **Public Fire Allocation (Max Day: 2,516/77,539; Max Hour 12,578/70,509)** | | | | | **3.2%** | **17.8%** |
| Private Fire Allocation (Max Day: 853/77,539; Max Hour 4,266/70,509) | | | | | 1.1% | 6.0% |

(1) Max Day Capacity demanded for fire = (hours*minutes*gallons)/748.05.
(2) Max Hour Capacity demanded for fire = (hours*minutes*gallons)/748.05 – Max Day Capacity.
(3) Split is based on fireline meter capacity = 507,113 / total system hydrants = 2,593,747.
(4) Total potable capacity is max day and max hour demands for all customer classes.

**k. Compute the public fire water service cost –**

The Max Day and Max Hour percentages identified in Table J for public fire water service are applied to the total cost-of-service by peaking factor to reallocate expenses included in Max Day and Max Hour fire protection water service costs to customer costs:
Max Day Public Fire Water Service costs: 3.2% * $14,389K = $ 460k
Max Hour Public Fire Water Service costs: 17.8% * $18,117K = $3,225k
Total indirect costs of Public Fire Water Service: $3,685k

## Table K: Public Fire Water Service Cost-of-Service FY 2025-26

| Cost Allocation (Thousands) | Base | Max Day | Max Hour | Customer | Direct Fire | Private Fire | Total |
|---|---|---|---|---|---|---|---|
| Total Operating Costs | $89,015 | $14,389 | $18,117 | $6,745 | $791 | $ - | $129,057 |
| Allocation of Public Fire To Customer | | | | 791 | (791) | | - |
| Allocation of Indirect Public Fire to Customer | | (460) | (3,225) | 3,685 | | | - |
| Allocation to Private Fire | | (158) | (1,087) | | | 1,245 | - |
| **Adjusted Cost of Service** | **$ 76,459** | **$ 14,654** | **$ 10,994** | **$ 10,221** | **$ -** | **$ 1,034** | **$ 113,362** |
| Total Cost of Public Fire included in "Customer" | | | | $4,476 | | | |

(1) As described above, public fire water is calculated as follows:
Max day - 14,389k * 3.2% = 460k

Max hour – 18,117k * 17.8% = 3,225k

As identified in Table K, there are two cost components associated with public fire water service: direct and indirect. The total cost of public fire water service is $4,476,000 including the direct cost of $791,000 and the indirect cost of $3,685,000.

Total public fire water service costs are allocated to all customers through the fixed meter charge through the IRWD's rate structure. This complies with Proposition 218's cost-of-service and proportionality principles because meter charges are proportional to a given property's water demand, and that water demand is proportional to the property's use and need for fire water service.

# Executive Summary

This appendix is part of the Cost of Service update for Fiscal Year (FY) 2025-26 and FY 2026-27.

Appendix 4 provides the support for public fire water costs for FY 2025-26. Appendix 5 provides support for public fire water costs for FY 2026-27. The tables are updated with the details from the FY 2025-26 operating budget. The methodology from the 2026 Cost of Service (COS) Study Appendices 5 and 6 (Appendices) remains the same, and tables included in this appendix use the same alphabetical reference scheme as those in the 2026 COS Study Public Fire Water Costs Technical Memos.

## 1.1. COST COMPONENTS ASSOCIATED WITH PUBLIC FIRE WATER SERVICE

See Appendices 5 and 6 of the COS Study for a complete discussion on the District's public fire water service cost components and how public fire water service costs are calculated.

The following steps are used to calculate indirect fire water service costs:

l. Identify total system peaking factors allocated to Base, Max Day, and Max Hour demands;
m. Apply functional allocation percentages to the asset categories;
n. Allocate asset values by function;
o. Allocate functions to peaking factors;
p. Determine asset value by peaking factor;
q. Allocate operating costs by their demands on the system;
r. Summarize peaking factor percentages for all operating costs by demand category;
s. Identify operating costs by demand category;
t. Calculate the cost of service by peaking factor;
u. Determine capacity requirements for fire flow and the allocation to public fire water supply capacity; and
v. Compute the public fire water supply cost-of-service.

The result is the cost estimate for the indirect component related to public fire water service.
Steps a through f of the fire water costs calculation are the same as calculated in Appendices 5 and 6.

**l. Summarize peaking factor percentages for all operating costs by demand category** - Peaking factor percentages for operating expenses by demand category are summarized in the table below.

### Table G: Summarized Peaking Factor Percentages for all Operating Costs FY 2026-27

| Functional Group | Base | Max Day | Max Hour | Customer | Fire | General |
|---|---|---|---|---|---|---|
| Base Supply | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Excess Supply | 0.0% | 34.0% | 66.0% | 0.0% | 0.0% | 0.0% |
| Conservation and Supply Reliability | 8.4% | 42.2% | 49.4% | 0.0% | 0.0% | 0.0% |
| Customer Service | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% |
| System Maintenance | 96.9% | 0.0% | 0.0% | 0.0% | 3.1% | 0.0% |
| General & Administrative | 49.1% | 31.6% | 17.9% | 1.4% | 0.0% | 0.0% |
| General Plant | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% |
| Asset Mangement | 55.6% | 44.4% | 0.0% | 0.0% | 0.0% | 0.0% |

**m. Identify operating costs by demand category** – Amounts are assigned to demand categories shown in Table F. The net costs are explained in further detail in section 4.3 in the COS Study and are shown in Table 13 (variable revenue requirement) and Table 14 (fixed revenue requirement) in Appendix 10.

### Table H: Operating and Asset Maintenance Costs by System Demands FY 2026-27

| | Cost Group | Demand Category | Cost (Thousands) | Totals |
|---|---|---|---|---|
| Variable: | Water Supplies | Base Supply | $54,542 | |
| | Water Supplies | Excess Supply | 9,805 | |
| | Conservation and Supply Reliability | Water Banking | 2,116 | |
| | Conservation and Supply Reliability | Conservation and NTS | 15,440 | |
| | Conservation and Supply Reliability | Universal Conservation | 1,935 | $83,838 |
| Fixed | Fixed Operating Costs | Customer Service | $6,077 | |
| | Fixed Operating Costs | System Maintenance | 24,011 | |
| | Fixed Operating Costs | General & Administrative | 17,257 | |
| | Fixed Operating Costs | General Plant | 846 | |
| | Fixed Operating Costs | Asset Management | 4,205 | $52,397 |
| | | | Net Allocated Costs | $136,235 |

**n. Calculate cost-of-service by peaking factor** - The allocated percentages identified in Table G are applied to the operating costs identified in Table H to calculate the cost by peaking factor. General and Administrative (G&A) cost is reallocated based on the total cost of service.

### Table I: Calculate Cost-of-Service by Peaking Factor FY 2026-27

| Demand Category | Base | Max Day | Max Hour | Customer | Fire | G&A | Total |
|---|---|---|---|---|---|---|---|
| Base Supply | $54,542 | $0 | $0 | $0 | $0 | $0 | $54,542 |
| Excess Supply | 0 | 3,336 | 6,470 | 0 | 0 | 0 | 9,806 |
| Conservation and Supply Reliability | 1,644 | 8,222 | 9,625 | 0 | 0 | 0 | 19,491 |
| Customer Service | 0 | 0 | 0 | 6,077 | 0 | 0 | 6,077 |
| System Maintenance | 23,267 | 0 | 0 | 0 | 744 | 0 | 24,011 |
| General & Administrative | 0 | 0 | 0 | 0 | 0 | 17,257 | 17,257 |
| General Plant | 470 | 376 | 0 | 0 | 0 | 0 | 846 |
| Asset Management | 2,066 | 1,328 | 754 | 58 | 0 | 0 | 4,206 |
| Total Allocated Costs | $81,989 | $13,262 | $16,849 | $6,135 | $744 | $17,257 | $136,235 |

**o. Determine capacity requirements for fire flow and the allocation to public fire water supply capacity –**

To estimate the costs associated with (and to provide capacity for) public fire water service, the methodology put forth in the AWWA M1 Manual was used.
To determine the capacity requirements for fire flow, the District uses two hypothetical fires with varying fire flow. The first fire requires flows of 2,500 gallons per minute for a minimum of 4 hours, and the second requires 8,000 gallons per minute for a minimum of 8 hours as shown below. These hypothetical fires were chosen based on the professional judgement and experience of Raftelis applied to the District's service area.

Fire flows as a percentage of total capacity is converted to a percentage and used to identify the indirect cost allocated to water supply for public and private fire protection. The water supply demand capacity for public and private fire water service are based on firelines and hydrant capacity.

Water is supplied for private fire service through pipes and appurtenances on private property. These include all water-based fire protection systems, such as fire protection sprinklers and fire hydrants that are not part of, but are connected to, the public water service. Costs are allocated to these systems in a similar fashion and billed separately to the individual customers owning the private fire protection systems.

Max Day capacity is the amount of water needed for the duration of a fire in one day (fire flow gallons per minute multiplied by the duration of fire in minutes).

Max Hour capacity is the amount of water needed if a similar fire lasted an entire day (fire flow gallons per minute multiplied by the number of minutes in a day), less the capacity already allocated to meeting Max Day demand. Capacity amounts in gallons are converted to CCF in the table below. (One CCF = 748.05 gallons.)

**Table J: Capacity Requirements for Fire Flow and Public Fire Allocation FY 2026-27**

| | Fire #1 | | Fire #2 | | Total | |
|---|---|---|---|---|---|---|
| **Fire Flow Estimate** | **Max Day** (1) | **Max Hour** (2) | **Max Day** (1) | **Max Hour** (2) | **Max Day** | **Max Hour** |
| Duration of Fire (Hours) | 4.00 | | 4.00 | | 8.00 | |
| Fire Flow (gpm) | 2,500 | 2,500 | 8,000 | 8,000 | 10,500 | 10,500 |
| Percent Allocated to Public Fire | 74.4% | 74.4% | 74.4% | 74.4% | 74.4% | 74.4% |
| Capacity Demanded for Fire (ccf) | 802 | 4,010 | 2,567 | 12,833 | 3,369 | 16,844 |
| Public Fire Capacity (ccf) (3) | 597 | 2,984 | 1,910 | 9,549 | 2,507 | 12,533 |
| Private Fire Capacity (ccf) (4) | 205 | 1,026 | 657 | 3,285 | 862 | 4,311 |
| Total Potable Capacity | 79,023 | 71,583 | | | | |
| **Public Fire Allocation (Max Day: 2,507/79,023; Max Hour 12,533/71,583)** | | | | | **3.2%** | **17.5%** |
| Private Fire Allocation (Max Day: 862/79,023; Max Hour 4,311/71,583) | | | | | 1.1% | 6.0% |

(5) Max Day Capacity demanded for fire = (hours*minutes*gallons)/748.05.
(6) Max Hour Capacity demanded for fire = (hours*minutes*gallons)/748.05 – Max Day Capacity.
(7) Split is based on fireline meter capacity=717,790 / total system hydrants =2,804,425.
(8) Total potable capacity is max day and max hour demands for all customer classes.

**p. Compute the public fire water service cost –**

The Max Day and Max Hour percentages identified in Table J for public fire water service are applied to the total cost-of-service by peaking factor to reallocate expenses included in Max Day and Max Hour fire protection water service costs to customer costs:
Max Day Public Fire Water Service costs: 3.2% * $15,186K = $ 486k
Max Hour Public Fire Water Service costs: 17.5% * $19,293K = $3,376k
Total indirect costs of Public Fire Water Service: $3,862k

**Table K: Public Fire Water Service Cost-of-Service**
**FY 2026-27**

| Cost Allocation (Thousands) | Base | Max Day | Max Hour | Customer | Direct Fire | Private Fire | Total |
|---|---|---|---|---|---|---|---|
| Total Operating Costs | $93,881 | $15,186 | $19,293 | $7,025 | $852 | $ - | $136,237 |
| Allocation of Public Fire To Customer | | | | 852 | (852) | | - |
| Allocation of Indirect Public Fire to Customer | | (486) | (3,376) | 3,862 | | | - |
| Allocation to Private Fire | | (167) | (1,158) | | | 1,325 | - |
| **Adjusted Cost of Service** | **$ 93,881** | **$ 14,533** | **$ 14,759** | **$ 11,739** | **$ -** | **$ 1,325** | **$ 136,237** |
| Total Cost of Public Fire included in "Customer" | | | | $3,860 | | | |

(2) As described above, public fire water is calculated as follows:
Max day - 15,186k * 3.2% = 486k

Max hour – 19,293k * 17.5% = 3,376k

As identified in Table K, there are two cost components associated with public fire water service: direct and indirect. The total cost of public fire water service is $4,714,000 including the direct cost of $852,000 and the indirect cost of $3,862,000.

Total public fire water service costs are allocated to all customers through the fixed meter charge through the IRWD's rate structure. This complies with Proposition 218's cost-of-service and proportionality principles because meter charges are proportional to a given property's water demand, and that water demand is proportional to the property's use and need for fire water service.

# Executive Summary

In compliance with California Water Codes Section 10632 the IRWD Board of Directors adopted an updated Water Shortage Contingency Plan (WSCP) in June 2021. The WSCP includes a "toolbox" of potential strategies for responding to each level of potable water shortage. One of the potential strategies included within each water shortage level is adjustments to water budgets as a means to achieve the savings needed to respond to a prescribed level of water shortage. The WSCP, allows the District to strategically reduce water use through a number of potential actions that are staged dependent upon the severity of water shortages. The WSCP incorporates six standard water shortage levels corresponding to progressive ranges of up to 10%, 20%, 30%, 40%, 50%, and greater shortages. For each level or shortage, the WSCP includes a list of voluntary measures, non-rate response measures, and potential cost-of-service based rate response strategies. The WSCP outlines how the District will reduce water demands or augment supplies if it were to experience a water shortage within each of the six levels of water shortage. Table 1 shows the potable water shortage amounts that the District would need to either reduce or makeup via supply augmentation for each level of shortage.

# Water Shortage Contingency Plan Cost of Service FY 2025-26

**Table 1: WSCP Augmentation or Demand Reduction Need Based on Level of Shortage FY 2025-26**

| Water Shortage Contingency Plan Stage | Range of Shortage Within the Stage | Needed Augmentation or Reduction at maximum point of the Stage |
|---|---|---|
| **1** | 0-10% | 5,300 AF |
| **2** | 11-20% | 10,700 AF |
| **3** | 21-30% | 16,000 AF |
| **4** | 31-40% | 21,400 AF |
| **5** | 41-50% | 26,700 AF |
| **6** | 51% + | 32,000 AF |

## 1.1. CUSTOMER WATER BUDGET RATE STRUCTURE

IRWD's water budget-based rate structure is a cost-of-service based rate structure that provides revenue stability in both non-shortage and water shortage periods. Additionally, it allocates the water – and the associated costs with its use – based on the monthly water budget assigned to each customer providing the lowest cost water for efficient use and higher cost water for uses beyond efficient use.

As discussed in the 2021 Cost of Service Study (November 2021), the District uses a "budget-based" rate structure to recover the variable costs of providing potable and recycled water service to customers. Under this approach, a customized monthly budget (i.e., monthly water usage allocation) is developed for each customer. The commodity rates charged by the District in each consumption tier are designed to:

- Reflect and recover the increased cost of meeting consumption demands within each tier.
- Fund demand reduction and reliability programs.
- Mitigate for costs arising from customers' wasteful use that causes urban runoff requiring treatment by the Natural Treatment System (NTS).

When IRWD experiences a water shortage, it may have less water or different costs of water than in normal times. IRWD initially would rely on public outreach and non-rate response measures during a declared shortage. When the District has less water available, the WSCP outlines the strategies it will use to reduce demands to align with the available supplies. Adjustments to customer water budgets are a key response measure in the WSCP that are implemented by equitably reducing water budget allocations based on the available water supply under the water shortage circumstances under each level.
Such changes would be implemented at the discretion of IRWD's Board of Directors during a declared shortage. The changes in water budgets and rates are set using cost-of-service principles and would not exceed the District's cost of providing water service to each customer.

### 1.1.1. WATER SHORTAGE MAXIMUM WATER BUDGET ADJUSTMENTS

IRWD has modeled maximum water budget allocation adjustments as response measures to target a percentage reduction from FY 2025-26 demands for each of the six WSCP shortage levels. The water reduction goal is the maximum shortage for each WSCP level. For example, a Level 1 shortage ranges from 0% to 10%, so the reduction target used is 10%. The proposed maximum water budget adjustments, shown in Table 2 follow the WSCP by first targeting discretionary outdoor potable uses, then indoor uses, and finally commercial, industrial, and institutional (CII) indoor uses as the shortage levels increase in severity. Agricultural and construction usage is considered discretionary and would be reduced based on WSCP stage; however, rates would remain the same.

**Table 2: Adjustments to Water Budgets for Each Level of Water Shortage**

| Water Shortage Contingency Plan level | Target reduction<br><br>Midpoint of the level | Messaging and outreach | Outdoor potable landscape<br><br>Includes residential, dedicated irrigation and CII outdoor | ET Factor | Indoor gallons per capita | Commercial, Industrial, and Institutional (CII) percent indoor reduction |
|---|---|---|---|---|---|---|
| **None** | 0 | Water efficiency programs and outreach | 40% drought-tolerant plants | .75 | 50 | |
| **Level 1<br>0-10%** | 10% | Expanded messaging and targeted outreach | 40% drought-tolerant plants | .75 | 50 | |
| **Level 2<br>11-20%** | 20% | Expanded messaging and targeted outreach | No turf;<br>100% drought-tolerant plants | .625 | 50 | |
| **Level 3<br>21-30%** | 30% | Expanded messaging and targeted outreach | No turf;<br>25% drought-tolerant plants;<br>75% native plants;<br>tree health affected | .35 | 40 | |
| **Level 4<br>31-40%** | 40% | Expanded messaging and targeted outreach | No turf;<br>100% native plants<br>only; tree health affected | .25 | 32.5 | 10% |
| **Level 5<br>41-50%** | 50% | Expanded messaging and targeted outreach | No landscape | 0 | 30 | 20% |
| **Level 6<br>51%+** | 60% | Expanded messaging and targeted outreach | No landscape | 0 | Basic needs only;<br>20 | 30% |

#### 1.1.2.1 SOURCE WATER REDUCTIONS

The maximum water budget adjustments are calculated to proportionately reduce potable water budgets to align with the volume of the projected water shortage. Consistent with the WSCP outdoor discretionary uses are targeted first, which results in reductions to the evapotranspiration (ET) Factor. Beginning with a level 3 shortage and increased level of water supply shortage, reductions to the indoor per capita use also would need to be implemented. Beginning with a level 4 shortage, reductions in available water supplies would require that the District also implement reductions to indoor uses for commercial, industrial and institutional customers (CII).

### 1.1.2.2. OUTDOOR BUDGET ADJUSTMENTS DURING SHORTAGE

The fundamental metric used in the District's calculation of efficient outdoor water usage is the evapotranspiration rate of landscape plants. Evapotranspiration is the process by which water is lost to the atmosphere through evaporation and transpiration. Having established the ET rate for each day of the monthly billing cycle based on actual weather conditions, the District applies an adjustment factor. The District's standard ET Factor (ETF) for potable landscapes of 0.75 is based on a typical landscape plant mix and an irrigation system with an assumed efficiency of 80%. Different plants have different watering requirements, called plant factors, which can be quantified compared to a reference crop such as cool-season turf, which requires 100% of ET.
A simplified representation of the general formula used to determine a customer's outdoor water budget is shown below.

***Outdoor Budget Served by Potable Connection (ccf)*** =
*Irrigated Landscape Area (1) * Evapotranspiration (ET) Rate (2) * ET Factor (3) * 36.3 Conversion Factor (4)*

(1) Area measured in acres.
(2) Evapotranspiration rate during each day of the monthly billing cycle based on actual temperature, humidity, and other factors.
(3) ET factor based on plant watering requirements relative to cool-season turf and 20% irrigation system inefficiency.
(4) 36.3 is a factor to convert acre-inches of water to one hundred cubic feet (ccf).

During a water shortage, discretionary uses such as landscape irrigation are the first targeted for reductions. As shown in Table 1, the amount of water budgeted for outdoor use would be reduced to match the level of shortage and available supplies beginning at Level 2. At Level 2, the minimum water budget would only be sufficient to irrigate drought tolerant plants, with an ET Factor of 0.625. At Level 4, the minimum water budget would only be sufficient to support California native plants. At Level 5 or 6, which are severe levels of shortage, no water would be available to allocate to outdoor water budgets.

### 1.1.2.3. INDOOR RESIDENTIAL BUDGET ADJUSTMENTS DURING SHORTAGE

IRWD allocates a standard indoor water budget of 50 gallons per capita per day (gpcd) for residential customers, as described in the Cost of Service Study . During a water shortage, the District would need to reduce the indoor water budget down from 50 gpcd beginning at Level 3. The indoor budget would be reduced to 40 gpcd at Level 3, to 32.5 gpcd at Level 4, to 25 gpcd at Level 5 and then to only basic human needs of 20 gpcd at Level 6.

### 1.1.2.4. COMMERCIAL CUSTOMER WATER BUDGET ADJUSTMENTS DURING SHORTAGE

Given the diversity of water usage characteristics, the District establishes an individualized water budget for each customer based on an analysis of business water use needs. This may include an on-site assessment. This allows the water budget of each commercial, industrial and institutional customer (CII) to be tailored to their specific needs and requirements.
Although reductions to CII customer outdoor budgets are consistent with section 1.1.2.1 above, IRWD would apply percentage reductions to CII indoor budgets as shown in Table 2 up to the maximum reductions shown in Table 2 because the water budgets are tailored to each CII

customer. Indoor reductions would not start until level 4 to reduce impacts to the economy, health, and safety that result from reduced commercial use of water. The maximum percentage reductions to each CII customer's base allocation would be 10% at Level 4, 20% at Level 5 and 30% at Level 6.

These reductions, when combined with the outdoor and residential indoor reductions equitably allocate the potable water supply available to the District at each level of projected shortage, consistent with the District's adopted WSCP.

### 1.1.2.5. EXAMPLE WATER BUDGETS DURING EACH LEVEL OF SHORTAGE

Table 3 provides the various factors for the indoor and outdoor portions of residential customer water budgets, and shows both the indoor, outdoor, and total CCFs (CCF = one hundred cubic feet = 748 gallons) that would be allocated in a hypothetical Level 3 shortage, with the maximum adjustment applied. Applying the maximum adjustment results in the minimum customer water budget at a Level 3 water shortage. Average monthly ET of 4.1 inches, rather than actual ET for the month being billed, is used solely for example purposes.

**Table 3: Example Minimum Residential Water Budgets for Level 3 Water Shortage**

| Customer Type | Indoor Gal Per Person Per Day | Default People | Days in Bill Cycle | Default Acres<br>Default Acres | ET Factor | Average Monthly ET (inches) | Indoor CCF | Outdoor CCF | Total CCF (after rounding) |
|---|---|---|---|---|---|---|---|---|---|
| Residential Single Family | 40 | 4 | 30 | 0.03 | 0.35 | 4.1 | 6.42 | 1.61 | **9** |
| Residential Condo | 40 | 3 | 30 | 0.01 | 0.35 | 4.1 | 4.81 | 0.52 | **6** |
| Residential Apartment* | 40 | 2 | 30 | 0 | 0.35 | 4.1 | 3.21 | 0.00 | **4** |
| Potable Landscape | 40 | 0 | 30 | 1.00 | 0.35 | 4.1 | 0.00 | 52.09 | **53** |

*Water budget multiplied by number of units
CCF = One Hundred Cubic Feet = 748 gallons

The source of supply in Table 6 is based on the FY 2025-26 Board approved budget. For each level starting with 0 reflecting no reduction, the reduced source water in levels 1-6 was applied proportionally to all sources based on the percentage of required reduction at each level. The sources for each level are presented below.

The water budget indoor and outdoor CCFs are calculated using the formulas described in the Cost of Service Study. To further illustrate, the actual calculation for a residential single family in a Level 3 shortage is shown in Table 4 (note that any differences with Table 3 are due to rounding).

### Table 4: Example Calculation of Minimum Single Family Residential Monthly Water Budget at Level 3 Shortage

| Example Minimum Monthly Water Budget Calculation for an Average Single Family Residential Customer at Level 3 Shortage | | |
|---|---|---|
| Line | **Indoor Water Budget Calculation** | |
| 1 | Default Persons per Household | 4.0 |
| 2 | Required Gallons per Person per Day | 40.0 |
| 3 | Days in Billing Cycle | 30 |
| 4 | Monthly Indoor Water Budget (gallons) | 4,800 (Lines 1 * 2 * 3) |
| 5 | Monthly Indoor Water Budget (ccf) | 6.42 (Line 4 / 748 Conversion Factor) |
| | | |
| | **Outdoor Water Budget Calculation** | |
| 6 | Average Monthly ET Rate During the Billing Cycle Based on Measured Temperature, Humidity and other factors (Inches) | 4.1 |
| 7 | Adjustment for 75% drought tolerant plants and 25% native landscaping and irrigation efficiency of 80% | 0.28 |
| 8 | Adjustment for Irrigation System Efficiency | 0.8 |
| 9 | ET Factor | 0.35 (Line 7 / Line 8) |
| 10 | Adjusted Average Monthly ET Rate (30 day bill cycle) | 1.435 (Line 6 * Line 9) |
| | | |
| 11 | Customer Irrigated Landscape Area (acres) | 0.03 |
| 12 | Required Inches of Water per Acre | 0.044 (Line 10 * Line 11) |
| | | |
| 13 | Monthly Outdoor Water Budget (ccf) | 1.6 (Line 12 * 36.3 Conversion Factor) |
| | | |
| | **Total Water Budget** | |
| 14 | Total Monthly Water Budget Before Rounding (ccf) | 8.2 (Line 5 + Line 13) |
| 15 | Total Monthly Water Budget Used in Customer Billing (ccf) | 9.0 |

Applying the same methodology, the minimum water budget is calculated for each level of water shortage. The resulting minimum water budget, broken down by tier, is shown for an average single family residential customer for each of the six levels of shortage in Table 5. This same methodology and approach would be used to calculate the water budgets for each tier for each customer type for each level of shortage.

**Table 5: Minimum Water Budget Allocations by Tier for Single Family Customer at Each Level of Shortage**

| Water Shortage Level | Total Water Budget CCF | Low Volume CCF | Base Tier CCF | Inefficient Tier CCF | Wasteful Tier CCF |
|---|---|---|---|---|---|
| Percent of Budget | 100% | 0-40% | 41-100% | 101-140% | All CCF usage equal or greater than |
| None | 12 | 5 | 7 | 5 | 18 |
| 1 | 12 | 5 | 7 | 5 | 18 |
| 2 | 11 | 5 | 6 | 5 | 17 |
| 3 | 9 | 4 | 5 | 4 | 14 |
| 4 | 7 | 3 | 4 | 3 | 11 |
| 5 | 5 | 2 | 3 | 2 | 8 |
| 6 | 4 | 2 | 2 | 2 | 7 |

**Table 6: Source of Supply Reductions Applied to the WSCP Levels FY 2025-26**

| Reduced Source Water (acre feet) | *0* | *1* | *2* | *3* | *4* | *5* | *6* |
|---|---|---|---|---|---|---|---|
| Dyer Road Well Field | 26,740 | 24,552 | 21,824 | 19,096 | 16,368 | 13,640 | 10,912 |
| Other Process Wells | 16,490 | 14,841 | 13,192 | 11,543 | 9,894 | 8,245 | 6,596 |
| Baker Treatment Plant (SAC) | 6,552 | 5,897 | 5,242 | 4,586 | 3,931 | 3,276 | 2,621 |
| Water Purchases Imported (MWD) | 3,622 | 2,774 | 2,466 | 2,157 | 1,849 | 1,541 | 1,233 |
| Total | 53,404 | 48,064 | 42,724 | 37,382 | 32,042 | 26,702 | 21,362 |

### 1.1.2.6 INCREASED CONSERVATION EFFORTS

Over-allocation tiers include three cost elements included in rates:

- Conservation efforts that target reducing the District's overall demands and support reliability programs that include:
  - Interaction between District staff and customers in the over-allocation tiers to provide aid in reducing monthly demands; and
  - Funding programs that aid in reducing water use such as replacing lawns with drought tolerant plants and programs that replace older fixtures with low flow fixtures.

- Funding costs associated with wasteful use that causes urban runoff requiring treatment by the District's NTS sites.
- Water banking programs to meet demands during major supply interruptions that can be used to address shortages addressed in the WSCP.

The cost increases included for each of the WSCP levels are based on the history of increased expenditures incurred when the District was required to meet a mandatory 16% reduction in 2015, increased by the Consumer Price Index. Additional costs for compliance efforts are included at levels 5 and 6 of the WSCP because reaching reductions that exceed 35% will be extremely difficult for an agency such as IRWD, whose customers have already significantly reduced gpcd since the last drought. The conservation and compliance expenses included in the table below are allocated to the over-allocation tiers to aid in reaching the identified WSCP level.

The conservation and compliance expenses included in the table below are allocated to the over-allocation tiers to aid in reaching the identified WSCP level.

**Table 7: Additional Conservation and Compliance Efforts Applied to Over-allocation Tiers by Level FY 2025-26**

| (in thousands) | | | | | | |
|---|---|---|---|---|---|---|
| **Additional Costs** | ***1*** | ***2*** | ***3*** | ***4*** | ***5*** | ***6*** |
| Universal/Targeted Costs | $1,852 | $3,703 | $5,145 | $6,431 | $6,626 | $7,406 |
| Compliance Costs | 0 | 0 | 0 | 423 | 1,410 | 2,820 |
| Over-allocation Increase by Level | ***1*** | ***2*** | ***3*** | ***4*** | ***5*** | ***6*** |
| Inefficient | $424 | $849 | $1,179 | $1,571 | $1,842 | $2,343 |
| Wasteful | 1,427 | 2,854 | 3,966 | 5,283 | 6,194 | 7,882 |
| Total By Level | $1,852 | $3,703 | $5,145 | $6,854 | $8,036 | $10,226 |

### 1.1.2.7 WSCP RATES

The WSCP rates are based on a consistent cost of service methodology with the IRWD updated cost of service rate model. The rates identified by tier and WSCP level take into consideration the reduced demands, the source shift in reduced water (i.e. available ground water versus imported water) and increased conservation and compliance costs required to reach WSCP targets. For each tier, the standard rate is adjusted for changes in reduced volumes and any increases in costs.

Many of the costs included in the standard rate are variable and fluctuate with total sales. However, with the exception of imported water, many expenses are not variable with changes in sales (labor and associated benefits, repairs and maintenance, permits, licenses and fees etc.). The cost of water component in WSCP rates increase as a result of allocating these costs to the reduced units as water usage is reduced.

The following table shows the cost of water by source by shortage level.

**Table 8: Cost of water per CCF by Water Shortage Level**
**FY 2025-26**

| Level | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|
| Dyer Road Well Field | $2.07 | $2.08 | $2.09 | $2.10 | $2.11 | $2.14 | 2.17 |
| Orange Park Acres | 2.24 | 2.23 | 2.23 | 2.22 | 2.21 | 2.19 | 2.16 |
| Wells 21 & 22 | 4.38 | 4.61 | 4.90 | 5.27 | 5.76 | 6.46 | 7.50 |
| Deep Aquifer Treatment | 2.50 | 2.52 | 2.55 | 2.59 | 2.63 | 2.70 | 2.81 |
| Potable Treatment Plant | 2.24 | 2.30 | 2.37 | 2.46 | 2.59 | 2.76 | 3.02 |
| Baker Water Treatment Plant | 3.48 | 3.38 | 3.25 | 3.09 | 2.87 | 2.56 | 2.11 |
| Imported Water | 5.21 | 5.21 | 5.21 | 5.21 | 5.21 | 5.21 | 5.21 |

Budgeted costs for programs to educate and incentivize all District customers will be allocated to fewer sales units, which increases the cost per ccf. Additionally, the costs of extra programs aimed at promoting further water conservation will be necessary and will rise as shortage levels increase. The following table shows the increases in universal conservation costs by shortage level.

**Table 9: District Wide Conservation Cost per CCF**
**FY 2025-26**

| Universal Conservation Costs* | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|
| Budgeted Costs | 1,835 | 1,835 | 1,835 | 1,835 | 1,835 | 1,835 | 1,835 |
| Additional Costs | - | 975 | 1,950 | 2,340 | 2,925 | 3,120 | 3,900 |
| **Total Costs** | **1,835** | **2,811** | **3,787** | **4,178** | **4,764** | **4,960** | **5,741** |
| Potable and Recycled Sales (ccf) | 15,403,916 | 13,077,597 | 11,630,488 | 10,183,805 | 8,736,659 | 6,850,318 | 5,403,618 |
| Universal Conservation Rates | $0.12 | $0.21 | $0.33 | $0.41 | $0.55 | $0.72 | $1.06 |
| *in thousands | | | | | | | |

In levels 1 through 4, inefficient and wasteful usage are assumed to remain the same. In levels 5 and 6, it is assumed that over-allocation usage will decrease due to price elasticity and increased conservation efforts, and budgeted costs will be allocated to fewer units. In addition, costs for customer outreach and targeted programs to encourage further water conservation will be necessary and increase with the shortage levels.

### Table 10: Targeted Conservation and Compliance Effort Cost per CCF FY 2025-26

| Targeted Costs* | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|
| Budget Cost Targeted | 7,669 | 7,669 | 7,669 | 7,669 | 7,669 | 7,669 | 7,669 |
| Additional Conservation Costs | - | 877 | 1,753 | 2,805 | 3,506 | 3,506 | 3,506 |
| Compliance Effort | - | - | - | - | 423 | 1,410 | 2,820 |
| **Total Costs** | **7,669** | **8,545** | **9,422** | **10,473** | **11,598** | **12,584** | **13,994** |
| | | | | | | | |
| **Cost Allocation*** | | | | | | | |
| Inefficient tier | 1,757 | 1,958 | 2,159 | 2,400 | 2,658 | 2,884 | 3,207 |
| Wasteful tier | 5,911 | 6,587 | 7,262 | 8,073 | 8,940 | 9,700 | 10,787 |
| **Total CCF** | **7,668** | **8,545** | **9,421** | **10,473** | **11,598** | **12,584** | **13,994** |
| *in thousands | | | | | | | |
| **Level** | **0** | **1** | **2** | **3** | **4** | **5** | **6** |
| **Target Demand CCF** | | | | | | | |
| Inefficient tier | 1,025,882 | 1,025,882 | 1,025,882 | 1,025,882 | 1,025,882 | 923,294 | 830,965 |
| Wasteful tier | 936,920 | 936,838 | 936,920 | 936,920 | 936,920 | 8,743,228 | 758,896 |
| **Targeted Costs per ccf** | | | | | | | |
| Inefficient tier | $1.71 | $1.91 | $2.10 | $2.34 | $2.59 | $3.12 | $3.86 |
| Wasteful tier | 6.31 | 7.03 | 7.75 | 8.62 | 9.54 | 11.50 | 14.21 |

Water banking and natural treatment system (NTS) costs included in the budget do not change with water shortage levels. See Appendix 10 Table 17 for more information. Standard rates and WSCP rates at all levels include the amounts shown in the table below.

### Table 11: Water Banking and Natural Treatment Systems Rate Components FY 2025-26

| All Levels | |
|---|---|
| **Water Banking** | |
| Wasteful tier | $1.68 |
| **Natural Treatment System** | |
| Inefficient tier | $0.74 |
| Wasteful tier | 3.95 |

WSCP Rate calculations by tier are shown in the tables below.

**Table 12: WSCP Rate Calculations by Tier**
**FY 2025-26**

| Level | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|
| **Low Volume tier** | | | | | | | |
| Cost of Water | $2.07 | $2.08 | $2.09 | $2.10 | $2.11 | $2.14 | $2.17 |
| Rate Stabilization | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| Low Volume tier Rate | $2.07 | $2.08 | $2.09 | $2.10 | $2.11 | $2.14 | $2.17 |
| **Base tier** | | | | | | | |
| Cost of Water | $2.60 | $2.57 | $2.54 | $2.52 | $2.51 | $2.54 | $2.44 |
| Universal Conservation | 0.12 | $0.21 | $0.33 | $0.41 | $0.54 | $0.72 | $1.06 |
| Base tier Rate | $2.72 | $2.78 | $2.87 | $2.93 | $3.05 | $3.26 | $3.50 |
| **Inefficient tier** | | | | | | | |
| Cost of Water | $4.77 | $4.46 | $4.27 | $4.01 | $3.41 | $3.12 | $2.99 |
| Universal Conservation | 0.12 | 0.21 | 0.33 | 0.41 | 0.54 | 0.72 | 1.06 |
| Targeted Conservation | 1.71 | 1.91 | 2.10 | 2.34 | 2.59 | 3.12 | 3.86 |
| Natural Treatment System | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Inefficient tier Rate | $7.51 | $7.49 | $7.61 | $7.67 | $7.46 | $7.88 | $8.82 |
| **Wasteful tier** | | | | | | | |
| Cost of Water | $5.21 | $5.21 | $5.21 | $5.21 | $5.48 | $5.77 | $6.12 |
| Universal Conservation | 0.12 | 0.21 | 0.33 | 0.41 | 0.54 | 0.72 | 1.06 |
| Targeted Conservation | 6.31 | 7.03 | 7.75 | 8.62 | 9.54 | 11.50 | 14.21 |
| Water Banking and NTS | $6.96 | $6.96 | $6.96 | $6.96 | $6.96 | $6.96 | $6.96 |
| Wasteful tier Rate | $18.60 | $19.42 | $20.25 | $21.20 | $22.53 | $24.96 | $28.36 |

The rates are summarized in Table 13 below by tier and WSCP Level.

**Table 13: Summary WSCP Rates**
**FY 2025-26**

| Level | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|
| **Shortage** | 0% | 10% | 20% | 30% | 40% | 50% | 60% |
| Low Volume | $2.07 | $2.08 | $2.09 | $2.10 | $2.11 | $2.14 | $2.17 |
| Base | $2.72 | $2.78 | $2.87 | $2.93 | $3.05 | $3.26 | $3.50 |
| Inefficient | $7.51 | $7.49 | $7.61 | $7.67 | $7.46 | $7.88 | $8.82 |
| Wasteful | $18.60 | $19.42 | $20.25 | $21.20 | $22.53 | $24.96 | $28.36 |

The change in commodity rates has no impact on the monthly fixed service water or sewer charges. If the Board of Directors elect to implement any of these WSCP rates, the proposed commodity rates are expected to provide cost of service equity for the budgeted operating variable costs and additional costs incurred as a direct result of a water shortage declaration at the associated stage level. Implementation of WSCP rates would require additional Board action.

# Executive Summary

This appendix is part of the Cost of Service update for Fiscal Year (FY) 2025-26 and FY 2026-27.

Appendix 6 provides the support for the development of Water Shortage Contingency Plan (WSCP) rates for FY 2025-26. Appendix 7 provides support for the development of WSCP for FY 2026-27. The tables are updated with the details from the FY 2026-27 operating budget. The methodology and assumptions from the 2026 Cost of Service (COS) Study Water Shortage Contingency Plan Rates Technical Memo (Appendix 7) remain the same and tables 1, 6, and 7 included in this appendix use the same numbering scheme as those in the 2025 COS Study WSCP Technical Memo.

# Water Shortage Contingency Plan Cost of Service FY 2026-27

See Appendix 7 of the COS Study for a complete discussion on the District's Water Shortage Contingency Plan Rates.

**Table 1: WSCP Augmentation or Demand Reduction Need Based on Level of Shortage FY 2026-27**

| Water Shortage Contingency Plan Stage | Range of Shortage Within the Stage | Needed Augmentation or Reduction at maximum point of the Stage |
|---|---|---|
| **1** | 0-10% | 5,400 AF |
| **2** | 11-20% | 10,800 AF |
| **3** | 21-30% | 16,200 AF |
| **4** | 31-40% | 21,600 AF |
| **5** | 41-50% | 27,000 AF |
| **6** | 51% + | 32,400 AF |

### 1.1.1. WATER SHORTAGE MAXIMUM WATER BUDGET ADJUSTMENTS

IRWD has modeled maximum water budget allocation adjustments as response measures to target a percentage reduction from FY 2026-27 demands for each of the six WSCP shortage levels. The water reduction goal is the maximum shortage for each WSCP level. For example, a Level 1 shortage ranges from 0% to 10%, so the reduction target used is 10%. The proposed maximum water budget adjustments, shown in Table 2 follow the WSCP by first targeting discretionary outdoor potable uses, then indoor uses, and finally commercial, industrial, and institutional (CII) indoor uses as the shortage levels increase in severity. Agricultural and construction usage is considered discretionary and would be reduced based on WSCP stage; however, rates would remain the same.

**Table 2: Adjustments to Water Budgets for Each Level of Water Shortage**

| Water Shortage Contingency Plan level | Target reduction<br><br>Midpoint of the level | Messaging and outreach | Outdoor potable landscape<br><br>Includes residential, dedicated irrigation and CII outdoor | ET Factor | Indoor gallons per capita | Commercial, Industrial, and Institutional (CII) percent indoor reduction |
|---|---|---|---|---|---|---|
| **None** | 0 | Water efficiency programs and outreach | 40% drought-tolerant plants | .75 | 50 | |
| **Level 1 0-10%** | 10% | Expanded messaging and targeted outreach | 40% drought-tolerant plants | .75 | 50 | |
| **Level 2 11-20%** | 20% | Expanded messaging and targeted outreach | No turf; 100% drought-tolerant plants | .625 | 50 | |
| **Level 3 21-30%** | 30% | Expanded messaging and targeted outreach | No turf; 25% drought-tolerant plants; 75% native plants; tree health affected | .35 | 40 | |
| **Level 4 31-40%** | 40% | Expanded messaging and targeted outreach | No turf; 100% native plants only; tree health affected | .25 | 32.5 | 10% |
| **Level 5 41-50%** | 50% | Expanded messaging and targeted outreach | No landscape | 0 | 30 | 20% |
| **Level 6 51%+** | 60% | Expanded messaging and targeted outreach | No landscape | 0 | Basic needs only; 20 | 30% |

### 1.1.2.6 SOURCE WATER REDUCTIONS

See Section 1.1.2.6 in Appendix 7 of the 2026 COS Study for a complete discussion on source water reductions.

The source of supply in Table 6 is based on the FY 2026-27 Board approved budget. For each level starting with 0 reflecting no reduction, the reduced source water in levels 1-6 was applied

proportionally to all sources based on the percentage of required reduction at each level. The sources for each level are presented below.

**Table 6: Source of Supply Reductions Applied to the WSCP Levels FY 2026-27**

| Reduced Source Water (acre feet) | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|
| Dyer Road Well Field | 26,749 | 24,524 | 21,769 | 19,014 | 16,259 | 13,503 | 10,748 |
| Other Process Wells | 16,490 | 14,824 | 13,159 | 11,493 | 9,828 | 8,162 | 6,497 |
| Baker Treatment Plant (SAC) | 6,552 | 5,890 | 5,228 | 4,567 | 3,905 | 3,243 | 2,581 |
| Water Purchases Imported (MWD) | 4,147 | 3,305 | 2,994 | 2,683 | 2,372 | 2,060 | 1,749 |
| Total | 53,938 | 48,544 | 43,150 | 37,757 | 32,363 | 26,969 | 21,575 |

### 1.1.2.7 INCREASED CONSERVATION EFFORTS

See Section 1.1.2.7 in Appendix 7 for a complete discussion on increased conservation efforts.

The conservation and compliance expenses included in the table below are allocated to the over-allocation tiers to aid in reaching the identified WSCP level.

**Table 7: Additional Conservation and Compliance Efforts Applied to Over-allocation Tiers by Level FY 2026-27**

| (in thousands) | | | | | | |
|---|---|---|---|---|---|---|
| **Additional Costs** | 1 | 2 | 3 | 4 | 5 | 6 |
| Universal/Targeted Costs | $1,906 | $3,812 | $5,300 | $6,625 | $6,825 | $7,625 |
| Compliance Costs | 0 | 0 | 0 | 438 | 1,459 | 2,918 |
| Over-allocation Increase by Level | 1 | 2 | 3 | 4 | 5 | 6 |
| Inefficient | $437 | $874 | $1,215 | $1,618 | $1,898 | $2,416 |
| Wasteful | 1,469 | 2,939 | 4,085 | 5,444 | 6,385 | 8,127 |
| Total By Level | $1,906 | $3,812 | $5,300 | $7,062 | $8,284 | $10,543 |

### 1.1.2.8 WSCP RATES

The WSCP rates are based on a consistent cost of service methodology with the IRWD updated cost of service rate model. The rates identified by tier and WSCP level take into consideration the reduced demands, the source shift in reduced water (i.e. available ground water versus imported water) and increased conservation and compliance costs required to reach WSCP targets. For each tier, the standard rate is adjusted for changes in reduced volumes and any increases in costs.

Many of the costs included in the standard rate are variable and fluctuate with total sales. However, with the exception of imported water, many expenses are not variable with changes in sales (labor and associated benefits, repairs and maintenance, permits, licenses and fees etc.). The cost of water component in WSCP rates increase as a result of allocating these costs to the reduced units as water usage is reduced.

The following table shows the cost of water by source by shortage level.

**Table 8: Cost of water per CCF by Water Shortage Level**
**FY 2026-27**

| Cost per CCF | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|
| DRWF | $2.18 | $2.19 | $2.20 | $2.21 | $2.23 | $2.25 | $2.29 |
| OPA | 2.38 | 2.38 | 2.37 | 2.37 | 2.36 | 2.34 | 2.32 |
| Wells 21 & 22 | 4.58 | 4.74 | 4.94 | 5.20 | 5.54 | 6.03 | 6.77 |
| DATS | 2.65 | 2.67 | 2.70 | 2.74 | 2.80 | 2.88 | 2.99 |
| PTP | 2.42 | 2.48 | 2.56 | 2.66 | 2.80 | 2.99 | 3.28 |
| Baker WTP | 3.73 | 3.62 | 3.48 | 3.31 | 3.07 | 2.74 | 2.23 |
| Import | 5.43 | 5.43 | 5.43 | 5.43 | 5.43 | 5.43 | 5.43 |

Budgeted costs for programs to educate and incentivize all District customers will be allocated to fewer sales units, which increases the cost per ccf. In addition, costs for extra programs to encourage further water conservation will be necessary and increase with the shortage levels. he following table shows the increases in universal conservation costs by shortage level.

**Table 9: District Wide Conservation Cost per CCF**
**FY 2026-27**

| Universal Conservation Costs* | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|
| Budgeted Costs | 1,935 | 1,935 | 1,935 | 1,935 | 1,935 | 1,935 | 1,935 |
| Additional Costs | - | 1,000 | 2,000 | 2,400 | 3,000 | 3,200 | 4,000 |
| **Total Costs** | **1,935** | **2,936** | **3,937** | **4,338** | **4,939** | **5,140** | **5,941** |
| Potable and Recycled Sales (ccf) | 15,553,125 | 13,204,006 | 11,743,512 | 10,283,373 | 8,822,932 | 6,917,769 | 5,457,300 |
| Universal Conservation Rates | $0.12 | $0.22 | $0.34 | $0.42 | $0.56 | $0.74 | $1.09 |
| *in thousands | | | | | | | |

In levels 1 through 4, inefficient and wasteful usage are assumed to remain the same. In levels 5 and 6, it is assumed that over-allocation usage will decrease due to price elasticity and increased conservation efforts, and budgeted costs will be allocated to fewer units. In addition, costs for customer outreach and targeted programs to encourage further water conservation will be necessary and increase with the shortage levels.

### Table 10: Targeted Conservation and Compliance Effort Cost per CCF FY 2026-27

| Targeted Costs* | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|
| Budget Cost Targeted | 8,012 | 8,012 | 8,012 | 8,012 | 8,012 | 8,012 | 8,012 |
| Additional Conservation Costs | - | 906 | 1,812 | 2,900 | 3,625 | 3,625 | 3,625 |
| Compliance Effort | - | - | - | - | 438 | 1,459 | 2,918 |
| **Total Costs** | **8,012** | **8,918** | **9,824** | **10,912** | **12,074** | **13,096** | **14,555** |
| **Cost Allocation*** | | | | | | | |
| Inefficient tier | 1,836 | 2,044 | 2,251 | 2,501 | 2,767 | 3,001 | 3,335 |
| Wasteful tier | 6,176 | 6,874 | 7,573 | 8,411 | 9,307 | 10,095 | 11,219 |
| **Total CCF** | **8,012** | **8,918** | **9,824** | **10,912** | **12,074** | **13,096** | **14,555** |
| *in thousands | | | | | | | |
| **Level** | **0** | **1** | **2** | **3** | **4** | **5** | **6** |
| **Target Demand CCF** | | | | | | | |
| Inefficient tier | 1,025,882 | 1,025,882 | 1,025,882 | 1,025,882 | 1,025,882 | 923,294 | 830,965 |
| Wasteful tier | 936,920 | 936,920 | 936,920 | 936,895 | 936,919 | 843,228 | 758,905 |
| **Targeted Costs per ccf** | | | | | | | |
| Inefficient tier | $1.79 | $1.99 | $2.19 | $2.44 | $2.70 | $3.25 | $4.01 |
| Wasteful tier | 6.59 | 7.34 | 8.08 | 8.98 | 9.93 | 11.97 | 14.78 |

Water banking and natural treatment system (NTS) costs included in the budget do not change with water shortage levels. See Appendix 10 Table 17 for more information. Standard rates and WSCP rates at all levels include the amounts shown in the table below.

### Table 11: Water Banking and Natural Treatment Systems Rate Components FY 2026-27

| All Levels | |
|---|---|
| **Water Banking** | |
| Wasteful tier | $2.13 |
| **Natural Treatment System** | |
| Inefficient tier | $0.77 |
| Wasteful tier | 4.11 |

WSCP Rate calculations by tier are shown in the tables below.

**Table 12: WSCP Rate Calculations by Tier**
**FY 2026-27**

| Level | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|
| **Low Volume tier** | | | | | | | |
| Cost of Water | $2.18 | $2.19 | $2.20 | $2.21 | $2.23 | $2.25 | $2.29 |
| Low Volume tier Rate | $2.18 | $2.19 | $2.20 | $2.21 | $2.23 | $2.25 | $2.29 |
| **Base tier** | | | | | | | |
| Cost of Water | $2.80 | $2.76 | $2.74 | $2.72 | $2.71 | $2.74 | $2.63 |
| Universal Conservation | 0.12 | $0.22 | $0.34 | $0.42 | $0.56 | $0.74 | $1.09 |
| Base tier Rate | $2.92 | $2.98 | $3.08 | $3.14 | $3.27 | $3.48 | $3.72 |
| **Inefficient tier** | | | | | | | |
| Cost of Water | $5.15 | $4.98 | $4.78 | $4.51 | $4.08 | $3.88 | $3.86 |
| Universal Conservation | 0.12 | 0.22 | 0.34 | 0.42 | $0.56 | 0.74 | 1.09 |
| Targeted Conservation | 1.79 | 1.99 | 2.19 | 2.44 | 2.70 | 3.25 | 4.01 |
| Natural Treatment System | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Inefficient tier Rate | $8.03 | $8.16 | $8.28 | $8.34 | $8.31 | $8.84 | $9.93 |
| **Wasteful tier** | | | | | | | |
| Cost of Water | $5.43 | $5.43 | $5.43 | $5.43 | $5.48 | $5.70 | $5.95 |
| Universal Conservation | 0.12 | 0.22 | 0.34 | 0.42 | 0.56 | 0.74 | 1.09 |
| Targeted Conservation | 6.59 | 7.34 | 8.08 | 8.98 | 9.93 | 11.97 | 14.78 |
| Water Banking and NTS | $7.18 | $7.18 | $7.18 | $7.18 | $7.18 | $7.18 | $7.18 |
| Wasteful tier Rate | $19.32 | $20.17 | $21.03 | $22.01 | $23.15 | $25.59 | $29.00 |

The rates are summarized in Table 13 below by tier and WSCP Level.

**Table 13: Summary WSCP Rates**
**FY 2026-27**

| Level | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|
| **Shortage** | 0% | 10% | 20% | 30% | 40% | 50% | 60% |
| Low Volume | $2.18 | $2.19 | $2.20 | $2.21 | $2.23 | $2.25 | $2.29 |
| Base | $2.92 | $2.98 | $3.08 | $3.14 | $3.27 | $3.48 | $3.72 |
| Inefficient | $8.03 | $8.16 | $8.28 | $8.34 | $8.31 | $8.84 | $9.93 |
| Wasteful | $19.32 | $20.17 | $21.03 | $22.01 | $23.15 | $25.59 | $29.00 |

The change in commodity rates has no impact on the monthly fixed service water or sewer charges. If the Board of Directors elect to implement any of these WSCP rates, the proposed commodity rates are expected to provide cost of service equity for the budgeted operating variable costs and additional costs incurred as a direct result of a water shortage declaration at the associated stage level. Implementation of WSCP rates would require additional Board action.

## Potential Additional Regulatory Cost to Provide Water Service

This appendix calculates a surcharge on water sales volumes to pay costs that may be imposed on IRWD by the State Water Resources Control Board (the "State Board") in response to any violations of emergency drought regulations restricting water use by IRWD and its customers.

## State Board Drought Regulatory Penalties

The State Board cites Water Code section 1058.5 to adopt emergency regulations to prevent the waste, unreasonable use, or unreasonable method of use of water or to promote water conservation. In past droughts, the State Board has adopted such regulations to reduce existing levels of water use by retail public water suppliers, including IRWD. The State Board cites Water Code section 1831(d) to issue a cease and desist order to local agencies, such as IRWD, in response to a violation or threatened violation of a regulation adopted under Section 1058.5. A local agency that fails to comply with a cease and desist order issued by the State Board may be liable in an amount not exceeding ten thousand dollars ($10,000) for each day in which the violation occurs, if the violation occurs in a critically dry year immediately preceded by two or more consecutive below normal, dry, or critically dry years. The State recently experienced such critically dry years, including in 2021 and 2022.

Although IRWD has a robust water conservation program with extensive customer outreach, if the State Board were to adopt an emergency regulation requiring reduced water usage, and IRWD customers were to fail to sufficiently reduce their usage to bring total IRWD customer water use into compliance, the State Board could seek to hold IRWD liable for failing to comply with a cease and desist order. Any monetary liability imposed upon IRWD would be an additional cost of providing water service.

## Calculation of the Surcharge

IRWD's potential financial exposure over a 24-month period is $7,300,000 (2 years times 365 days per year times $10,000 per day).

The excess water consumption that IRWD expects would be prohibited by the State Board is the amount used by IRWD customers in the Wasteful tier, including when water usage budgets are lowered pursuant to IRWD's adopted water shortage contingency plan (WSCP). The total use of water in the wasteful tiers of IRWD's proposed rate structure for FY 2025-26 and FY 2026-27 is calculated to be 2,082,044 ccf (hundred cubic feet).

Allocating the $7,300,000 cost across 2,082,044 ccf of Wasteful Tier water consumption equates to $3.51 per ccf. To fund IRWD's potential costs of monetary liability to the State Board, IRWD would be authorized to levy a surcharge of up to $3.51 per ccf on the volume of water used in the Wasteful tiers. This is included in the Proposition 218 Notices.

The table below shows the calculation of excess water consumption, state penalties, and

## Table 1: State Water Resources Control Board Penalty Surcharge FY 2025-26 and FY 2026-27

| | |
|---|---|
| **FY 2025-26 Wasteful Tier Usage (Acre Feet)** | 2,390 |
| **FY 2026-27 Wasteful Tier Usage (Acre Feet)** | 2,390 |
| **Total Excess Water Consumption (Acre Feet)** | 4,780 |
| **Total Excess Water Consumption (ccf = AF X 435.6)** | 2,082,044 |
| **State Penalties (2 X 365X $10,000)** | $7,300,000 |
| **Allocated Cost per CCF (State Penalties / Total Wasteful Tier Usage)** | **$3.51** |

## FY 2025-26 and 2026-27 Potable and Recycled Pumping Surcharge Rates

For FY 2025-26 and FY 2026-27, HDR Engineering, Inc. (HDR) will continue its detailed analysis of pumping surcharges, building on the methodology it refined in 2023 using updated hydraulic models and real-time water flow data from IRWD's Supervisory Control and Data Acquisition (SCADA) systems. This ongoing analysis ensures that pumping surcharge costs are accurately calculated and proportionally allocated to customers in areas requiring additional energy to deliver water due to elevation and distance. While HDR's analysis is in progress, IRWD has incorporated an anticipated 8% increase in Southern California Edison (SCE) energy rates into its surcharge calculations for both fiscal years to account for projected changes in electricity costs used in water delivery. This adjustment ensures that surcharge rates remain aligned with expected energy expenditures, in compliance with cost-of-service and proportionality principles outlined in Proposition 218.

**Table 9. FY 2025-26 and 2026-27 Potable Pumping Surcharge Rates**

| Potable | Pumping Surcharge Rate per CCF* | | |
|---|---|---|---|
| **Pumping Surcharge Area** | **FY 2024-25** | **FY 2025-26** | **FY 2026-27** |
| Base | $0.00 | $0.00 | $0.00 |
| 1 | $0.41 | $0.44 | $0.48 |
| 2 | $0.73 | $0.79 | $0.85 |
| 3 | $0.98 | $1.06 | $1.14 |
| 4 | $1.88 | $2.03 | $2.19 |

* Example FY 2025-26 Area 1: FY 2024-25 Area 1 rate of $0.41 × 108% = $0.44

**Table 10. FY 2025-26 and 2026-27 Recycled Pumping Surcharge Rates**

| Recycled | Pumping Surcharge Rate per CCF* | | |
|---|---|---|---|
| **Pumping Surcharge Area** | **FY 2024-25** | **FY 2025-26** | **FY 2026-27** |
| Base | $0.00 | $0.00 | $0.00 |
| `1 | $0.25 | $0.27 | $0.29 |
| 2 | $0.40 | $0.43 | $0.46 |
| 3 | $0.58 | $0.63 | $0.68 |

* Example FY 2025-26 Area 1: FY 2024-25 Area 1 rate of $0.25 × 108% = $0.27