

# LAKESIDE WATER DISTRICT WATER RATE REPORT

MARCH 2023

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General Manager

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## **1 Introduction**

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### **1.1 About Lakeside Water District**

Lakeside Water District was established in 1924 to serve the community of Lakeside. Currently the District serves a population of over 35,500, across a service area of 17.6 square miles. The District is a California Special District and was formed under California Irrigation District law to operate a public water supply system. Sources of water supply consist of local groundwater (GW) and multiple sources from our wholesale supplier the San Diego County Water Authority. The District maintains just above 7,000 meters, 11 water reservoirs, 10 pump stations and 1 hydro-pneumatic pump station and 125 miles of pipeline ranging in size from 4" to 24".

### **1.2 Background of the Study**

The information presented summarizes current operational parameters compared to rates, charges and outlays which are used to analyze and evaluate future rate projections. This report will support rate data that would be required to comply with Proposition 218 requirements and recommend revenue adjustments, as needed.

Since the last report in 2020 California has continued in one of the most severe drought periods in the state's history further reducing water sales. The conservation order has had lasting effects on our customer's usage habits. Water usage continues to be approximately 20% lower than 2013 in what is now known as "demand hardening". Usage is 30% lower than demands experienced in the mid 2000's.

### **1.3 Key Information Used in the Study**

This Study utilized the following key information:

1. Water Supply Costs
2. Fiscal Year (FY) 2022/23 Operating Budget
3. Customer information and consumption for 2020 through 2022.
4. Usage projected for FY 2023-2024
5. 2022 Asset Management Plan
6. Capital Improvement Plan (CIP)

## **2 Legal Framework and Rate Setting Methodology**

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This section of the report describes the legal framework to be considered in the development of rates to ensure that the calculated cost of service provides a fair and equitable allocation of costs to the District’s customers.

### **2.1 Legal Framework**

#### **CONSTITUTIONAL MANDATES AND STATUTORY AUTHORITY**

Article XIII D, Section 6 (Proposition 218) and Article X, Section 2 of the California Constitution govern the principles applicable to the rate study. The rate study uses mandates as required into a rate structure that complies with state law as defined below:

California Constitution – Article X, Section 2

Article X, Section 2 of the California Constitution (established in 1976) provides as follows:

“It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare.”

As such public agencies are constitutionally mandated to maximize the beneficial use of water, prevent waste, and encourage conservation which this Rate Report achieves.

#### **Proposition 13**

Government Code Section 50076, adopted in 1979 provides that “special taxes shall not include any fee which exceeds the reasonable cost of providing the service or regulatory activity for which the fee is charged.”

#### **Proposition 218**

California voters approved Proposition 218 in November 1996. This voter-approved initiative added Articles XIIC and D to the California Constitution. Article XIID Section 2(e), is a definition of a “fee”. Essentially, as defined by Proposition 218, a fee is “any levy other than an ad valorem tax, a special tax, or an assessment, imposed by an agency upon a parcel or upon a person as incident of property ownership, including a user fee or charge for a property related service”. Until 2006, sewer charges were considered property related services while water charges were not defined

as property-related until the 2006 California Supreme court decision in Bighorn-Desert View Water Agency v. Verjil. After this decision, water charges are now considered as property-related fees and any new or increased water charges must comply with the substantive and procedural requirements of Proposition 218. The substantive requirements include:

- Revenues derived from the fee or charge cannot exceed the funds required to provide the property related service.
- Revenues derived from the fee or charge cannot be used for any other purpose other than for which the fee or charge was imposed for.
- A property-related fee or charge cannot exceed the proportional cost of service attributable to the parcel.

### **Assembly Bill 2882**

The California legislature passed Assembly Bill (AB) 2882 in 2008 which amended the California Water Code (Sections 370 – 374) to provide criteria for establishing allocation based conservation water pricing in support of California constitution Article X, Section 2. Article X, Section 2 states that waste or unreasonable use of water shall be prevented. Allocation based conservation water pricing allows for the design of water budget rate structures. Per AWWA M1, “a water budget rate structure is a form of increasing block rates where their amount of water within the first block or blocks is based on the estimated, efficient water needs of the individual customer.” Under AB 2882, allocation based rates can be employed if they meet the following criteria:

- Billing based on metered use.
- A base allocation (water amount) is established based on each customer’s needs and property characteristics.
- A basic charge is imposed for all water used within the customer’s base allocation.
- A conservation charge is imposed on all excess of the customer’s base allocation.

Under AB 2882 tiered rates can be employed if they meet the following criteria:

- Conservation best management practices, conservation education, irrigation controls and other conservation devices, and other demand management measures.
- Water system retrofitting, dual plumbing and facilities for production, distribution, and all uses of recycled water and other alternative water supplies.

- Projects and programs for prevention, control, or treatment of the runoff of water from irrigation and other outdoor water uses. Incremental costs shall not include the costs of stormwater management systems and programs.
- Securing dry-year water supply arrangements.
- Procuring water supplies to satisfy increments of water use in excess of the basic use allocations for the customers of the public entity, including supply or capacity contracts for water supply rights or entitlements and related energy costs for water delivery.

**Proposition 26**

California voters approved Proposition 26 in November 2010. Included in the language of the proposition, which amended California Constitution Article XIII C, Section 1, is a definition of “tax”. Essentially, as defined by Proposition 26, a tax is any “levy, charge, or exaction of any kind imposed by a local government” with specifically outlined exceptions. These exceptions are:

- A charge imposed for a specific benefit conferred or a privilege granted directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of conferring the benefit or granting the privilege, and
- A charge imposed for a specific government service or product provided directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of providing the service or product.

Proposition 26 establishes that the “...local government bears the burden of proving by a preponderance of the evidence that a levy, charge, or other exaction is not a tax, that the amount is no more than necessary to cover the reasonable costs of the governmental activity, and that the manner in which those costs are allocated to a payor bear a fair or reasonable relationship to the payor’s burdens on, or benefits received from the governmental activity.”

### **Government Code Section 54999.7**

Under this section, rate-setting activities by public agencies are directed to follow cost-of-service principles and states that fees for “...for public utility service, other than electricity or gas, shall not exceed the reasonable cost of providing the utility service.” It also provides that these fees will be “established in consideration of service characteristics, demand patterns, and other relevant factors.”

### **Generally Accepted Rate-Setting Standards**

The American Water Works Association (AWWA) is the industry organization tasked with providing guidance on the operation and management of water utilities. AWWA has established a general set of principles used to guide the development of water rates. These principles were developed to provide a consistent approach and minimum standards to rate-setting procedures. It is important to note that AWWA observes that there is no prescribed single approach for establishing cost-based rates. Rather, agencies must exercise judgement to align rates and charges with local conditions and requirements, as well applicable state law.

### **2.2 Cost-Based Rate Setting Methodology**

As stated in the Manual M1, the AWWA Rates and Charges Subcommittee agrees with the Proposition 218 requirement that “the costs of water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers.” To develop utility rates that comply with Proposition 218 and industry standards while meeting other emerging goals and objectives of the utility, there are four major steps:

1. **DETERMINATION OF REVENUE REQUIREMENT.** The rate-making process starts with the determination of future revenue requirements to sufficiently fund the utility’s operation and maintenance (O&M), capital replacement and refurbishment (R&R), capital improvement and perpetuation of the system and to ensure preservation of the utility’s financial integrity. The basic revenue requirements of a utility include O&M expenses, debt service payments, contributions to specified reserves and the cost of capital expenditures that are not debt financed.

2. **COST OF SERVICE ANALYSIS.** The annual costs of providing water services, determined in the financial budget development, should be allocated among the customers commensurate with their service requirements. In this step, costs are identified and allocated to functional cost



components and distributed to respective customer classes according to the industry standards provided in the Manual M1 published by AWWA. California Government Code Section 54999 mandates agencies to conduct a thorough cost of service analysis every ten years in determining the utility rates.

3. **RATE DESIGN AND CALCULATIONS.** Rates do more than simply recover costs. Within the legal framework and industry standards, properly designed rates should support and optimize a blend of various utility objectives, such as conservation, affordability for essential needs, revenue stability, etc. and should work as a public information tool in communicating these objectives to customers.

4. **RATE ADOPTION.** In the last step of the rate-making process to comply with the Proposition 218 requirements, the results of the analyses are documented in a Study Report to help educate the public about the proposed changes, provide the rationale and justifications behind the charges and their anticipated financial impacts in laymen terms. At least 45 days after sending out the public notices, at a public hearing the agency shall consider all written protests against the proposed rates. If there is no majority protest, the agency can officially adopt the new rates.

In 2009 California Government Code Section 53756 allowed for Automatic Pass-Through water rate adjustments based on wholesale water rate increases to retail agencies if the local governing board approves through resolution.

### 3 SOURCES OF REVENUE

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To meet the costs associated with providing water service to its customers, the District earns revenue from a variety of sources including water sales, meter service charges, water user charges, rental income, capacity fees, and interest earned from the investment of district reserves, meter installations, property tax revenue and other miscellaneous revenues. A combination of analysis of historical and future system growth, in terms of number of accounts and water consumption is used to project the level of future revenue generated in the report. With revenue derived from the various sources, the District meets the cash requirements of the operation & maintenance and administrative needs along with capital improvement expenditures, which include infrastructure and equipment replacements with the use of district’s reserve funds. At the core of the Districts responsibility is delivering a safe and reliable source of water in the economical and responsible manner while complying with laws and regulations from various California State Agencies and the United States Environmental Protection Agency.

#### Customer and Water Usage Projections

To forecast revenue, customer bills and billed water sales volume need to be determined within the Districts service area. Recent historical trends demonstrate low but steady growth in the water connections over the past few years. Our current outlook is that this low but steady growth will continue and the community will continue to be a popular location for business and residents. To be consistent for this analysis the average of service connections over the last 3 years will be used for the next three-year projection.

Table 3-1 Historic and Projected Number of Service Connection (Active and Inactive meters change count)

Description	3 year average	CY 2022	CY 2021	CY 2020
Single Family	6096	6189	6161	5938
Multi-Family	522	428	442	697
Commercial/Industrial	300	299	307	293
Fire Service	109	108	108	110
Irrigation	27	28	27	27
Temp Construction	21	22	23	19
Total	7075	7074	7068	7084

Projected water sales volumes, use projected number of customers, and historical water usage patterns per customer class to determine volumes. Table 3-2 illustrates the historical water units billed volume in hundred cubic feet (HCF). Three years of consumption use show recent historical patterns of customer water usage. Using the recent water usage as a benchmark, the projected water sales volumes remain flat over the projection period (Table 3-3) due to remaining conservation habits resulting in little growth in customer water use, and increasing cost factors.

Table 3-2 Historical Water Demand in Units (1unit=100 cu.ft = 748 gal.) (AF = Acre Feet)

Description	FY 19/20 (Actual)	FY 20/21 (Actual)	FY 21/22 (Actual)
Single Family/ Multi-Family	1,251,027	1,306,641	1,258,533
Commercial/ Industrial	137,272	143,374	138,095
Temp Construction & Fire	21,876	22,848	22,007
Irrigation	26,472	27,649	26,631
Water Loss 5%	75,613	78,974	76,067
Total Water Usage (HFC)	1,512,259	1,579,486	1,521,333
Total Water Usage (AF)	3,472	3,626	3,493

Table 3-3 Projected Water Demand in Units

Description	FY 22/23 (Est.)	FY 23/24 (+2%)	FY 24/25 (+3%)
Single Family/ Multi-Family	1,251,753	1,276,788	1,289,306
Commercial/ Industrial	137,351	140,098	141,472
Temp Construction & Fire	21,888	22,326	22,545
Irrigation	26,487	27,017	27,282
Water Loss 5%	71,874	73,311	74,030
Total Water Usage (HFC)	1,437,480	1,466,230	1,480,604
Total Water Usage (AF)	3,300	3,366	3,399

Table 3-4 Existing Water Rates (Effective 1/1/23)

Fiscal Year Ending 2023				
Service Charge (\$/bi-monthly)		Commodity Charge (\$/HCF)		
5/8"	15.87		Lifeline 1-12 Units	5.09
3/4"	19.50		Greater 12	5.18
1"	26.71		Multi-Family	5.18
1 1/2"	39.02		Commercial	5.18
2"	69.30		Fire Service	10.36
3"	114.72		Construction	10.36
4"	158.70			
6"	194.81			
Detector Meter	28.83			

### 3.1 Revenue Projections

The District generates revenue primarily from water sales. Since revenue generated outside of water sales are not subject to rate increases, they have been excluded from this analysis. The cash flow portion of this report incorporated these additional revenue sources.

Water user-charge sales are composed of two parts, a bi-monthly service charge and commodity charge. The monthly service charge is an amount based on the meter size designed to recover fixed costs, which do not vary with the volume of water used by a customer, such as meter reading, customer billing, replacing meters, and debt service. Under the District’s existing rate structure for FY 2021/22, approximately 9 percent of annual operating revenues were recovered via the fixed meter service charge, 15 percent from variable fixed revenue (property taxes, interest income, land lease rent, capacity fees and installing new meters/hydrants, and miscellaneous), and the remaining 76 percent recovered via commodity charge (water sales). The commodity charge is an amount based on units of consumption measured by the number of HCF of water consumed during the billing cycle. An HCF unit of water is approximately 748 gallons. Included in the commodity charge are the costs associated with water purchase. Table 3-4 summarizes the District’s current water rates for all customer classes.

Table 3-5 summarized revenue from Meter Service Charges for FY 2021/22.

Table 3-5 Total Water Meter Service Charge Revenue for FY 2021/22

Meter Service Charge Revenue			
Meter Size	Bi-Monthly Rate	# of Meters	Subtotal
5/8"	\$15.87	4450	\$403,729
3/4"	\$19.50	1591	\$181,147
1"	\$26.71	605	\$96,957
1 ½"	\$39.02	104	\$24,348
2"	\$69.30	137	\$51,965
3"	\$114.72	1	\$688
4"	\$158.70	3	\$2,857
6"	\$194.81	4	\$4,675
Detector	\$28.83	102	\$17,644
*Construction Meter	\$79.35	18	\$17,140
<b>Total Meter Charges</b>			<b>\$801,150</b>

*\*Temporary Construction Meters are billed monthly.*

Table 3-6 summarizes all water sales revenue.

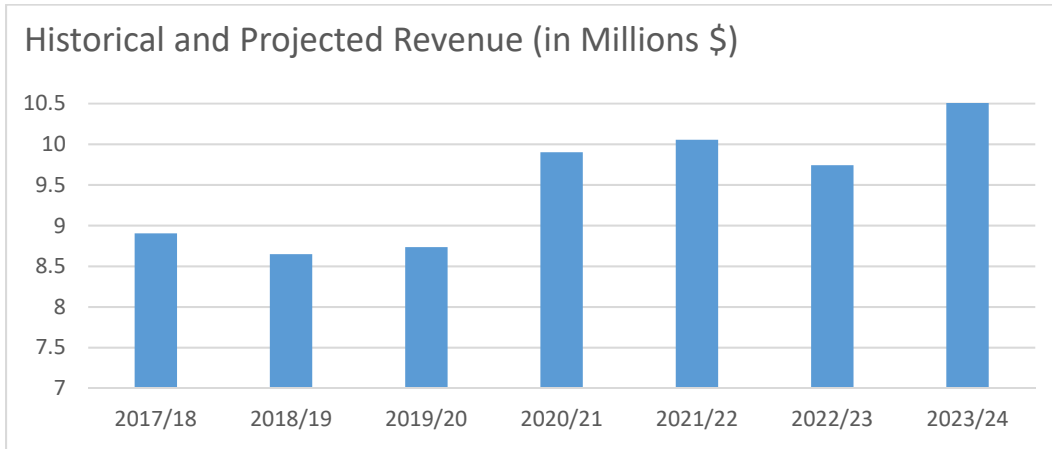
Table 3-6 Water Sales Revenue FY 2021/2022

Units Sold	Water Rate	July-Dec 2021	Jan – June 2022	Subtotal
375,537	Life Line	4.78	5.09	\$1,771,359
1,029,936	Standard	4.87	5.18	\$5,175,146
			Total Water Charges	\$6,946,505

Total Water Sales and Water Meter Service Charge Revenue in FY 2021/2022 is \$7,747,592.

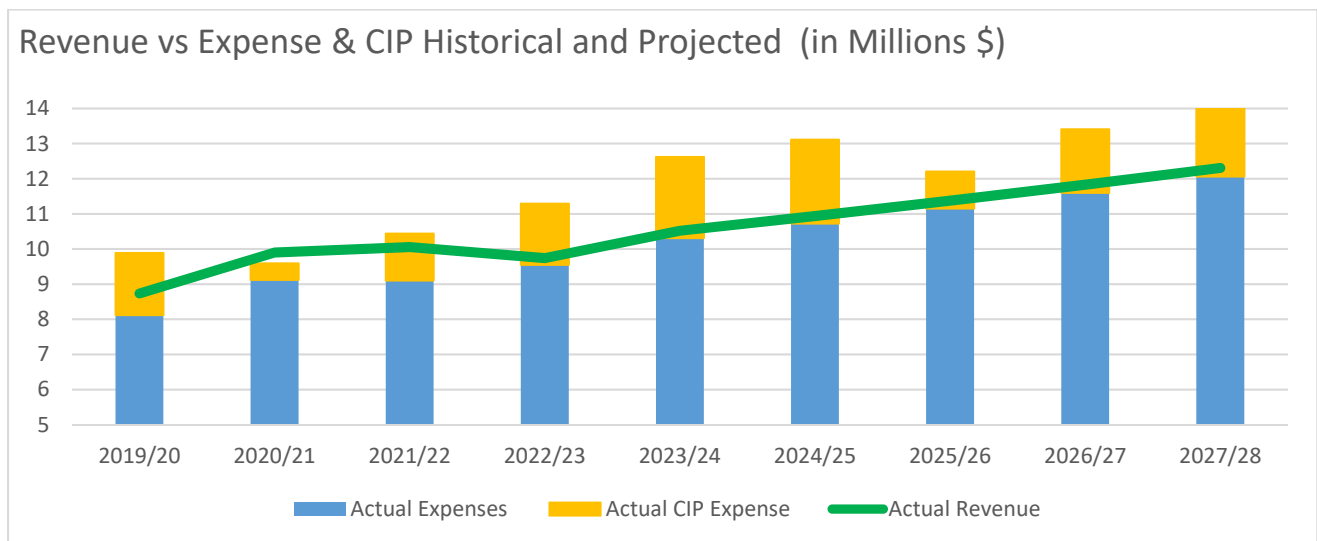
Additional revenue from other than water sales and meter charges adds \$2,307,452 for a total revenue of \$10,055,044.

Table 3-7



Generally, higher fixed charge revenue recovery is associated with greater revenue stability, but can also have a larger financial impact on lower usage customers, and may discourage conservation. Conversely, high volumetric revenue recovery may encourage responsible water usage, but increases the variability of the District’s revenue stream. For sound financial operation of the District’s water system, the revenues generated must be sufficient to meet the revenue requirements or cash obligations of the system. Table 3-8 shows revenue shortfalls when compared with expense and capital improvement costs.

Table 3-8 Revenue vs Expense and CIP with Funding Deficit



Revenue requirements include water purchase costs, O&M expenses, capital improvement program (CIP) expenditures, principal and interest payments on existing debt, and other obligations. Table 3-9 shows major budget categories and the projected budget deficit based on the District’s 5-year CIP plan.

Table 3-9 Budgeted Projections & Capital Improvement Funding Deficit - Currently

Fiscal Year	Operations & Maintenance	Water Purchases	Capital Improvement	Total Expenses	Total Revenue	Budget (Deficit)/Surplus
2022/23	\$3,880,984	\$5,667,762	\$2,229,000	\$11,777,746	\$9,740,613	(\$2,037,133)
2023/24	\$4,191,463	\$6,121,183	\$2,305,000	\$12,617,646	\$10,519,862	(\$2,097,784)
2024/25	\$4,359,121	\$6,366,030	\$2,384,000	\$13,109,152	\$10,940,657	(\$2,168,495)
2025/26	\$4,533,486	\$6,620,671	\$1,049,000	\$12,203,158	\$11,378,283	(\$824,875)
2026/27	\$4,714,826	\$6,885,498	\$1,809,000	\$13,409,324	\$11,833,414	(\$1,575,910)
2027/28	\$4,903,419	\$7,160,918	\$1,959,000	\$14,023,337	\$12,306,751	(\$1,716,586)

Table 3-10 Budgeted Projections & Capital Improvement Funding Deficit – With Meter Charge Increase

Fiscal Year	Operations & Maintenance	Water Purchases	Capital Improvement	Total Expenses	Total Revenue	Budget (Deficit)/Surplus
2022/23	\$3,880,984	\$5,667,762	\$2,229,000	\$11,777,746	\$9,740,613	(\$2,037,133)
2023/24	\$4,191,463	\$6,121,183	\$2,305,000	\$12,617,646	\$10,734,711	(\$1,882,935)
2024/25	\$4,359,121	\$6,366,030	\$2,384,000	\$13,109,152	\$11,424,066	(\$1,685,086)
2025/26	\$4,533,486	\$6,620,671	\$1,049,000	\$12,203,158	\$12,197,393	(\$5,765)
2026/27	\$4,714,826	\$6,885,498	\$1,809,000	\$13,409,324	\$13,072,150	(\$337,174)
2027/28	\$4,903,419	\$7,160,918	\$1,959,000	\$14,023,337	\$14,070,019	\$46,682

Table 3-10 Summarizes tables 3-9 and 6-2 showing when the budget becomes balanced with the proposed meter charge increase.

#### 4. Water Supply Expense Methodology

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##### 4.1 Operation and Maintenance Projections

Table 4-1 summarizes and forecasts the District’s O&M expenditures. These expenditures include costs related to personnel, operating supplies, contract services, utilities, and administrative duties. Inflation rates are calculated at 4%.

##### Overview of Projected Costs

The following are the higher cost line items that we use to set our rates. Example line items:

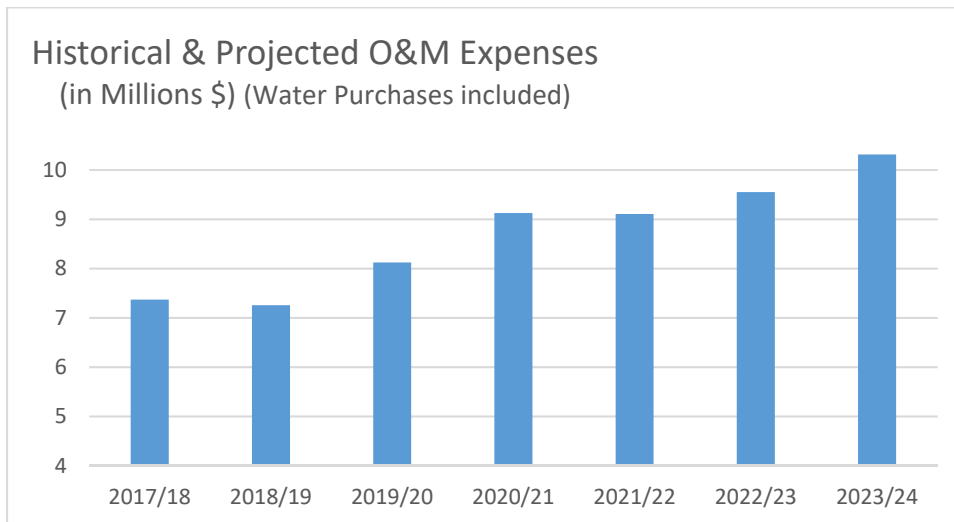
##### Administration

- General Manager
- Insurance
- State Water Resources Control Board Annual Fees

##### Operations and Maintenance

- Water Purchases
- Payroll (Field and Office Staff)
- Employee Benefits
- Electrical Power
- Distribution Maintenance
- Water Treatment Maintenance

Table 4-1

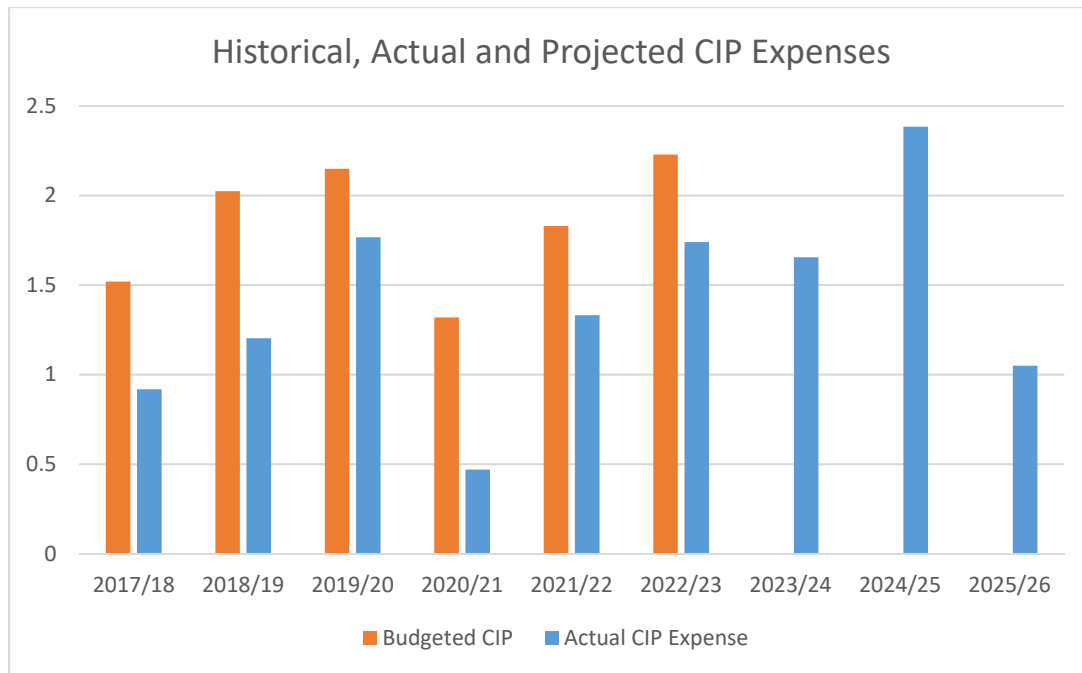




### 4.2 Capital Improvement Program

While O&M expenses cover day to day operations, the district incurs additional capital expenditures to repair and replace existing water system assets. As a result, we have developed a long-term Asset Management Plan (AMP) that provides guidance to our shorter 5-year Capital Improvement Program (CIP). Table 4-2 summarizes the historical and projected cost of the District’s CIP plan. The proposed CIP includes a slow ramp-up for water main replacement – increasing from 3,000 feet to 4,500 feet per year. In the future, water main replacement will be a consistent annual expense for many years, in addition to other capital improvement and replacement projects.

Table 4-2



### **4.3 Operations and CIP Funding**

Current funding for CIP is by cash financing which includes annual rate and fee revenue, along with any restricted capacity fee revenue received. Capacity Fees are restricted to infrastructure betterment projects. Projects that improve flow, reliability or storage of the water distribution system are acceptable CIP projects. Projected revenue under existing rates, which represents volumetric commodity charges at current rate levels, are sufficient to fund all O&M categories and \$431,477 of capital replacement requirements. It is the District's strategy that if capital replacement is funded to a level greater than the District's asset depreciation value then no setting aside of funds equal to the depreciation is necessary. During annual budget development, revenue or expense adjustments may be necessary to meet operating fund requirements and fiscal policy objectives. District reserves may also be used at this point.

### **4.4 Asset Management Plan Funding**

The District utilizes a 100-year Asset Management Plan (AMP) to plan for and schedule all Capital Improvement Projects. This allows for the timely replacement and refurbishment of the District's assets on a 100-year replacement cycle based on the largest capital replacement need, which are pipelines. Our AMP is comprehensive and will maintain the health and functionality of the District assets and allow the District to continue to deliver a safe and reliable supply of water as long as revenue and reserves are available. A critical element of the annual budgeting process is the Capital Improvement Program and the interrelation to the Asset Management Plan. The total asset value of the District's assets and infrastructure as of March 2022 is \$171,902,466.

As stated in the previous section: if the annual capital expenditure is less than the calculated depreciation amount then the difference shall be designated to replace the Capital Improvement Reserve. If the level of capital expenditure is greater than the projected revenue, the Board may decide to release funds from the Capital Improvement Reserve or from other reserve funds at the Boards discretion to balance the budget and fund the shortfall.

## 5 Development of Water Commodity Rates

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### 5.1 Water Supply Costs

The District has two distinct sources of supply. The most cost-effective source is groundwater from the Santee/El Monte Groundwater basin. The current (2022) full cost to produce the groundwater is approximately \$885 per AF. Projected available annual volume is 435 AF which is the average groundwater pumped from 2019-2022. Table 5-1 summarizes the increasing costs of groundwater and Table 5-2 shows the decreasing amount of groundwater being pumped and being replaced with more expensive purchased water.

Table 5-1 Increasing price per acre foot of groundwater production

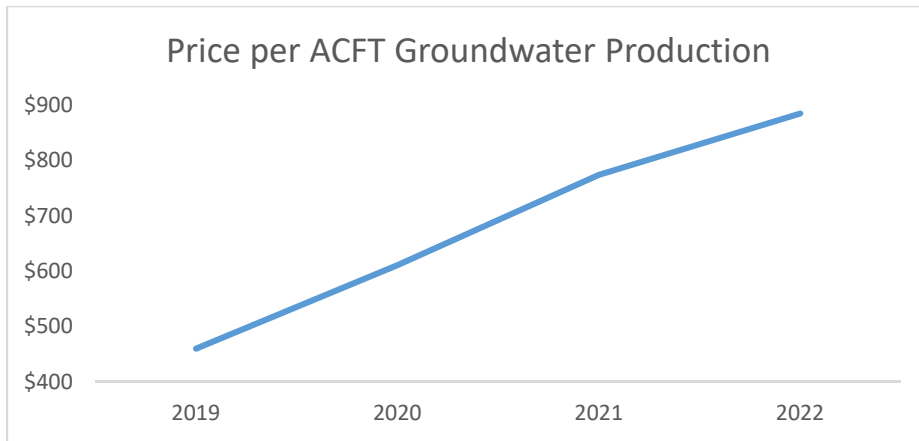
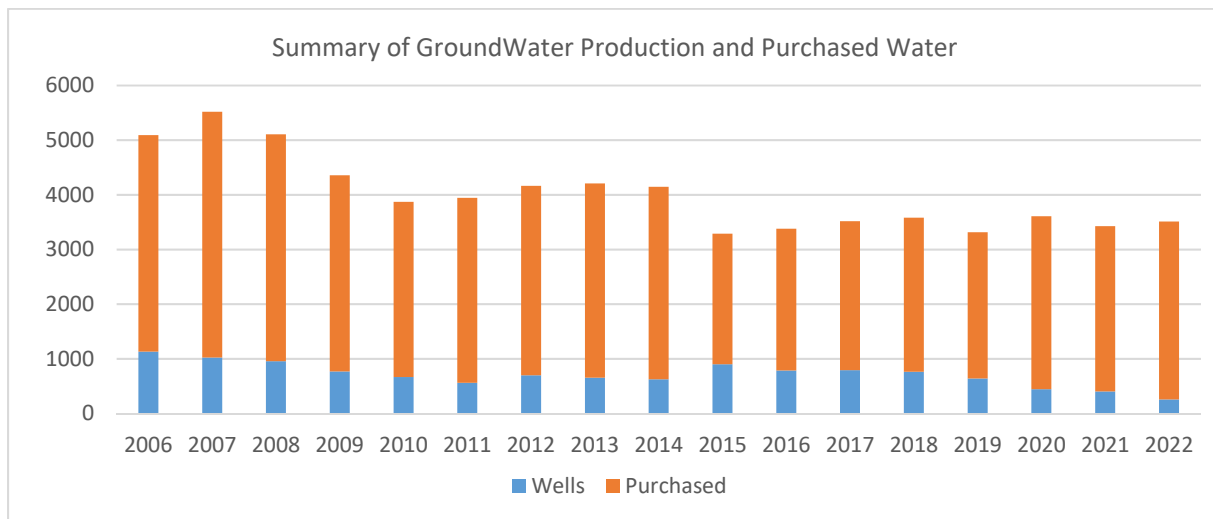


Table 5-2 Decreasing groundwater production being replaced with purchased water.



The second source of water is purchased as a fully treated source from the San Diego County Water Authority (CWA). CWA is the wholesale water agency for San Diego County and buys water from the Metropolitan Water District of Southern California (MWD) and also has two independent sources of water, the Bud Lewis Carlsbad Desalination Plant and a water transfer agreement with the Imperial Irrigation District. MWD has two primary sources of water, the State Water Project and the Colorado River. Delivery, treatment and several other charges are combined to Lakeside Water District’s final rate. Currently for FY 2022-23 the District’s rate is \$1,989 per acre foot. Table 5-3 summarized the cost of water from CWA.

Table 5-3 Historical cost of purchased water per acre foot

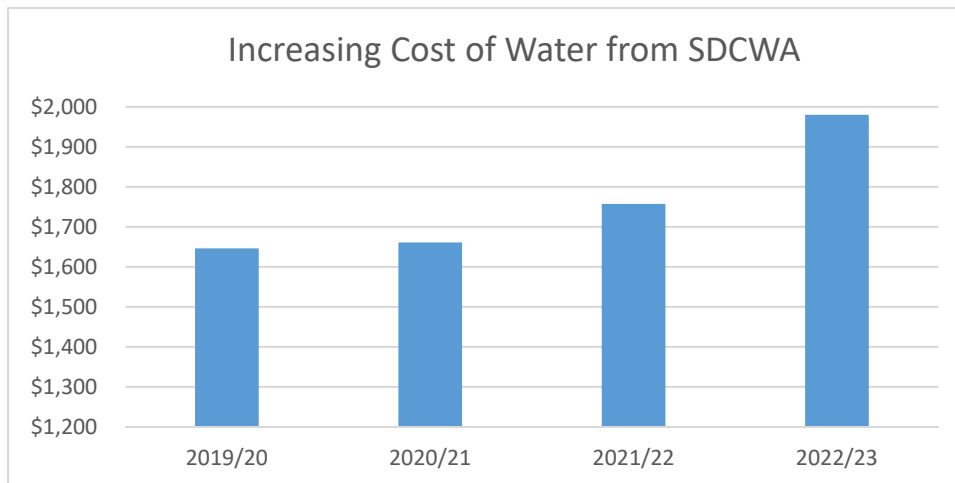
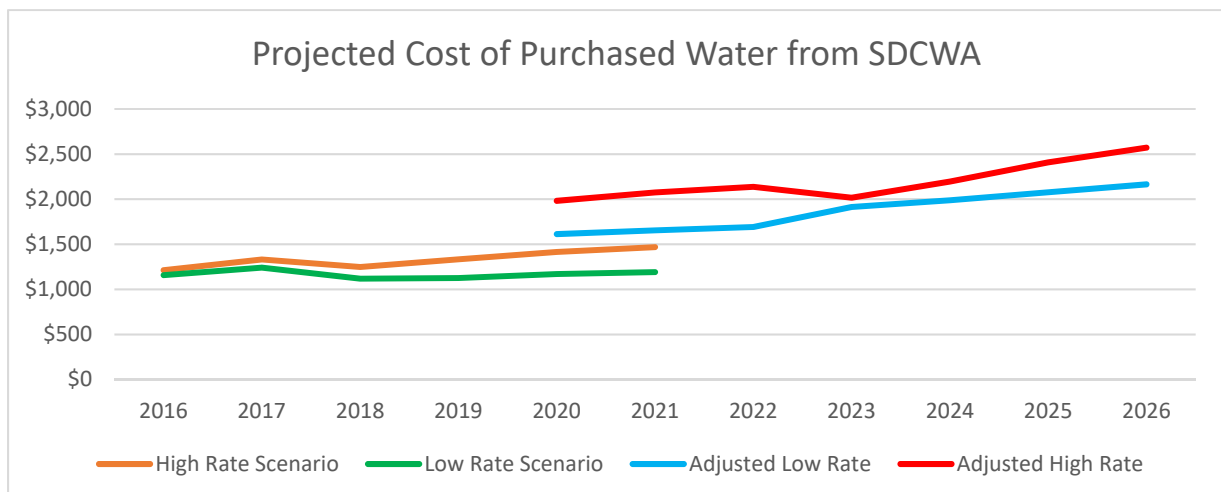


Table 5-4 Projected cost of purchased water per acre foot



The District expects wholesale costs to continue to rise as Table 5-3 shows. For budget estimating we have used the mid-point “adjusted” cost projections for our near-term budgeting calculation. Additional factors used for our projection were, cost of materials, labor, benefits, energy and long-term capital repair and replacement. Cost saving measures implemented over the past three years to balance the budget have been neutralized due to the increasing wholesale supply and delivery rates. The decision of the Board to pass along wholesale rate increases in compliance with State Government Code 53756, has allowed the District keep pace with water rate increases and utilize local groundwater as a way to control costs.

## **6 Development of Monthly Service Charges – Industry Standards - Informational**

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### **6.1 Fixed charges – Customer Account Costs**

In the rate setting process, there is a need to establish a base level of cost for which the cost of all customers can be measured. Customer related meter and service costs are allocated based on the number of equivalent 5/8" and 3/4" meters because these meter sizes are the most prevalent meter sizes found in many water utilities. Included in the development of meter cost ratio's is the direct cost of the various categories of labor involved in the installation, fringe benefit related overheads and other appropriate administrative overheads applicable to the labor costs, all direct materials and supplies costs, and the cost of equipment used in the installation. Generally, equivalent meter cost ratios should be used when assigning elements of costs specifically related to meters among the various sizes of meters used by the customer in the system.

### **6.2 Fixed Charges – Total Monthly Service Charge Rates**

The meter cost component of the monthly fixed charge relates to costs that are based upon the size of a meter. These costs typically relate to efforts such as the physical maintenance of meters. The meter cost rate is determined by taking the total of these costs for each division and distribution based on an equivalent meter factor, dependent on the physical size of the meter. Larger meters place a higher demand on maintenance costs due to their physical size and parts. Apportionment of these costs on the determined meter equivalency factor based on meter size. This factor ensures meter costs are proportionate to the meter size and cost incurred on the utility for each meter size.

### **6.3 Fixed Charges-Capacity Costs**

The capacity cost component of the monthly fixed charge related to costs that are based upon the total flow capability of each meter. Capacity cost represent the broadest category of fixed costs in that it is comprised of all operating costs necessary to provide water that don't fluctuate with the actual amount of water provided. These costs typically are comprised most of activities like the operations and maintenance of the water distribution system, legal and regulatory

compliance, and certain administrative efforts. The capacity cost rate is determined by taking the total of these costs and distribution based on an equivalent meter factor, which is calculated based on a gallon per minute flow rate for each meter size. Larger meters place a higher demand on the utility due to the capability to place larger demands on the water system. The water system has to be designed to meet the potential demand on the system regardless of the actual water demand in particular period of time, which requires a great amount and complexity of facilities, with greater maintenance and oversight costs. Table 6-1 shows the apportionment of these costs on the determined meter equivalency factor based on meter size. This factor ensures meter costs are proportionate to the meter size and cost incurred on the utility.

Table 6-1      Equivalent Meter Equivalency

Meter Size	AWWA Capacity
5/8"	1.0
3/4"	1.0
1"	1.7
1 ½"	3.3
2"	5.3
3"	10.0
4"	16.7
6"	33.3
8"	53.3

**6.4 Fixed Charges - Total Monthly Service Charge Rates**

The District may determine a goal to recover a portion of its total fixed costs with fixed revenues through the Bi-Monthly Service Charge. The District may review the percentage of cost recovery on each meter size and assess different degrees of increases on each meter size as needed to meet the overall goal of cost recovery. Table 6-2 below details the additional revenue corresponding to the projected increases over 5 years which increase the district revenue to cover expenses and CIP balancing the budget starting in FY 2026/27 when compared with table 3-9 funding deficits.

Table 6-2 Meter Service Charge Revenue Required Each Year to Balance the Budget

<u>Calendar Year</u>	<u>Total Meter Charges</u>	<u>increase/year</u>	<u>Total Increase</u>
cy23	\$ 859,394		
cy24	\$ 1,074,243	\$ 214,849	\$ 214,849
cy25	\$ 1,342,803	\$ 268,561	\$ 483,409
cy26	\$ 1,678,504	\$ 335,701	\$ 819,110
cy27	\$ 2,098,130	\$ 419,626	\$ 1,238,736
cy28	\$ 2,622,662	\$ 524,532	\$ 1,763,268
Total after 5 years of increases			\$ 1,763,268

Table 6-3 Bi-Monthly Meter Charge per Meter Size & Increase per Month

Meter Size	Current Bi-Month Meter Charge 2023	increase/month 2024	increase/month 2025	increase/month 2026	increase/month 2027	increase/month 2028
5/8"	\$ 15.87	\$ 1.98	\$ 2.48	\$ 3.10	\$ 3.87	\$ 4.84
3/4"	\$ 19.50	\$ 2.44	\$ 3.05	\$ 3.81	\$ 4.76	\$ 5.95
1"	\$ 26.71	\$ 3.34	\$ 4.17	\$ 5.22	\$ 6.52	\$ 8.15
1 1/2"	\$ 39.02	\$ 4.88	\$ 6.10	\$ 7.62	\$ 9.53	\$ 11.91
2"	\$ 69.30	\$ 8.66	\$ 10.83	\$ 13.54	\$ 16.92	\$ 21.15
3"	\$ 114.72	\$ 14.34	\$ 17.93	\$ 22.41	\$ 28.01	\$ 35.01
4"	\$ 158.70	\$ 19.84	\$ 24.80	\$ 31.00	\$ 38.75	\$ 48.43
6"	\$ 194.81	\$ 24.35	\$ 30.44	\$ 38.05	\$ 47.56	\$ 59.45
Det.	\$ 28.83	\$ 3.60	\$ 4.50	\$ 5.63	\$ 7.04	\$ 8.80
*Const.	\$ 79.35	\$ 19.84	\$ 24.80	\$ 31.00	\$ 38.75	\$ 48.43

*\*Temporary Construction Meters are billed monthly.*



Table 6-4 Total Bi-Monthly Meter Service Charge per Meter Size Each Year

Meter Size	Current Bi-Month Meter Charge 2023	Bi-Monthly Meter Charge 2024	Bi-Monthly Meter Charge 2025	Bi-Monthly Meter Charge 2026	Bi-Monthly Meter Charge 2027	Bi-Monthly Meter Charge 2028
5/8"	\$ 15.87	\$ 19.84	\$ 24.80	\$ 31.00	\$ 38.75	\$ 48.43
3/4"	\$ 19.50	\$ 24.38	\$ 30.47	\$ 38.09	\$ 47.61	\$ 59.51
1"	\$ 26.71	\$ 33.39	\$ 41.73	\$ 52.17	\$ 65.21	\$ 81.51
1 1/2"	\$ 39.02	\$ 48.78	\$ 60.97	\$ 76.21	\$ 95.26	\$ 119.08
2"	\$ 69.30	\$ 86.63	\$ 108.28	\$ 135.35	\$ 169.19	\$ 211.49
3"	\$ 114.72	\$ 143.40	\$ 179.25	\$ 224.06	\$ 280.08	\$ 350.10
4"	\$ 158.70	\$ 198.38	\$ 247.97	\$ 309.96	\$ 387.45	\$ 484.31
6"	\$ 194.81	\$ 243.51	\$ 304.39	\$ 380.49	\$ 475.61	\$ 594.51
Det	\$ 28.83	\$ 36.04	\$ 45.05	\$ 56.31	\$ 70.39	\$ 87.98
*Const.	\$ 79.35	\$ 99.19	\$ 123.98	\$ 154.98	\$ 193.73	\$ 242.16

*\*Temporary Construction Meters are billed monthly.*

Industry analysis shows that it is difficult to keep pace with wholesale rate increases with just meter service charges increases. To keep pace with wholesale rate increases, volumetric increases are better suited because of the ability to spread the increase out over many more units. As previously stated meter service charge increases are better suited to keep pace with fixed expenses that increase at a more predictable level.

## 7 Development of Energy Rates

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Energy costs are separated into three distinct performance categories. Administration building operation, groundwater production and treatment, and distribution system pumping. All customers are impacted by the total cost of energy consumption. Therefore, energy costs are spread over all units of water, irrespective of customer classes or tiers, to calculate a uniform rate of recovery. Current recovery amounts to \$0.26 per unit of water sold, or 5% of each unit. Broken down further; Distribution system pumping accounts for \$0.16 per unit sold, or 3%. Groundwater Pumping and Water Treatment account for \$0.09 or 2% and Administration use accounts for \$0.007 or negligible cost per unit delivered.

As an option a District may assess an Energy Rate on all customer class water sales to recover the energy costs necessary to move water from the base elevation where the source of water is, to higher areas in the District's service area to ensure customers only pay the proportionate cost to get water to their area. Accordingly, each area of the District is subdivided into Pump Zones to represent each elevation level. The energy rate per Pump Zone represents the incremental energy cost to lift water from the base elevation area to a particular zone. Each zone would have an electrical cost that would be divided by the total customers and an average demand usage in a specific zone to determine a cost per unit to deliver the water.

## 8 Customer Impacts

When developing proposed monthly rates, impacts can be calculated for different customer classes under various levels of use. Increasing volumetric rates on water sales may have a conservation effect on sales, but allows customers to reduce their monthly water budget.

Increases in the bi-monthly meter charges will increase revenue but is harder on customers with fixed incomes. Lakeside currently recovers 10% of fixed expenses with fixed monthly meter charges. A survey of rates and meter service charges across San Diego County follows.

Table 8-1 Bi-Monthly Meter Service Charge Survey & Water Rate Survey - San Diego County

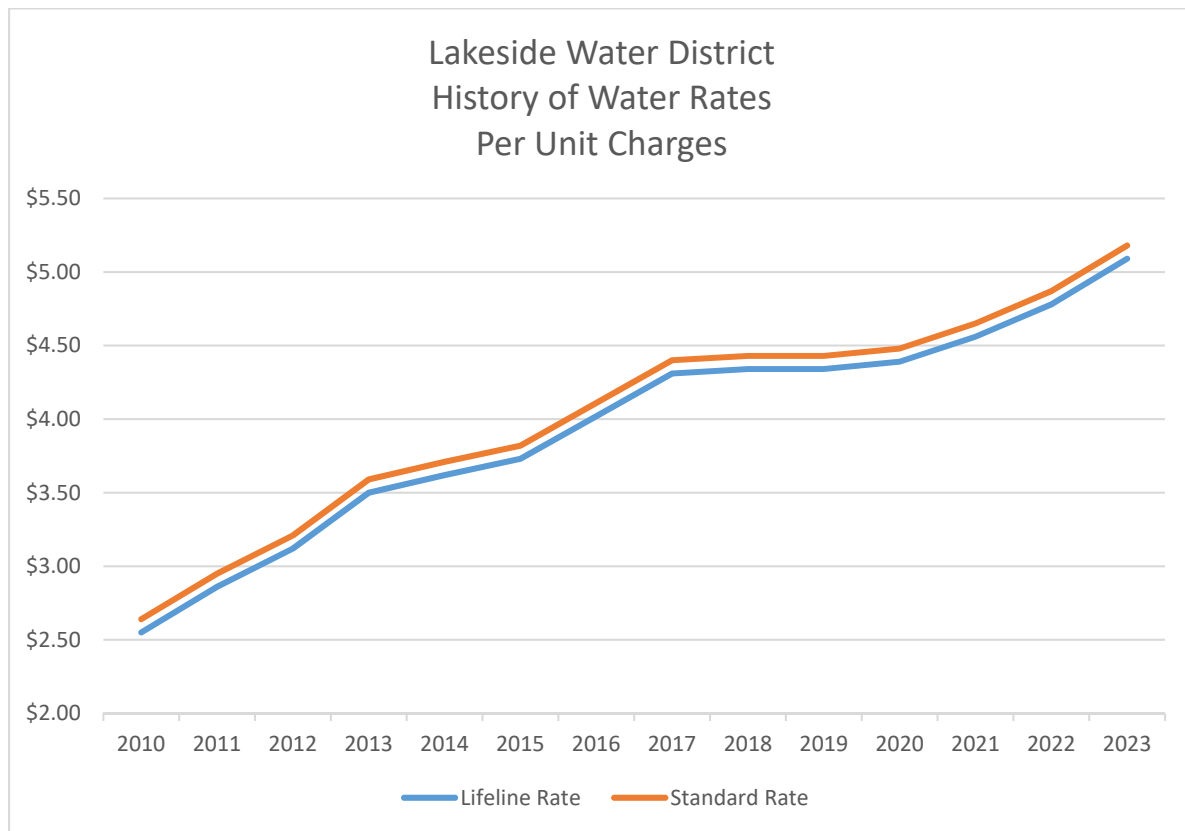
<b>MARCH 2023 METER SERVICE CHARGE SURVEY</b>								
<b>District</b>	<b>5/8"</b>	<b>3/4"</b>	<b>1"</b>	<b>1 1/2"</b>	<b>2"</b>	<b>3"</b>	<b>4"</b>	<b>6"</b>
Helix WD	56.81	56.81	81.96	170.02	258.07	566.26	752.50	2031.73
Olivenhain WD	68.14	89.08	151.90	235.70	368.40	731.48	1213.30	2533.00
Otay WD	36.14	36.14	44.94	67.46	94.08	203.24	346.60	697.00
Padre Dam MWD	81.94	81.94	111.32	179.86	287.58	503.00	835.94	1501.78
Rainbow MWD	82.02	82.02	136.68	273.38	437.40	956.78	1722.20	3553.74
Rincon Water	71.76	71.76	101.86	152.06	210.28	402.98	553.52	1055.36
San Dieguito WD	49.46	49.56	73.30	132.13	203.01	368.52	604.91	1195.35
Santa Fe ID	85.69	85.69	135.32	251.11	433.08	797.00	1359.43	2484.38
Sweetwater	21.70	21.70	32.30	51.18	72.40	137.90	232.76	468.52
San Diego City PU	27.77	27.77	36.77	57.37	83.11	143.59	229.83	443.47
Ramona	76.94	76.94	118.70	221.82	352.22	732.32	1296.46	
Poway	56.79	76.78	116.74	216.64	336.51	716.13	1275.55	2614.17
Vallecitos WD	65.66	65.66	95.48	244.52	393.58	602.24	899.74	1794.64
<b>Average</b>	<b>60.06</b>	<b>63.22</b>	<b>95.17</b>	<b>173.33</b>	<b>271.52</b>	<b>527.80</b>	<b>870.98</b>	<b>1596.43</b>
<b>Lakeside</b>	<b>15.87</b>	<b>19.50</b>	<b>26.71</b>	<b>39.02</b>	<b>69.30</b>	<b>114.72</b>	<b>158.70</b>	<b>194.81</b>

<b>MARCH 2023 WATER RATE SURVEY</b>								
<b>District</b>	<b>Units</b>	<b>Cost</b>	<b>Units</b>	<b>Cost</b>	<b>Units</b>	<b>Cost</b>	<b>Units</b>	<b>Cost</b>
Helix WD	0-12	5.56	13 to 26	5.91	>26	7.50		
Olivenhain WD	0-6	3.68	7 to 23	5.34	24 to 80	5.96	>80	7.09
Otay WD	0-9	5.50	10 to 12	5.95	>12	6.59		
Padre Dam MWD	0-7	7.31	8 to 17	8.59	>17	9.68		
Rainbow MWD	0-10	5.47	11 to 26	5.47	>26	5.47		
Rincon Water	0-7	8.14	8 to 24	9.3	>24	9.30		
San Dieguito WD	0-12	3.46	13-20	6.21	21-40	7.01	>40	8.33
Santa Fe ID	0-10	4.70	11 to 32	5.87	33 to 41	6.22	42 to 87	7.15
Sweetwater	0-10	5.09	11 to 16	6.03	17-27	6.19	>27	7.41
San Diego PU	0-4	5.55	5 to 12	6.21	13-18	8.88	>18	12.48
Ramona	all units	7.81		7.81		7.81		
Poway	1 to 20	5.62	21 to 56	6.56	>56	9.12		
Vallecitos	1 to 6	3.81	7 to 21	4.95	>21	8.50		
<b>Average</b>		<b>5.52</b>		<b>6.48</b>		<b>7.56</b>		<b>8.49</b>
<b>Lakeside WD</b>	<b>0-12</b>	<b>5.09</b>	<b>&gt;12</b>	<b>5.18</b>				

**Meter Service Charge Survey Summary:** The above surveys show that the District’s meter service charges are 18% to 30% of the average meter service charges, depending on meter size, of the agencies surveyed. The District’s meter service charges are also about 25% less than the second lowest meter service charges in the county. After two years of recommended meter charge increases the District will still be at 39% of county average when compared with today’s survey.

**Water Rate Survey Summary:** The District is \$0.43 per unit below the lowest tier average of \$5.52, \$1.30 per unit below the second-tier average of \$6.48, \$2.38 per unit below medium high usage tier average of \$7.56, \$3.31 per unit below the highest usage tier average of \$8.49.

Table 8-2



## 9 Summary:

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As shown in Tables 5-1 and 5-2 the price of groundwater has gone up and the amount of groundwater produced has gone down which is being replaced with more expensive purchased water. In Tables 5-3 and 5-4 the cost of our wholesale purchased water supply is projected to increase between 3 and 12 percent per year. The District's operation and maintenance costs are expected to rise an average 4 percent per year, and the District's revenues are expected to match the O&M increase and also keep pace with wholesale water cost increases through automatic wholesale rate increases as allowed by State law and increases in "other revenues", and by maintaining groundwater production.

As identified in the District's "Asset Management Plan" (AMP), the goal of the District is to replace the District assets in a controlled manner that avoids large spikes in replacement costs. To get to this level of replacement, which has an estimated replacement value cost of \$171,902,466 in 2021 dollars, the District must increase its revenue stream to reach this goal without depleting the District reserve funds. Current levels of asset replacement accomplished through the District's Capital Improvement Program is approximately \$1,500,000 below our goal. Lower water usage habits and the corresponding drop in water sales has lowered the District's revenue available for CIP to approximately \$431,477 per year on average fye 2019-2028.

The District's revenue has not been matched by a decrease in expenses as shown in Table 3-8 resulting in an increased use of the District's financial reserves. Because of the mandatory conservation cutback's ordered by the Governor of California and three droughts in the last 15 years, our water sales have dropped 36% since 2007. The long-term outlook for water sales I believe will be flat or a modest 1% increase per year going forward.

Because the District finances Capital Improvement Projects with cash and no debt funding, the District does not need to set aside depreciation on the assets unless the capital expenditures are less than the projected depreciation amount for a particular budget year. The District prefers to

pay as we go on a 100% replacement cost basis and forecasts that our annual asset replacement cost will equate to \$171,902,466 in 2021 dollars. Our pipeline replacement program is the driving cost in the long term AMP cost. The Boards decision going forward, is how to pay for and keep pace with the increase in capital improvement project costs to match the AMP projection.

The District's reserves have been utilized for CIP and emergency work in the past few years. The reserve fund has been reduced by \$4.8 Million from 2020 to 2023. The District's Financial Reserve Policy is \$10 Million below its target and \$7.5 Million below it lowest goal as of February 2023. The District's reserve funds need to be replenished for future emergencies.

For purposes of this report the District will have a decision to make to ensure that the District will be able to fund planned Capital Improvement work at a high enough level whereby reserves are not endangered and the planned pace of replacement is not jeopardized.

To increase our revenues over expenses enough to fund our Asset Management Plan replacement goal, I suggest that the following choices be considered to increase the revenue as outlined:

1. Raising the volumetric commodity rate in the sale of water.
  - a. This charge will be variable, based on our wholesale cost, estimated sales and the Districts O&M expense, which depend on some factors out of our control and involves broad analysis. Sections 3, 4, and 5 cover associated factors.
2. Increase the meter service charge.
  - a. Meter service charges are fixed charges based on the size of a customer's meter and allow for a consistent fixed revenue which is dedicated to predominately fixed maintenance charges. Typically, fixed service charge revenue shall account for 20% to 30% of total revenue or fixed expenses ratios. Details were described in Section 6.
3. Implement an energy charge to cover the cost to pump water throughout the District.
  - a. Energy charges are a charge associated with delivering water to higher elevations or from a common source like a treatment plant or groundwater wells. Details were described in Section 7.

4. Reserves are a fourth way to increase revenues.
  - a. Sustained use of reserves is not recommended. They should be used for a limited duration and with a requirement to replenish the reserve once the special circumstance lapses. Our reserve policy defines when a specific reserve fund may be used and how it should be replenished.

As stated previously, the District's revenue stream through water sales, fixed and variable revenue along with recently accrued reserves is insufficient to cover Operation & Maintenance and Capital Expenses of the District for the next three years, after which, mounting CIP expenses will require increased revenue through one or more of the methods described above.

It should be noted that the District's groundwater production is critical to allowing the District's revenue to keep pace with the gradual increase of expenses, and any limitations to production will require the District to use reserves to fill the shortfall and make decisions to fill the revenue gap through the methods outlined above.

Possible Causes of Groundwater Production Limitations are:

1. Loss of supply (low water table elevation).
2. Water Quality degradation, water not able to meet public health standards.
3. Regulatory control due to the State Groundwater Sustainability Act
4. Legal challenges to pumping volume.

A groundwater report was issued in May of 2019 that outlined cost benefit analyses of four different methods to increase or improve groundwater production. The Board has options available with varying levels of cost to both increase groundwater production and groundwater quality which can be gradually implemented over time.

## **Conclusion:**

All water agencies are looking for ways to diversify water supply and stabilize costs. From developing groundwater sources, to utilizing recycled wastewater, to recapturing storm water to augment raw water supplies. Most all agencies have implemented asset management plans to keep facilities in good repair. This is all while experiencing lower water sales. The challenge going forward is to fund water supply improvements as well as “Operations, Maintenance, Capital Replacement amid continued administrative and regulatory requirements”. The financial paths are varied, and the revenue sources are limited. A prudent path I propose is to focus on the District’s meter service charge, groundwater production, keeping pace with our wholesale rate increases through pass-through rate increases and using a smart, flexible and sustainable asset replacement approach. All while maximizing our secondary revenue sources.

To start on the path of increasing fixed revenue to pay for fixed expenses at the 30 percent level, I would propose that the District start in FY 2023-2024 to increase the meter service charge 25 percent each calendar year over a 5-year period with a target of just less than the 40<sup>th</sup> percentile of the average meter charge county wide. This plan would add \$1.76 Million over the five-year term to pay for “Capital Improvement/Replacement” per the Asset Management Plan, to a sustainable 80% of the planned spending levels. 100% funding is not necessary due to the fluctuations of actual replacement activity. With a flexible plan, adjustments can be made in the timing of projects to allow for engineering, scope and operational adjustments. This plan would involve holding a public hearing in the Fall of 2023 to support the 2023-24 budget year.

We can be certain that as with most everything else, the cost of water will continue to increase. Many variables are involved with most out of our hands. At best, rate setting is a moving target. But with a strategy that is comprehensive and responsible, and takes into account the many legal requirements we are required to comply with, we can fulfill our mission and responsibilities to deliver water that is safe and aesthetically pleasing through well maintained District facilities at the lowest cost possible to the community of Lakeside for generations to come.