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# ADOPTED LONG-RANGE FINANCING PLAN 2021



Our Region's Trusted Water Leader  
**San Diego County Water Authority**

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## EXECUTIVE SUMMARY

With time horizons for water supply development, capital investment, and capital financing that extend up to forty years, successful water industry management requires effective long-term planning. The Water Authority's long-term implementation strategies for increasing water reliability for the San Diego region are guided by the Board's Vision and Values and the Water Authority's Business Plan, Urban Water Management Plan, Regional Water Facilities Master Plan, and Long-Range Financing Plan (LRFP).

With the completion of several landmark construction projects, the Water Authority transitioned from an organization focused on constructing new facilities to an organization focused on the operations and maintenance of existing facilities. Looking forward, the Capital Improvement Program (CIP) is driven by the Water Authority's Asset Management Program, which includes the Water Authority's pipeline relining program and infrastructure rehabilitation projects. The Asset Management Program seeks to optimize asset Renewal and Rehabilitation (R&R) decisions.

The primary goal of the Water Authority's LRFP is to support the long-term fiscal sustainability of the Water Authority. It identifies the financial policies that guide the Water Authority's prudent management of financial risk, and outlines how the Water Authority plans to finance the CIP. It also provides details regarding key underlying assumptions and provides long-term financial forecasts for Fiscal Years 2022-2031. This document was last updated in 2015. The 2021 LRFP will provide updated financial information to stakeholders. The remainder of this executive summary highlights the development process of the LRFP, the important features of this update, and contains brief summaries of each remaining chapter of the LRFP.

### Development of the 2021 LRFP

The 2021 LRFP has been developed with input from the Financial Strategy Work Group (FSWG), member agency managers, member agency finance officers and staff, in coordination with the Water Authority's staff. The FSWG was formed in 2021 and is comprised of Water Authority Board Members and member agency managers. The development of the 2021 LRFP was structured to provide opportunities for member agency review and input at both the staff and Board levels. Development and review meetings included the following:

- ▶ June 29, 2021 – Financial Strategy Work Group Meeting – development schedule, overview, credit ratings, CIP, water demand, and MWD rate forecasts presented for review, discussion and input
- ▶ July 8, 2021 – Special Member Agency Managers and Finance Officers Meeting – development schedule, overview, credit ratings, CIP, water demand, and MWD rate forecasts presented for review, discussion and input
- ▶ July 12, 2021 – Financial Strategy Work Group Meeting – review and discussion of CIP, credit review, capital funding sensitivity, water demand sales forecast and MWD rate forecast, and discussion of preliminary results for review and input
- ▶ July 13, 2021 – Member Agency Managers Meeting – review and discussion of CIP, credit review, capital funding sensitivity, water demand sales forecast and MWD rate forecast, and discussion of preliminary results for review and input

- ▶ July 22, 2021 - Administrative and Finance Committee - update on preliminary development of 2021 LRFP
- ▶ July 30, 2021 - Financial Strategy Work Group Meeting - guidance from financial advisors, development of baseline scenario, general assumptions, one, two, and three debt issuance scenarios, water demand forecast (high/low) for review, discussion, and input
- ▶ August 12, 2021 - Administrative and Finance Committee - presentation of Draft 2021 LRFP with review and discussion on LRFP overview, credit ratings and financial advisor guidance, and optional scenarios
- ▶ August 26, 2021 - Administrative and Finance Committee - presentation of Draft 2021 LRFP
- ▶ August 27, 2021 - Financial Strategy Work Group Meeting - LRFP follow-up discussion
- ▶ September 13, 2021 - Financial Strategy Work Group Meeting - LRFP follow-up from meetings with City of San Diego staff
- ▶ September 23, 2021 - Administrative and Finance Committee - presentation of Recommended 2021 LRFP, Formal Board Meeting - Adoption of 2021 LRFP

In addition to the meetings above, Water Authority staff met with staff from the City of San Diego, Helix Water District, Otay Water District, and Sweetwater Authority to discuss considerations that are incorporated into the LRFP.

## 2021 Long-Range Financing Plan Update

### Affordability

The Water Authority's long-term financial management, including budgeting, rate setting, and rate guidance continue to aim for long-term affordability for member agencies and ratepayers. During Fiscal Years 2020 and 2021, the Water Authority's debt management strategy saved ratepayers across the region approximately \$130 million due to the execution of five tax-exempt and taxable refundings of outstanding debt. During this same period, the Water Authority implemented mid-term budget savings, to save approximately \$44.5 million in Fiscal Year 2021. This was done through coordinated efforts of deferring capital projects, rescheduling equipment replacement, and maintaining vacant staff positions.

For Fiscal Years 2022 and 2023 the Water Authority continued these efforts with the development of the two-year budget. The Fiscal Years 2022 and 2023 Adopted Budget includes the elimination of 7 full-time equivalents, along with a reduction in outside services and minimized travel. In addition, equipment and capital projects were evaluated for potential deferrals to minimize the impact of day-to-day operations. With the consideration for savings, the budget for Fiscal Years 2022 and 2023 is an overall 0% change from the prior two-year period. The Water Authority will continue to evaluate for savings throughout the budget period.

During Winter 2020 and throughout 2021, the Water Authority has played a leadership role in advocating for a state framework for distribution of state and federal funds allocated for water and wastewater bill debt relief associated with the COVID pandemic. Ratepayers throughout California have amassed nearly \$1 billion in water and wastewater bill debt as a result of economic impacts associated with the COVID pandemic - more than \$50 million in water and wastewater arrearages has accrued in San Diego



County alone. Partnering closely with our industry associations and water supplier colleagues throughout the state and San Diego region, the Water Authority was actively engaged in the successful efforts to secure \$985 million in water and wastewater bill debt relief through the State Budget, along with the establishment of a statutory framework and structure to allocate those funds directly to water suppliers to offset water bill debt beginning in November 2021.

Additionally, the Water Authority was actively engaged throughout the 2021 legislative session on SB 222 by Senator Bill Dodd, a measure intended to create a statewide framework for a low-income water rate assistance program. On an ongoing basis, nearly one-third of the state's water ratepayers struggle with their ability to pay water bills on a month-to-month basis, and SB 222 would create a statutory framework and structure to ensure that those in need of water rate assistance are afforded the opportunity to receive the financial support necessary from the state. The Water Authority was an early supporter of the low-income water rate assistance program concept within the water supplier community, and has actively engaged to ensure the program is properly structured and funded to provide meaningful benefits to water ratepayers.

While the Water Authority works diligently to control and manage its own costs, it has little control over MWD costs, which account for almost half the Water Authority's overall supply cost. MWD's long-range finance plan has not been updated since 2004. MWD staff states that its 10-year rate forecast included in its biennial budget document serves the purpose of a long-range finance plan. However, MWD's current 10-year forecast does not include projected capital costs of planned, multi-billion-dollar projects MWD has identified as necessary to support its long-term water supply reliability, including a Bay Delta fix and a regional recycled water program. While annual MWD water sales have declined by more than 500,000 acre-feet since 2010, MWD has not materially adjusted its budgets to address the impact of reduced water sales. For Fiscal Year 2021, despite lower than budgeted water sales, MWD ended the year with a net revenue increase of \$193.7 million, allowing the addition of \$146.9 million to its unrestricted reserves during the COVID-19 pandemic.

The Water Authority has been successful in limiting MWD's water rate increases by ensuring that MWD can only charge lawful rates to San Diego County ratepayers. Refunds, plus interest, to the Water Authority from MWD have been ordered by the courts, and these legal rulings have now resulted in over \$80 million to date that MWD has returned, thus benefitting water ratepayers in our region. Additionally, increased water rights at MWD for the Water Authority have been granted by the courts, resulting in further benefits for San Diego County.

MWD recently appointed Adel Hagekhalil as its new General Manager. The Water Authority and its four MWD board representatives are working with the new General Manager and other member agencies seeking reform of these past practices in order to provide a sustainable, resilient and affordable water supply for all MWD member agencies and their customers. While the Water Authority has significantly reduced its dependence on MWD water, it has a substantial investment and abiding interest in MWD's future success. During the current biennial budget cycle, the Water Authority was instrumental in working with other MWD member agencies to impose a first ever moratorium on non-emergency spending, generally allowed previously, which had caused MWD to shift its PAYGO use and issue unplanned debt.

The Water Authority is also actively engaged in a newly formed MWD Member Agency Underserved Communities Caucus, to advocate water supply affordability and stewardship programs in order to address Southern California underserved communities' needs.

## COVID-19 Impacts

The outbreak of the novel coronavirus SARS-CoV-2 (“COVID-19”) in December 2019 has become a worldwide pandemic and has caused significant disruptions to the conduct of day-to-day business in the United States and internationally. COVID-19 has had and continues to have significant adverse public health and financial impacts at the national, state and local level. The COVID-19 pandemic has had an adverse effect on, among other things, the world economy, global supply chain, travel and a number of travel-related industries. The outbreak has also negatively affected commerce, asset values and financial markets globally, and is widely expected to continue to negatively affect economic output worldwide and within the State and the County. Unemployment in the United States dramatically increased as a result of the pandemic. In addition, stock markets in the U.S. and globally saw significant declines in 2020 that have been attributed to coronavirus concerns. Federal and state governments (including California) have enacted legislation and have taken executive actions designed to mitigate the negative public health and economic impacts of the outbreak.

The Water Authority has proactively implemented measures intended to mitigate operational and financial impacts from COVID-19, including hiring freezes, except for specific mission critical positions, and deferring non-essential discretionary spending. In addition, the Water Authority transitioned office staff to remote work to limit transmission among office personnel while supporting continued uninterrupted water delivery to our Member Agencies.

The Water Authority does not currently anticipate a significant future impact to its operations or financial position as a result of COVID-19. Nonetheless, the Water Authority cannot predict (i) the duration or extent of the COVID-19 outbreak or other outbreak or pandemic; (ii) the duration or expansion of governmental restrictions; (iii) the severity of the COVID-19 pandemic; (iv) what effect any COVID-19 or other outbreak/pandemic-related restrictions or warnings may have on the economy, the County or the Water Authority; (v) whether and to what extent the COVID-19 outbreak or other outbreak or pandemic may disrupt the local or global economy, manufacturing or supply chain, or whether any such disruption may adversely impact Water Authority-related construction or other operations; (vi) the ultimate geographic spread, as well as with regard to what actions may be taken by governmental authorities to contain or mitigate its impact; (vii) the extent to which the COVID-19 outbreak or other outbreak or pandemic, may result in changes in demand for water, or may have an impact on water customers or suppliers or the water industry, generally; (viii) whether or to what extent the County or its municipalities may provide deferrals, forbearances, adjustment or other changes to the County’s or its municipalities’ arrangements with its customers; (ix) whether Federal and state governments (including California) legislative and executive actions will have the intended effects; or (x) whether any of the foregoing may have an adverse effect on the finances and operations of the Water Authority.

## Regional Conveyance System Study

Through the 2003 Quantification Settlement Agreement (QSA), the Water Authority receives approximately 280,000 acre-feet of cost-effective, highly reliable conserved Colorado River supplies each year. Because the Water Authority does not have a direct connection to the Colorado River, it pays MWD to deliver it via a separate agreement. The Water Authority evaluated alternative conveyance of its QSA supplies directly from the Imperial Valley to the San Diego region via a new pipeline as part of past studies and in conjunction with Regional Water Facilities Optimization and Master Plan efforts. This current two-phase study is building upon previous work to further evaluate the technical and economic

feasibility of a regional conveyance system and evaluate potential partnership opportunities that could yield multiple benefits to the Southwest and support the Governor's Water Resilience Portfolio. Phase A, completed in August 2020, focused on engineering and cost, and showed that the proposed project is technically viable and economically competitive with other options and identified several partnership opportunities. In November 2020, the Board authorized proceeding with Phase B which is focusing on economics, partnerships, and stakeholder outreach. Phase B is scheduled to be complete in June 2022 at which time the Board will consider any potential next steps. No funds beyond Phase B are included in the 10-year CIP forecast or LRF.

### Member Agency Detachment

Fallbrook Public Utilities District (FPUD) and Rainbow Municipal Water District (RMWD), two member agencies at the north end of the Water Authority service area, have each filed applications with the San Diego Local Agency Formation Commission (LAFCO) to detach from the Water Authority and annex into Eastern Municipal Water District in Riverside County (EMWD). FPUD and RMWD collectively represented approximately 6.0% (approximately \$35 million) of the Water Authority's fiscal year 2020 gross receipts from water sales.

The Water Authority anticipates that there will be an extensive, possibly multi-year, process for LAFCO to review the requests for detachment and to reach a decision, and the Water Authority expects that the results of the LAFCO proceeding will require some form of voter approval.

Due to the unprecedented nature of detachment requests, the LAFCO process, and changes in law since the enactment of the County Water Authority Act, the Water Authority cannot predict – and no assurance can be given regarding – what the outcome, or effects, will be of the detachment process.

### 2021 LRF Update

#### ***Highlights Capital Improvement Program Focus of Asset Management and System Optimization.***

The Water Authority's CIP peaked with the construction of major water infrastructure projects in 2007. The forecasted CIP reflects a shift from major construction projects to asset management and optimization of the existing aqueduct system. As part of the Long-Range Financing Plan process the CIP was prioritized, and facilities were identified for rehabilitation or replacement over the LRF planning period for Fiscal Years 2022-2031. The Capital Improvement Program section details the focus of the Water Authority's CIP and plans for asset management and system optimization.

#### ***Addresses Financial Impacts of Water Supplies and Regional Water Sales Projections.***

Within the Water Authority's service area, water demand is divided into two basic categories: Municipal and Industrial (M&I) and agricultural water. The baseline sales forecast reflects current hydrological, weather, and demand conditions. Also included are estimated impacts associated with weather, economic and population factors, water saving projections from conservation efforts and member agency local supply use. The LRF also considers impacts to forecasted water sales from verifiable local supply projects as identified in the Water Authority's 2020 Urban Water Management Plan. The Regional Water Sales Projections section provides further details of the water demand and sales forecast. The Financial Forecast section incorporates the impacts of forecast water sales volumes, increased rates from the Water Authority's main supplier, Metropolitan Water District of Southern California (MWD), and deliveries of desalinated water. Finally, the Rate Guidance Drivers and



Sensitivities section, analyzes the potential volatility in net revenues that could result from various key forecasting variables, most notably demand volatility.

***Provides Additional Information Regarding Key Assumptions, Sensitivity Analyses, and Non-Bonded Liabilities.***

Water sales projections and CIP expenditures drive LRFP financial projections. Sections on Regional Water Sales Projections and the Capital Improvement Program, describe these key assumptions. In addition, the Rate Guidance Drivers and Sensitivities section looks at potential exposure to variations in five key inputs. Finally, though the Water Authority’s unfunded pension and retiree health care costs are small relative to total outstanding debt, a detailed description of these liabilities is included in the Appendix for reference.

**LRFP Section Descriptions**

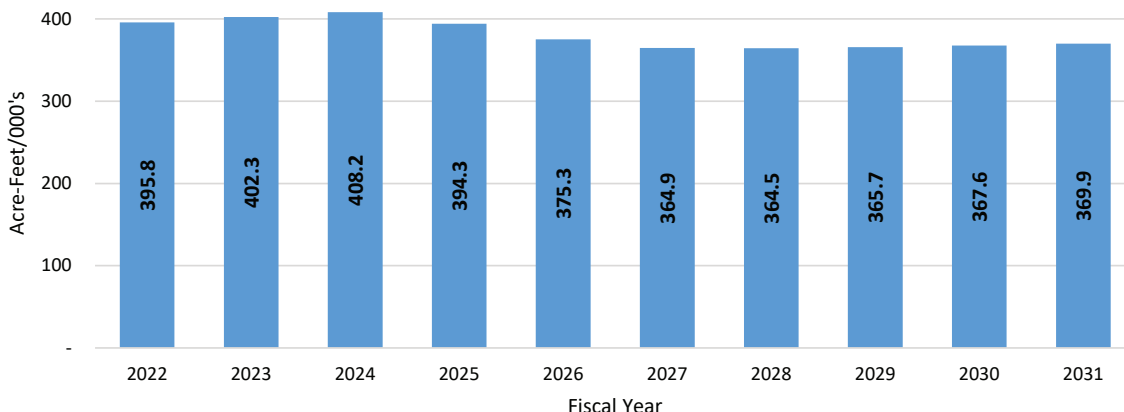
**Financial Management Objectives and Policies**

This section describes the Water Authority’s capital financing and reserve policies; discusses these policies as tradeoffs between the financial management objectives of cost efficiency, predictable rates, and intergenerational equity; and elaborates on the Water Authority’s strong credit ratings from Standard & Poor’s, Fitch Ratings, and Moody’s Investor Service. It is important to note that these policies are not driving the forecasted rate guidance. Rate guidance is overwhelmingly driven by projected cost increases from MWD and demand volatility, including development of local supplies. When isolated, increases from MWD are directly responsible for 40-45% of the high/low increases.

**Regional Water Sales Projections**

This section describes the Water Authority’s long-term water sales forecast (see Chart 1-1). It provides additional detail to the breakdown in sales volumes among customer classes, highlights the local and imported supply sources being developed, and the projected year 2030 supplies. The forecast includes the estimated impacts associated with weather, economic and population factors, water savign projections from conservation efforts by the Water Authority and its member agencies, and member agency local supply use. Lastly, the section discusses the various challenges facing the State Water Project (SWP), supply augmentation, and the Water Shortage Contingency Plan (WSCP).

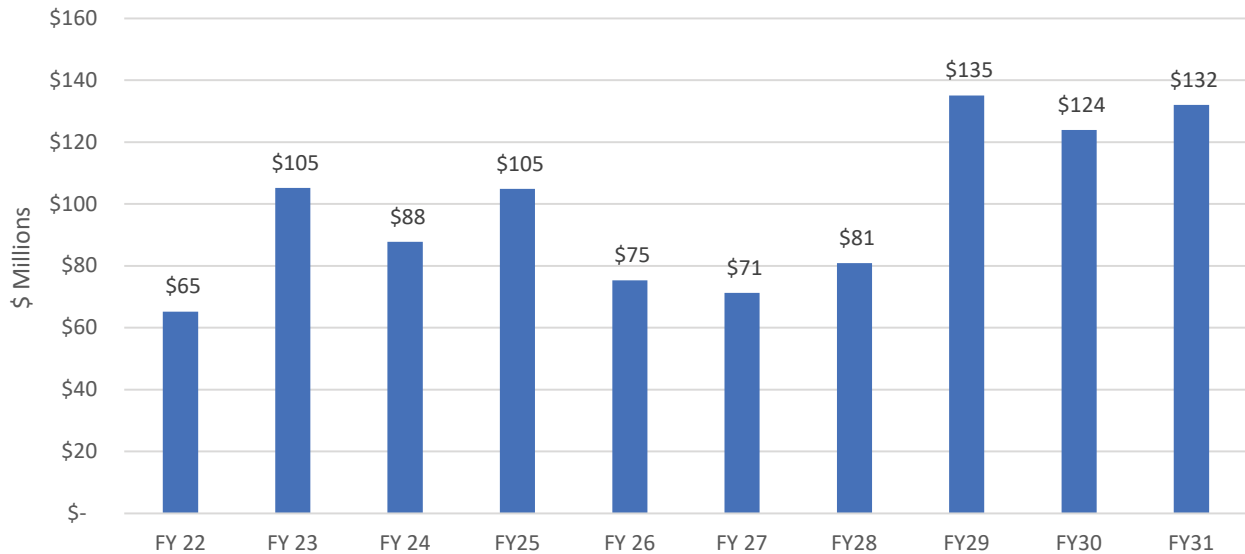
**Chart 1-1: Water Sales Forecast**



### Capital Improvement Program

This section describes various elements of the Water Authority’s CIP. It summarizes the current adopted CIP of \$1.5 billion by category and discusses the \$982 million projected expenditures over the next ten years (Fiscal Years 2022-2031). It also provides information demonstrating the Water Authority’s track record of CIP execution. Chart 1-2 shows a projection of CIP expenditures during the planning period.

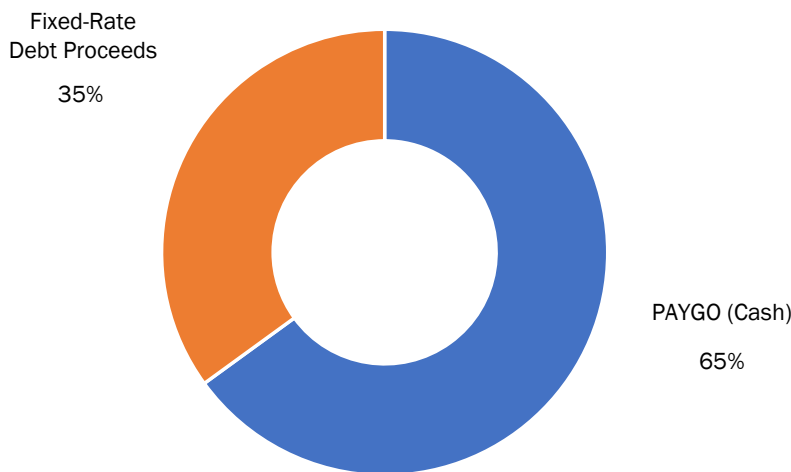
**Chart 1-2: Projected Annual CIP Expenditures**



### Capital Financing Plan

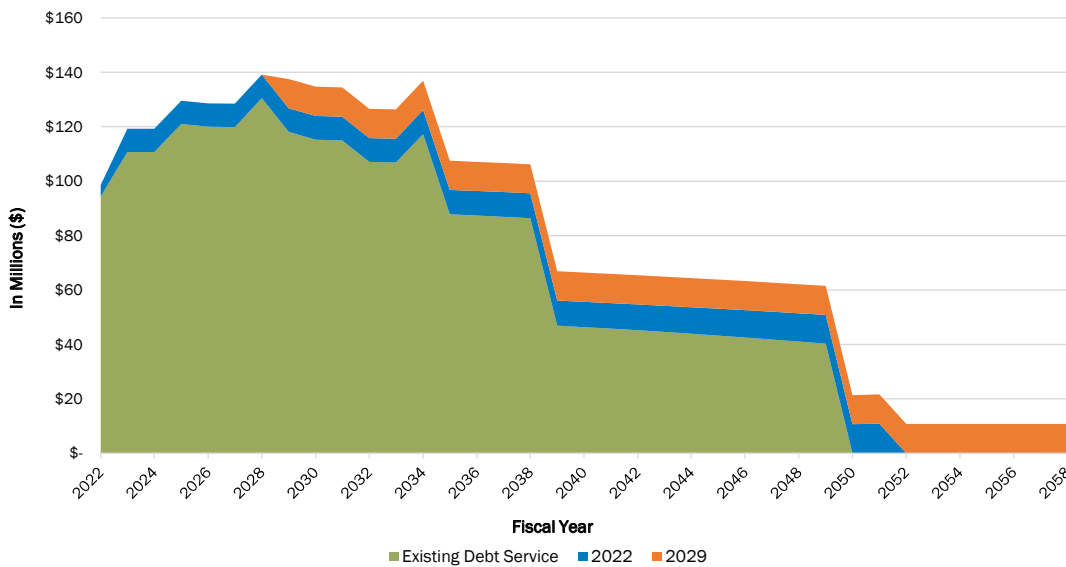
This section provides a detailed overview of the debt instruments the Water Authority anticipates using to finance the CIP and the methodology used to optimize the long-term financing mix (Chart 1-3). The outstanding \$1.8 billion in long-term and short-term debt; and projections of all future debt necessary to completely fund the Water Authority’s existing CIP (Chart 1-4).

**Chart 1-3: Long-Term Target Capital Financing Mix\***



\*Mix reflects the full 10-year period and with actual results varying year to year based on the current needs.

Chart 1-4: Existing & Projected Debt Service

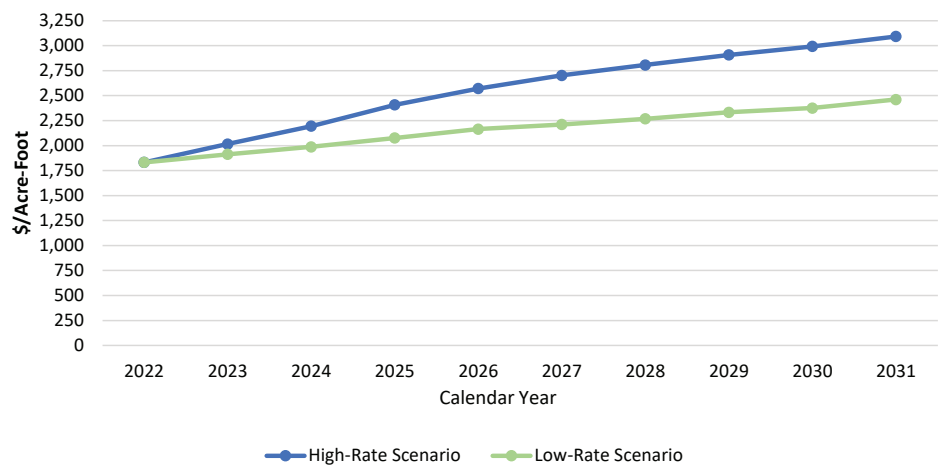


### Water Authority Financial Forecast

This section demonstrates the overall feasibility of the Water Authority’s capital financing plan. It provides a brief description of the Water Authority’s rates and charges, highlighting the Water Authority’s fixed revenue sources. The comprehensive ten-year projection of sources and uses of funds incorporates the impact of all debt projected to be issued during the planning period. Both rate and debt service coverage projections demonstrate that the Water Authority can prudently implement the CIP with a manageable long-term growth in water rates over the planning period.

High and low rate and charge forecasts for Municipal and Industrial (M&I) customers have been developed to provide guidance on the anticipated trends in rates and charges. The high rate and charge projection is based upon a low water sales outlook, a high rate forecast for MWD’s rates and higher than expected operating and CIP costs. The low rate projection is based upon higher water demands, lower MWD rates, and a lower than expected operating and CIP funding levels. All of the financial projections presented in the LRF are based upon the expected or baseline rate forecast, which is generally between the high-rate and the low-rate forecasts. Chart 1-5 shows that over the planning period the high-rate and low-rate forecasts projects a compounded annual growth in M&I rates of 6.0% and 3.3%, respectively.

Chart 1-5: Projected M&I All-In Water Rates



High and low rate and charge forecasts for Municipal and Industrial (M&I) customers have been developed to provide guidance on the anticipated trends in rates and charges. The high rate and charge projection is based upon a low water sales outlook, a high rate forecast for MWD’s rates and higher than expected operating and CIP costs. The low rate projection is based upon higher water demands, lower MWD rates, and a lower than expected operating and CIP funding levels. All of the financial projections presented in the LRF are based upon the expected or baseline rate forecast, which is generally between the high-rate and the low-rate forecasts. Chart 1-5 shows that over the planning period the high-rate and low-rate forecasts projects a compounded annual growth in M&I rates of 6.0% and 3.3%, respectively.



**Chart 1-6: Projected Senior Lien Debt Service Coverage Ratio**

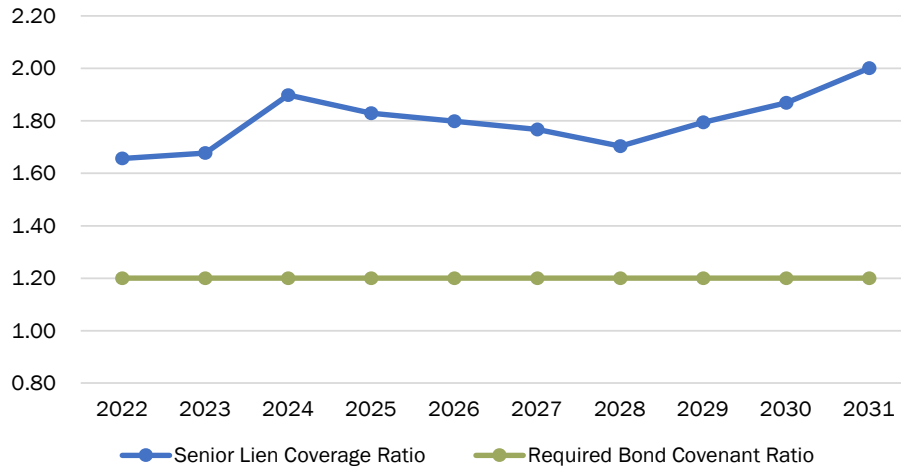
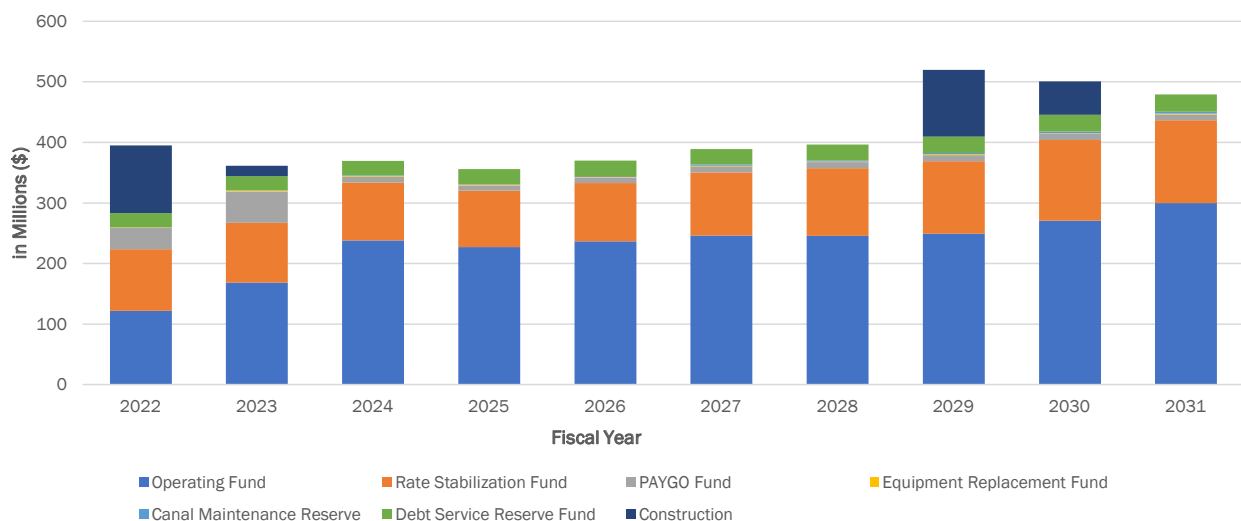


Chart 1-6 shows that projected senior lien debt service coverage during the planning period will safely exceed the Board-established target of 1.50 times and the required bond covenant ratio of 1.20 times. Actual coverage will fluctuate; however, exceeding the 1.50 times level in the baseline forecast provides future financial flexibility and desired resilience.

### Funds and Reserves

This section describes the Water Authority’s seven major operating and capital funds, their authorized uses, Board-approved funding policies, and projected cash balances. The Water Authority maintains reserves of at least 45 days of average annual operating expenses, with \$5 million held for emergency funding. Additionally, a Rate Stabilization Fund (RSF) is maintained to smooth rate fluctuations and can be used to maintain debt coverage levels. Given better than expected sales in Fiscal Year 2021, the RSF balance is expected to remain relatively flat, with only minor draws or additions forecasted to maintain policy levels and future flexibility. Following years of reserve utilization, primarily from PAYGO, the projections in this section, summarized in Chart 1-7, demonstrate that the Water Authority will continue to have sufficient liquidity to meet both its operating and capital investment commitments.

**Chart 1-7: Projected Year End Fund Balances**



## Rate Guidance Drivers and Sensitivities

This section analyzes the Water Authority's primary drivers to the Water Authority's High/Low Rate Guidance, including exposure to variability in water sales volumes, MWD rates and charges forecasts, cost of desalinated water, and changes in capital construction and O&M costs. This sensitivity serves as the basis behind the high and low rates presented previously in Chart 1-5. As with all water utilities, the Water Authority is exposed to a mix of financial risks during the LRF planning period that are common to most water agencies. As part of its continuous improvement efforts, the Water Authority actively evaluates and prepares for different types of risk. Table 1-1 illustrates the forecasted net financial impact of a 10% variance between actual and budgeted water sales.

**Table 1-1: Scenarios for Possible M&I Water Sales Variance**

Sales Volatility Impact	Unit Cost	10% Less Sales	10% Greater Sales
M&I Sales Variance (AF)	-	(36,000)	36,000
PSAWR Sales Variance (AF)	-	(3,600)	3,600
<b>Expenditures Impact</b>			
MWD Tier 1 Full Service	\$799	(\$31,640,400)	\$31,640,400
MWD Treatment	\$344	(\$13,622,400)	\$13,622,400
Transportation	-	\$0	\$0
<b>Revenues Impact</b>			
Melded Supply Rate	\$1,009	(\$36,324,000)	\$36,324,000
PSAWR Supply Rate	\$799	(\$2,876,400)	\$2,876,400
Melded Treatment Rate	\$310	(\$12,276,000)	\$12,276,000
Transportation Rate	\$173	(\$6,850,800)	\$6,850,800
<b>Net Impact</b>			
<i>Supply Impact</i>	-	(\$7,560,000)	\$7,560,000
<i>Treatment Impact</i>	-	\$1,346,400	(\$1,346,400)
<i>Transportation Impact</i>	-	(\$6,850,800)	\$6,850,800

## Appendices

This section provides detailed information regarding the Water Authority's outstanding bonded debt as well as its non-bonded obligations. These include Quantification Settlement Agreement (QSA) - related environmental and socioeconomic mitigation payments, Defined Benefit Pension Plans and Other Post-Employment Benefits (OPEB). Table 1-2 on the following page displays the Water Authority's bonded debt and other liabilities as of June 30, 2020.

**Table 1-2: Bonded Debt & Other Liabilities as of June 30, 2020**

	(in millions \$)
Water Revenue Bonds	\$1,706.1
Certificates of Participation	\$25.5
Commercial Paper	\$345.0
Unamortized Bond Premiums	\$151.9
Pension	\$64.9
QSA Environmental Obligations	\$9.2
Compensated Absences and Arbitrage Rebate	\$7.8
OPEB	-
<b>Total</b>	<b>\$2,310.4</b>

Table 1-2 does not list the long-term QSA and desalination water supply contract costs. Those contracts are financial obligations of the Water Authority whose costs are generally recovered through water sales, along with the costs of MWD water supplies when MWD water is purchased. All these obligations are included in the "Water Purchases" category in Table 6-4 and in the discussion of Water Purchases.

## Conclusion

Since 1991, when drought conditions threatened the San Diego region with mandatory supply cutbacks, the Water Authority has made tremendous progress in improving water reliability through supply diversification and facilities improvements. Long-range supply, facilities, and financial planning have been central to this success. The 2021 update of the Water Authority's LRFP marks another execution milestone. Anchored in the principles of prudent financial management, the LRFP promotes transparency, providing all stakeholders with a clear picture of Water Authority finances now and in the future. The 2021 LRFP key conclusions are: an estimated \$335.0 million in new debt will be issued during the LRFP planning period; the high and low rate and charge projections illustrate both feasibility and affordability of the CIP; and the recommended policy enhancements support the Water Authority's long-term fiscal sustainability.

For additional information, please contact: San Diego County Water Authority, Finance Department, 4677 Overland Avenue, San Diego, CA 92123.

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## FINANCIAL MANAGEMENT OBJECTIVES AND POLICIES

The Water Authority's financial management objectives and policies support the Water Authority's overarching strategic goals. These overarching goals are incorporated into the Water Authority's 2021-2025 Business Plan which aligns resources and provides a "roadmap" for achieving its mission of providing a safe and reliable water supply for the region. The Long-Range Financing Plan (LRFP) contains goals, objectives, and policies that promote the prudent management of financial risks and ensure a sustainable financial infrastructure for the Water Authority. The Credit Rating and Investor Relations Program contains goals, objectives, and strategies for marketing the Water Authority's credit to key stakeholders in the financial community.

In charting a course of prudent financial management, the Water Authority developed several key policies, which are contained in this LRFP. In 2006, following the recommendations of the Rate Model Working Group (RMWG) and Administrative and Finance Committee, the Board amended the Water Authority's financial policies regarding the Rate Stabilization Fund (RSF) and Debt Service Coverage Ratio (DSCR). As part of the amendments, the Board established a target funding level for the RSF that better protects the Water Authority against the financial impact of 2.5 years of wet weather or mandatory restrictions, and established a maximum fund balance equal to the financial impact of 3.5 years of wet weather or mandatory restrictions. In addition, it established a senior lien target DSCR of 1.50 times and provided the authority to establish separate funds for known, specific future expenses such as stored water purchases.

In today's challenging water supply environment, the Water Authority must focus on the goal of maintaining long-term fiscal sustainability and align financial policies and objectives to support that goal. In 2012, the Fiscal Sustainability Task Force (FSTF) was established by the Board to evaluate the Water Authority's long-term fiscal sustainability. The FSTF completed its work at the March 2014 Board meeting. At that meeting, the Administrative and Finance Committee was charged with developing a recommendation that addressed all of the outstanding fiscal sustainability items identified by the FSTF in a comprehensive manner.

In March 2015, the Board approved a comprehensive recommendation, that when viewed in its entirety, reflected a balanced and equitable approach to changes in the rate and charge structure, and achieves the goals of fiscal sustainability. The adopted recommendations were to implement a Supply Reliability Charge, allocate non-commodity revenues to all rate and charge categories, allocate the debt and equity payments for the Carlsbad Desalination project to the Melded Supply Rate, and extend the Transitional Special Agriculture Water Rate through 2020.

In June 2018, the Board approved a modification to the RSF calculation, which was largely driven by improvements in water use efficiency. The RSF calculation was modified to be calculated based on a 15% reduction in water sales, down from 25%.

To continue long-term financial stability of the Water Authority, the Board voted to reconstitute the FSTF in 2019. With recommendations from the 2019 FSTF the Board adopted a Permanent Special Agricultural Water Rate in November 2019 and incorporated an increase to the Infrastructure Access Charge for Calendar Year 2021 Rates and Charges. After the FSTF concluded their work, a Financial Strategy Work Group (FSWG) was formed by the Board in 2021. The FSWG is comprised of Board Members and member agency managers.



Together the Water Authority's rate and charge structure and reserve policies act to reduce revenue volatility, provide smooth and predictable rates and charges, and protect against wet weather and mandatory restrictions. Furthermore, the strengthened key financial ratios support the maintenance of the Water Authority's AAA/AA+/Aa2 credit ratings and access to lower interest rates. More detail related to these and other policies involving capital financing and reserve levels are discussed further in this section.

The aim of this section is threefold:

- ▶ Describe key Water Authority financial policies, the Financial Guiding Principles, and the Comprehensive Independent Cost of Service Reviews.
- ▶ Provide a context for understanding the policies in terms of financial management objectives.
- ▶ Present the Water Authority's credit ratings.

## Key Water Authority Financial Policies

The Water Authority's financial policies cover a range of diverse activities. For the purpose of long-range financial planning, those relating to capital financing and reserve levels are of particular importance. The following section describes in more detail each of the Water Authority's key financial policies and guiding principles.

### Capital Financing Policies

- ▶ Debt Service Coverage Ratio (DSCR)
- ▶ Fixed/Variable-Rate Debt Mix

### Reserve Policies

- ▶ Operating Fund
- ▶ Rate Stabilization Fund

### Financial Guiding Principles

#### Capital Financing Policies

##### Debt Service Coverage Ratio

The DSCR measures the availability of current financial resources to pay for debt service. It is the ratio of the most recent year's net revenues divided by the most recent year's debt service. For example, a DSCR of 1.00 means that after paying all operating expenses, an issuer has exactly enough funds to pay its debt service obligations.

The DSCR is a key metric used by credit rating agencies and investors to assess the credit worthiness of an issuer. In this way it is similar to the income to loan ratio used in qualifying for a home mortgage. All other things being equal, a higher DSCR means less borrowing, better credit ratings, and a lower cost of debt. Conversely, a lower DSCR means more borrowing, lower credit ratings, and more expensive debt.

The Water Authority’s General Resolution is the document governing outstanding debt issues. In this document, the Water Authority contractually commits to setting rates so as to maintain a minimum DSCR of 1.20 times on senior lien debt. The Water Authority also covenants to maintaining net revenues of at least 1.00 times on all outstanding obligations.

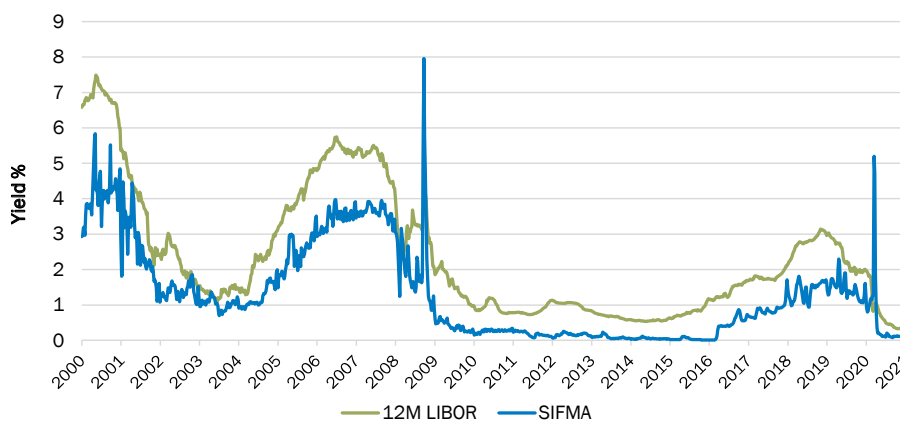
**Senior Lien Debt Service Coverage Ratio Target**

Highly-rated issuers generally have DSCR’s that exceed the covenanted levels. In 2006, the Water Authority’s Board adopted a DSCR policy target of 1.50 times. This DSCR target provides levels appropriate to preserve the long-term financial integrity of a ‘AA’ rated agency. The Water Authority’s DSCR policy target of 1.50 times remains unchanged, per Board Adoption of the 2021 Long-Range Financing Plan. In addition to this 1.50 times policy target, the Board also adopted another policy target of 1.00 times on senior lien debt net of capacity charge revenues.

**Fixed/Variable-Rate Debt Mix**

Fixed/variable-rate debt mix refers to the relative amount of fixed- and variable-rate debt an agency has outstanding. Over any significant period of time, variable-rate debt has outperformed long-term fixed-rate debt. For this reason, variable-rate debt is an important part of any capital financing plan. With these lower rates, however, comes added interest rate volatility. Chart 2-1 shows the variability of certain short-term rate indices since 2000. As can be seen, within any given year, the cost of variable-rate debt can rise or fall significantly and can put pressure on annual debt service budgets. In the larger financial context, variable-rate debt provides a natural hedge against changes in investment earnings. On a net basis, interest expense on the portfolio of outstanding debt and invested cash balances will be more volatile with a 100% fixed-rate debt portfolio than with some mix of variable and fixed-rate debt. For this reason, a moderate level of variable-rate exposure is viewed as a prudent financial decision.

**Chart 2-1: Changes in Short-Term Interest Rates Over Time (as of July each year)**



*SIFMA - Securities Industry and Financial Markets Association - a seven-day high-grade market index comprised of tax-exempt variable rate demand obligations.*

*LIBOR - London Interbank Offered Rate - a benchmark interest rate index for adjustable rate mortgages, business loans, and financial instruments.*

The Water Authority’s fixed/variable-rate debt mix will vary over time depending on the schedule of future debt issuance and the amortization of outstanding debt. For planning purposes, the percentage of outstanding debt that is variable-rate is limited to 30%. This is consistent with the level of invested reserves maintained by the Water Authority as well as credit rating agency guidelines.

## Reserve Policies

### Operating Fund

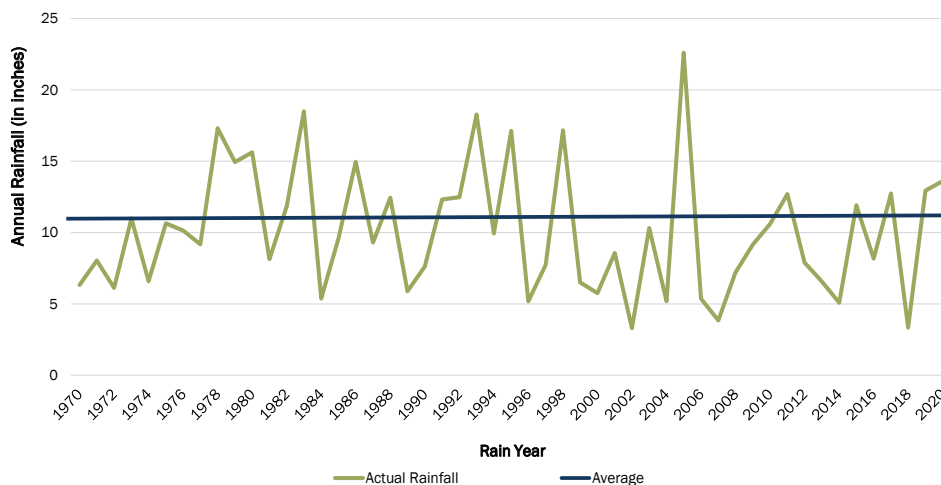
The most readily available Water Authority reserves are held in the Operating Fund. Described more fully in the Funds and Reserves section, the Operating Fund is intended to manage working capital requirements of the Water Authority. As such, it is sized at 45-days of average annual operating expense. \$5,000,000 of the Operating Fund is held for emergency repair purposes.

### Rate Stabilization Fund

In its examination of Water Authority financial policies, the 2006 RMWG looked at the overall levels of Water Authority financial reserves and reviewed funding policies for the Water Authority’s RSF. Water Authority financial advisors conducted a comparative analysis of national and statewide water agency financial reserves which highlighted a wide variation among agencies in the level of reserves, with reserves being driven by each agency’s particular situation.

In reviewing funding policies for the RSF, the RMWG characterized and quantified the financial risks actually facing the Water Authority - hydrology risk, interest rate risk, and capacity charge revenue risk. Hydrology risk refers to the decrease in sales volumes and net financial margin caused by either wet weather or mandatory drought restrictions. Interest rate risk refers to the change in net interest cost on the Water Authority’s portfolio of debt and investments. Capacity charge risk refers to the change in capacity charge revenue resulting from changes in development activity and the timing and number of new system connections.

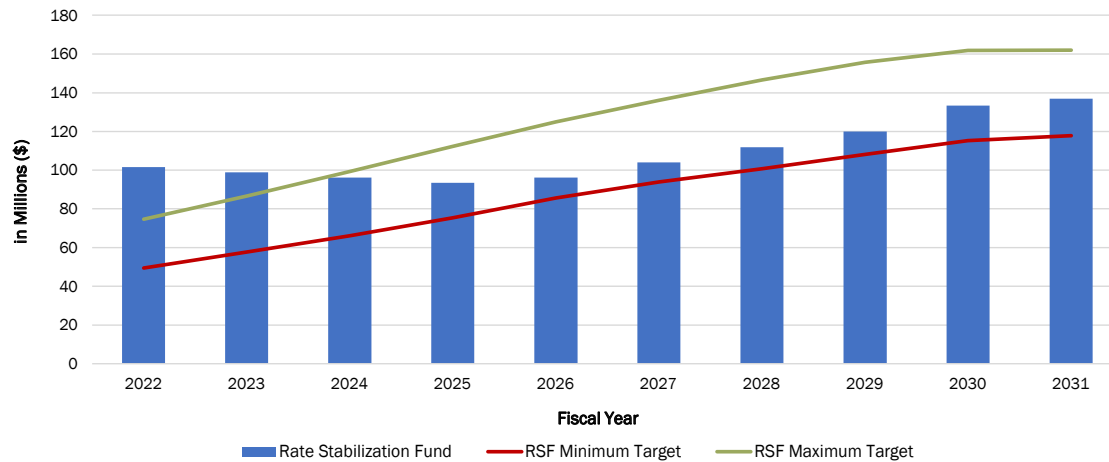
**Chart 2-2: Annual Rainfall - The Main Risk Driving the Size of the Water Authority’s Rate Stabilization Fund**



In 2006, the Board adopted funding policies for the RSF based on hydrology risk. Described more fully in the Funds and Reserves section, the funding policies establish target and maximum funding levels for the RSF equal to 2.5 and 3.5 years, respectively, of the net financial loss resulting from extreme wet weather or mandatory drought restrictions. The targets were based upon the analysis of historical rainfall. As shown in Chart 2-2, wet years tended to occur in “clusters” of two to three years with an average of 2.5 years, which is the basis for the target. The policy also identifies appropriate uses for RSF

monies including meeting debt service coverage targets, paying for operating expenses, and smoothing rates. Based on a recommendation from the Calendar Year 2019 Rate Study, the Board approved an update to the RSF methodology to better align with current water demand conditions and continued improvements in water use efficiency. Chart 2-3 graphs the projected target and maximum levels of the Water Authority's RSF, which increase over time as the cost of water increases.

**Chart 2-3: Projected Year-End Rate Stabilization Fund Cash Balances**



## Financial Guiding Principles

The Financial Guiding Principles were developed to create a framework to support the Board's policy deliberations. The Financial Guiding Principles are to be used when evaluating any recommended changes to existing rates and charges or financial policies. Because evaluating financial policies can be challenging, the Financial Guiding Principles are structured to provide very basic evaluation criteria to quickly identify policy changes that merit further consideration and those that do not. The Financial Guiding Principles are listed below:

- ▶ **Contribute to maintaining a AA+ or better credit rating**
- ▶ **Adhere to industry Cost of Service Principles**
- ▶ **Ensure all beneficiaries of services pay a fair share of costs**
- ▶ **Provide equity for all Member Agencies**
- ▶ **Result in the consistent application of Board rate-setting and other financial policies**
- ▶ **Support intergenerational equity**
- ▶ **Fulfill all legal requirements**
- ▶ **Result in an appropriate level of fixed revenues for fixed obligations**
- ▶ **Consider our dynamic environment**
- ▶ **Maintain or enhance our fundamental mission**

- ▶ **Be consistent in the Water Authority's position on rate-setting and fiscal sustainability here and at MWD**

These criteria were chosen because they are seen as supporting the Water Authority's long-term fiscal sustainability.

## Financial Management Objectives

This section provides a context for understanding the Water Authority's financial policies in terms of certain financial management objectives - affordability and cost-efficiency, predictable rates, and intergenerational equity. It describes these objectives and illustrates how the financial policies strike a balance between them.

- ▶ **Affordability and Cost Efficiency.** The affordability and cost efficiency objective relates to maintaining the lowest possible revenue requirement (i.e., rates and charges) from water sales. All other things being equal, lower expenses translate into lower and more affordable rates for member agencies
- ▶ **Predictable Rates.** The predictable rates objective relates to managing the volatility in rates from year to year. Rate stability allows customers to plan effectively based on a stable and predictable cost of water. This objective is particularly important for wholesale water suppliers, such as the Water Authority, whose rates serve as long-term investment benchmarks that can influence member agency capital investment decisions.
- ▶ **Intergenerational Equity.** The intergenerational equity objective relates to sharing the cost for capital improvements between current and future ratepayers. Investments in regional facilities for supply, conveyance, and treatment are expensive; and these facilities have service lives of up to 100 years. Intergenerational equity means that the cost burden for these large and long-lived investments is borne by the range of both current and future beneficiaries.

## Capital Financing Policies

### Debt Service Coverage

The debt service coverage policy represents the most complex tradeoff of the objectives discussed previously. For example, in terms of cost efficiency, though higher DSCRs can lead to increases in near-term revenue requirements, they also yield cost efficiencies in other areas. Higher coverage means less debt outstanding, a higher credit rating, and lower interest expense over time. DSCR policies can also have significant impact on the financial management goal of rate predictability. In the absence of RSF reserves, DSCR targets close to legally covenanted levels provide an issuer with very little choice in mitigating an unfavorable variance in revenues and expenses other than to raise rates. Lastly, because it impacts the level of debt outstanding, DSCR policies also impact intergenerational equity. Generally speaking, low coverage and a high degree of debt outstanding allocates a greater share of costs to future ratepayers. The following table details the tradeoffs between lower and higher coverage. It is important to note that the defined trade-offs are general statements and assume a balanced approach. Additionally, some policy considerations must be made and balanced in concert (e.g., Debt Service Coverage and Funding Mix).



Table 2-1: Debt Service Coverage

Management Objective	Lower DSCR	Higher DSCR
<b>Affordability &amp; Cost Efficiency</b>	<p>Lowers near-term revenue requirement and rates</p> <p>Weakens credit ratings and increases interest expense</p>	<p>Increases near-term revenue requirement and rates</p> <p>Strengthens credit ratings and decreases interest expense</p>
<b>Predictable Rates</b>	<p>Lower margin for managing volatility in net revenue means more volatile rates</p>	<p>Greater margin for managing volatility in net revenue means less volatile rates</p>
<b>Intergenerational Equity</b>	<p>More debt means cost burden shifted to future generations</p>	<p>Less debt means cost burden shifted to current generation</p>

### Fixed/Variable-Rate Debt Mix

The fixed/variable-rate debt mix represents a tradeoff between cost efficiency and stable rates. As with adjustable rate mortgages, the generally lower variable interest rate comes with interest rate volatility. As mentioned earlier, the one subtlety here relates to variable-rate debt acting as a hedge against volatility in an agency’s investment portfolio. If investment returns decline, variable-rate debt costs usually also decline. Conversely, when investment returns increase, variable-rate debt costs often also increase.

Table 2-2: Fixed/Variable-Rate Debt Mix

Management Objective	Variable-Rate Debt	Fixed-Rate Debt
<b>Affordability &amp; Cost Efficiency</b>	<p>Historically lowest average cost-of-funds</p>	<p>Historically more expensive than variable-rate debt</p>
<b>Predictable Rates</b>	<p>Water rates may vary due to variability of interest expense; though partially hedged by interest earnings on invested funds</p>	<p>Water rates vary less as interest expense locked-in at time of borrowing</p>

### Reserve Policies

Reserve policies involve tradeoffs among all three objectives. Though funding reserves may increase near-term costs, a lack of reserves means that any volatility in revenues and expenditures will be directly and immediately passed on to customers in terms of water rates. With adequate reserves, the impact of volatility in net revenues to the Water Authority need not result in rate shock to member agencies. Given the nature and degree of the financial risk facing the Water Authority, adequate financial reserves are essential to prudent financial management. Moreover, once built, financial reserves invested in taxable securities can be very cost effective for a tax-exempt debt issuer.

Table 2-3: Reserve Policies

Management Objectives	Lower Reserves	Higher Reserves
<b>Affordability &amp; Cost Efficiency</b>	Decreases near-term revenue requirement and rates  Weakens credit ratings and increases interest expense	Increases near-term revenue requirement and rates; however, reserve earnings mitigate impact  Strengthens credit ratings and decreases interest expense
<b>Predictable Rates</b>	Smaller margin for managing volatility in net revenue means more volatile rates	Greater margin for managing volatility in net revenue means less volatile rates
<b>Intergenerational Equity</b>	Reserve shortfalls borne by ratepayers at time of expenditure	Reserve is funded by ratepayers over time

### Debt/Cash Funding Mix

Debt and cash are the funding sources for capital projects. Therefore, the debt/cash funding mix drives the amount of debt issued. Typically the availability of cash to fund the CIP is what determines the funding mix. Cash to fund the CIP can be generated incrementally over time or built into a rate increase. In some instances, and as is true for the Water Authority, the debt service coverage requirement for an agency can generate sufficient funds to support a healthy cash funding level. The assumed debt/cash funding mix in the Recommended LRFP is 35% debt and 65% cash.

Table 2-4: Debt/Cash Funding Mix

Management Objectives	Less Debt	More Debt
<b>Affordability &amp; Cost Efficiency</b>	Less debt means less interest and lower total cost over the life of an asset	More debt means more interest and higher total cost over the life of an asset
<b>Predictable Rates</b>	More cash funding required which if not available increases rate and charge volatility or delays capital projects	Lower cash funding level maintains cash balances and limits impacts on rate and charge volatility
<b>Intergenerational Equity</b>	Current ratepayers pay for more capital projects	Future ratepayers pay for more capital projects financed with debt

### Water Authority Credit Ratings

Though high underlying credit ratings are not an end in-and-of themselves, they are a valid measure of financial sustainability, as they evaluate both the current financial position as well as an assumed two year look forward which incorporates both financial and risk assessments. The Water Authority has underlying credit ratings from Standard & Poor’s, Fitch Ratings, and Moody’s Investor Service. Table 2-5 provides each agency’s rating scale for investment grade securities with the Water Authority’s long-term underlying ratings highlighted. These ratings show that the Water Authority is a highly rated entity with all ratings within the top two categories on a scale that ranges from “AAA” for the top rating to “BBB” for the lowest “investment grade” rating, and below that for non-investment grade.

**Table 2-5: Senior Lien Debt Ratings & Rating Scale**

Standard & Poor’s	Fitch Ratings	Moody’s Investors Service
AAA	AAA	Aaa
AA+	AA+	Aa1
AA	AA	Aa2
AA-	AA-	Aa3
A+	A+	A1
A	A	A2
A-	A-	A3
BBB+	BBB+	Baa1
BBB	BBB	Baa2
BBB-	BBB-	Baa3
<i>Negative Outlook</i>	<i>Stable Outlook</i>	<i>Stable Outlook</i>

Water Authority Ratings as of June 30, 2021

**Table 2-6: Subordinate Lien Debt Ratings**

Standard & Poor’s	Fitch Ratings	Moody’s Investors Service
AA+	AA+	Aa3

**Table 2-7: Commercial Paper Short-Term Ratings**

Standard & Poor’s	Fitch Ratings	Moody’s Investors Service
A1+	F1+	P1

In the aftermath of the 2008 financial crisis and on an ongoing basis thereafter, the rating agencies have recalibrated and revised their municipal rating methodologies. Now municipal ratings are aligned to the global rating scales which applies across all types of credits, including corporate obligations. When the global rating scale was applied, it generally resulted in improvements to municipal credits. Each rating agency also conducts periodic reviews of its methodologies for various sectors and either publishes new methodologies or footnotes updates that do not merit republication. Credit ratings are a combination of both quantitative and qualitative analysis for all rating agencies.

Most of the rating agencies have also increased to varying degrees, within their published criteria, their reliance on financial models and metrics for financial analysis, though analyst judgment is still an important factor, especially for Moody's. Table 2-8 presents information from a recently published Fitch Ratings research report that contains median ratings ratios for the universe of Fitch-rated water and sewer credits. The median ratios are provided for each of the "A" through "AAA" rating categories. The table shows that the Water Authority has financed a relatively high share of its CIP with debt (due to the major supply diversification and storage capital projects completed in the recent years), has a lower debt service coverage ratio and less cash on hand than the Fitch medians, combined with a higher Net Adjusted Debt to Funds Available for Debt Service. The Water Authority has maintained its "AA" rating due to a number of factors including the fact that the Water Authority is a large wholesale agency with low outstanding debt per customer, and has a very favorable ratio of fixed revenues to fixed costs. Other positive rating factors include a strong and diversified regional economy, exceptional long-term planning, water supply diversification, a track record of execution, and prudent and capable financial management.

**Table 2-8: Fitch Ratings 2021 Water & Sewer Median Statistics**

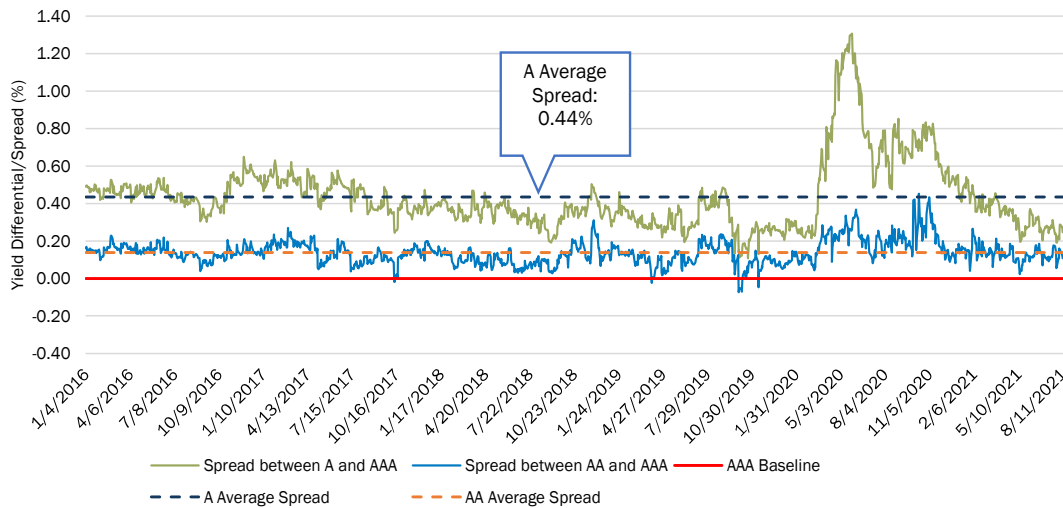
Statistic	AAA (median)	AA (median)	A (median)	Water Authority
Operating Cost Burden (\$/mg)	1,531	1,557	2,575	4,950
Capital Expenditures/Depreciation (5-year Average) (%)	168	106	35	109
Operating Revenues (\$000)	108,901	60,660	449,087	569,099
Coverage of Full Obligations (x)	2.3	1.8	1.4	1.1
Fitch-calculated Total DSC (x)	3.9	1.9	1.5	1.1
Current Days Cash on Hand	950	677	728	62
Long-Term Debt (\$000)	179,068	229,364	3,026,901	2,242,231
Adjusted Funds Available for Debt Service ("FADS") (\$000)	75,298	30,575	232,176	333,258
Net Adjusted Debt to FADS (x)	3.16	5.02	11.32	9.64

Source: Fitch June 9, 2021 Water and Sewer Medians

The Water Authority's credit rating reports from S&P, Fitch and Moody's can be found on the Water Authority's website [here](#).

The direct financial value of a strong credit rating is a function of investor perceptions of risk. Chart 2-4 shows the difference in yields between a AAA rated credit versus a single A or AA rated credit between 2016 and 2021. Over this time period, a single A rated credit had a yield approximately 44 basis points (0.44%) higher than a AAA rated credit, and a AA rated credit had a yield approximately 14 basis points (0.14%) higher than a AAA rated credit. A lower yield results in a lower cost of borrowing for an issuer. The graph also clearly demonstrates that the value of a strong credit rating varies over time and can be impacted by changes in market conditions.

**Chart 2-4: Spread Between A and AA to AAA, 2016-2021**



The Great Recession ushered in the demise of the bond insurance industry, which historically provided an easy and affordable way to access competitive rates. Since 2008, the lack of AAA bond insurance caused more municipal issuers to issue debt based on their underlying ratings, resulting in increased scrutiny from the investor community. While the bond insurance industry has rebounded somewhat, none of the insurance providers are rated.

Additionally, strong credit ratings will allow the Water Authority more market access and will provide greater flexibility to respond to market changes. This is especially important due to the nature of the Water Authority’s borrowing options, which include extendable commercial paper. Extendable commercial paper is not backed by a bank liquidity or credit facility. In the event that extendable commercial paper is issued and cannot be remarketed (due to either financial market dislocation or an issue with the Water Authority’s credit), it will bear interest at a penalty rate for up to 150 days. During this time, the Water Authority would have to either use cash to pay off the extendable commercial paper or issue debt to refinance it. Strong market access and flexibility to respond to market changes will help keep the Water Authority in a strong financial position, especially during volatile market conditions. The Water Authority does not currently have any extendable commercial paper issued.



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## WATER SUPPLIES AND REGIONAL WATER SALES PROJECTIONS

The Water Authority's mission to provide a safe and reliable water supply has guided the agency's actions to bolster supply reliability through a strategy of supply diversification. Over the last several decades, these actions resulted in the acquisition and importation of additional reliable water supplies, the development of additional local water supply projects, and enhancements to local and regional water storage capacity. The Water Authority classifies these supplies into one of two categories:

- ▶ **Imported Supplies**
- ▶ **Local Supplies**

Local supply sources consist of surface water, groundwater, recycled water, seawater desalination and water transfers. Water Authority imported supplies include independent conserved Colorado River supplies received through a Water Conservation and Transfer Agreement with the Imperial Irrigation District and the All-American Canal Lining and Coachella Canal Lining Projects. Over the last 5 years, an average of approximately 24% of the water supply within Water Authority's service area has come from local sources. Two of these local supplies, surface water and groundwater, are cyclical in nature and can be heavily dependent upon annual rainfall. This section also provides an overview of the modeling approach used to forecast water sales for the Long-Range Financing Plan (LRFP), as well as the fundamental assumptions used in development of the model.

### Water Demand and Sales Forecast

Water demand in the Water Authority's service area is divided into two basic categories: Municipal and Industrial (M&I) and agricultural water certified under the Water Authority's Permanent Special Agricultural Water Rate (PSAWR) Program. Over the last 5 years, M&I demands have accounted for approximately 94% of the San Diego region's water consumption. While PSAWR Program agricultural water demand, used mostly for irrigating groves and crops, averaged 6% of total demand. Water demand in Fiscal Year 2020 totaled approximately 463,000 acre-feet, with 440,000 acre-feet of M&I (92%) and 23,000 acre-feet of agricultural water use (8%).

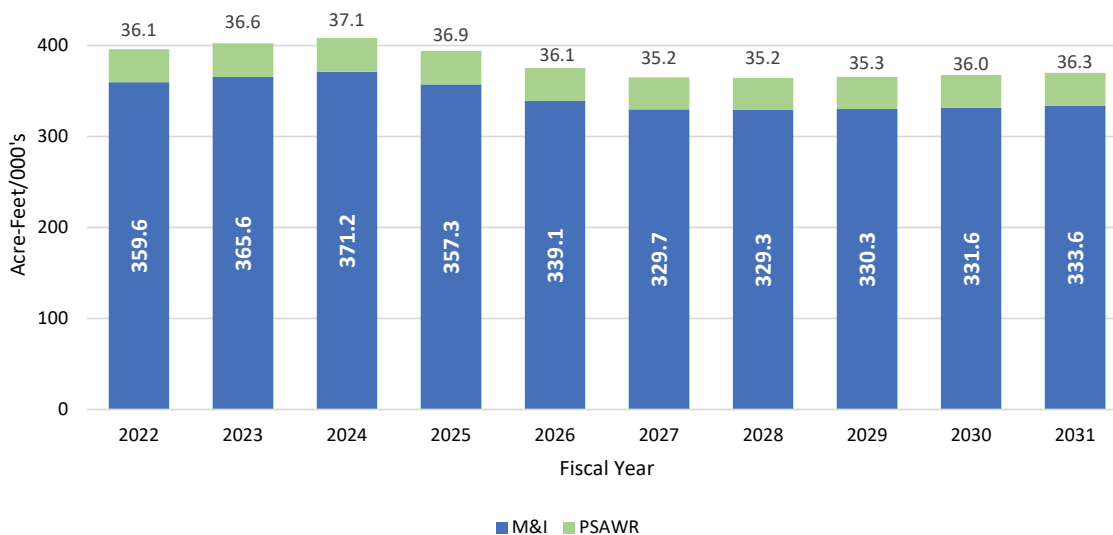
As part of the LRFP process, the Water Authority developed a probabilistic model to forecast water sales. Chart 3-1 presents the median outcome of annual projected Water Authority anticipated sales over the LRFP planning period split between customer classes. This baseline sales forecast reflects current hydrological, weather, and demand conditions. Also included in the forecast are estimated impacts associated with weather, economic and population factors, water saving projections from conservation efforts by the Water Authority and its member agencies, and member agency local supply use. A detailed discussion on monte-carlo sales analysis can be found in the Rate Guidance Drivers and Sensitivities section.

In addition, forecasted water sales were adjusted by verifiable local supply projects identified in the Water Authority's 2020 Urban Water Management Plan (UWMP). Table 3-1 provides a list of reuse projects, their anticipated service start dates, and annual production levels. These projects have long-term impacts on water sales due to the one-for-one offset to demands on the Water Authority. Therefore, the projected sales are directly tied to the success of local supply development. Revenue projections presented in the LRFP are based on the baseline water sales forecast.

Table 3-1: Member Agency Verifiable Local Supply Additions

Reuse Project*	Start Date	Annual Production (AF)
City of San Diego Pure Water - Phase 1**	2025	16,800
	2026	33,600
City of San Diego Pure Water - Phase 2	2035	59,360
East County Advanced Water Purification JPA (Helix WD)	2025	8,882
East County Advanced Water Purification JPA (Padre Dam MWD)	2025	4,000
Pure Water Oceanside	2025	3,360
	2030	6,720
*Verifiable potable reuse projects only (2020 UWMP)		
**Projected to ramp-up		

Chart 3-1: Water Authority Projected Sales Forecast

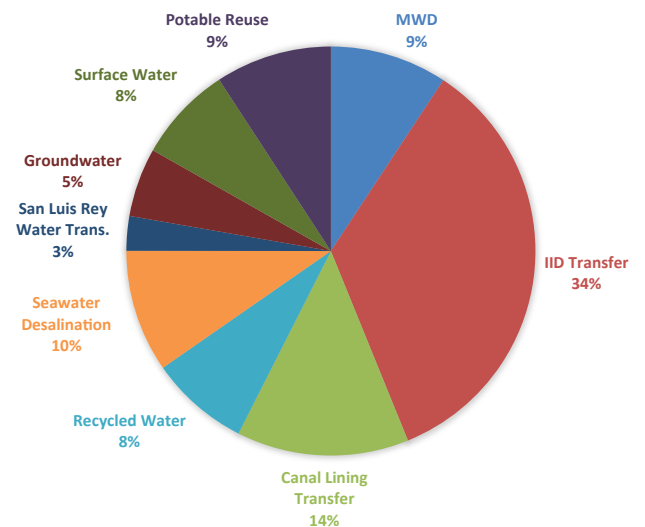


Local Supplies

Local resources developed by the Water Authority and its member agencies are essential to securing a diverse and reliable supply for the San Diego region. Chart 3-2 shows projected year 2030 supplies that include surface water, groundwater, recycled water, desalinated seawater, potable reuse and water transfers. Recycled water, potable reuse and seawater desalination projects not only reduce demands for imported water, but also provide agencies with a locally controlled drought-resilient supply.

Figure 3-1 highlights surface water storage reservoirs in the San Diego region. Since 1980, median annual surface water yield region wide has totaled 64,500 acre-feet. However, annual surface water yield has varied substantially due to

Chart 3-2: Water Authority Supply Portfolio 2030



Source: Table 9-1 (2020 UWMP)

fluctuating hydrologic cycles, from a low of 4,100 acre-feet in Fiscal Year 2015, to a high of 140,300 acre-feet in Fiscal Year 1984. Based on projections provided by the member agencies, local surface water supplies are estimated to total approximately 44,000 acre-feet annually toward the end of the LRFP forecast period.

The Carlsbad Desalination Plant is a seawater desalination plant developed by Poseidon Water, a private investor-owned company. The Plant, located at the Encina Power Station in Carlsbad, began commercial operation on December 23, 2015, and provides a highly reliable local supply of up to 56,000 acre-feet annually for the region. As a result of the Encina Power Station being decommissioned in 2018, and termination of the once-through cooling water system in 2020, the Carlsbad Desalination Plant is transitioning from co-located operations with the Encina Power Station to permanent stand-alone operations. Recent changes to the existing intake and discharge operations include installation of fish-friendly dilution pumps that replace the once-through cooling water system. Poseidon will also include installation of new intake screens to comply with the State’s 2015 Ocean Plan Desalination Amendment by December 2023.

Groundwater supplies account for a small percentage of the San Diego region’s water supply portfolio. However, it is still an important resource that contributes to reducing the region’s imported water demands. Within the past five years, Water Authority member agencies have utilized an annual average of approximately 22,300 acre-feet of potable water supplies from groundwater. The Water Authority believes that sufficient undeveloped brackish groundwater supplies exist that could help meet a greater portion of the region’s future water demand. The forecast assumes groundwater production to be consistent with the 2020 UWMP projections.

Implementation of water recycling projects is a key component in the development of a diverse supply mix for the region. Water recycling facilitates the efficient use of existing water supplies through the treatment and disinfection of municipal wastewater. Recycled supplies are suitable for non-drinking purposes such as, irrigation of parks, campgrounds, golf courses, freeway medians, school athletic fields and nursery stock; filling of ornamental fountains and ponds, and to control dust on construction sites. Recycled water is also used in certain industrial processes, in cooling towers and for flushing toilets and urinals in non-residential buildings. Additionally, fill stations have been constructed to bring recycled water supplies closer to the customers who can use it. For the purposes of this forecast, the continued development of non-potable water recycling projects is assumed to be consistent with the recycled water projections shown in the 2020 UWMP.

**Figure 3-1: Local Reservoirs in the Water Authority Service Area**

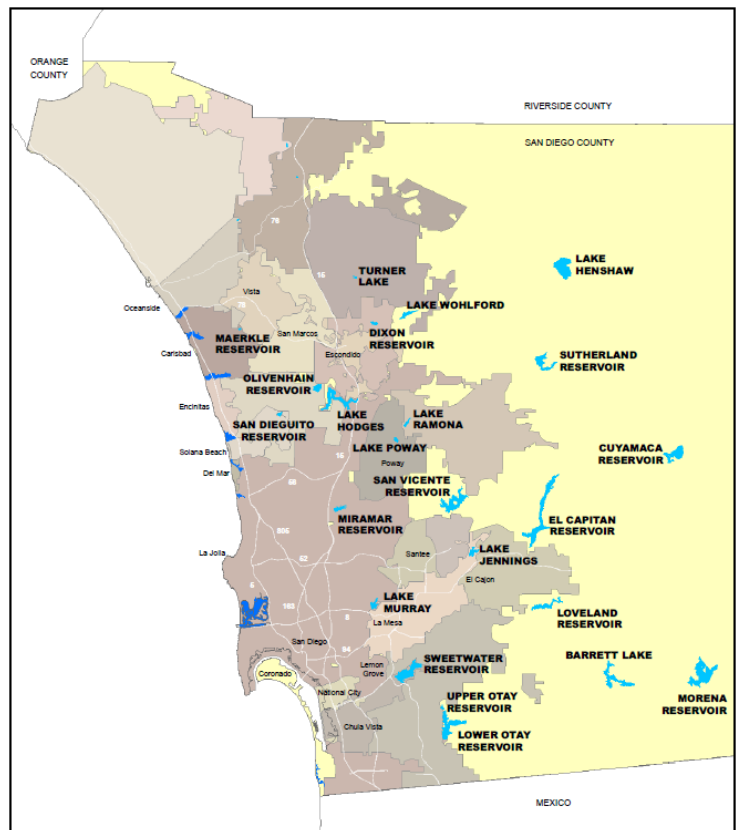
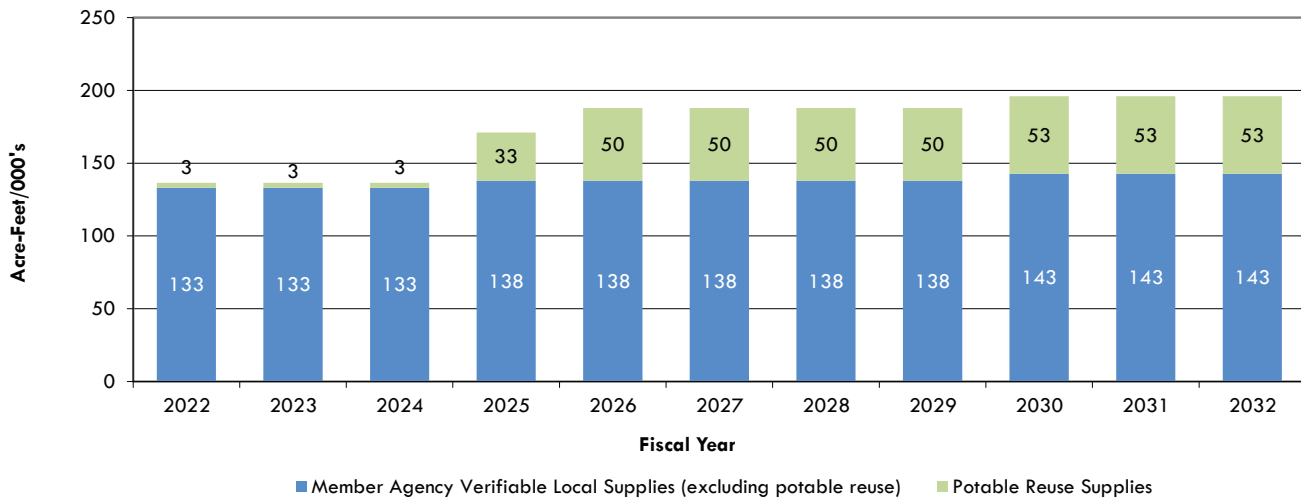


Chart 3-3: Projected Local Supply Development



Numerous drivers make potable reuse an attractive option for the San Diego region and throughout California. Potable reuse is a renewable resource that is drought resilient and locally controlled. The potable reuse process employs advanced multi-barrier and advanced oxidation treatment technologies that separate pollutants from the water, disinfecting and purifying it to a drinking water standard that fully complies with and exceeds both federal and state drinking water quality standards. Several member agencies are planning potable reuse projects in the San Diego region. As part of these efforts, agencies have participated in research studies, implemented pilot projects to determine project viability, and conducted extensive public outreach programs. These agencies have indicated an intent to implement potable reuse projects for a potential total production of over 112,000 acre-feet of drinking water per year by 2045. While member agencies will lead the development of their own projects, the need continues for regional coordination and collaboration on potable reuse issues. As such, the Water Authority continues to support member agencies’ advancement of potable reuse in three key areas: public outreach and messaging, engaging with regulatory agencies and the Expert Panel, and helping secure funding for local projects. For the purposes of this ten-year forecast, development of potable reuse projects, as shown previously in Table 3-1, is additive to the recycled water projections shown in the 2020 UWMP.



Claude “Bud” Lewis Carlsbad Desalination Plant intake piping, 2020

Chart 3-3 shows projected member agency local supply development within the region based on input from Water Authority member agencies. These supplies represent approximately one-third of the overall regional demand by 2030.



### Imported Water Supply Projections

In the past, the Water Authority relied on imported water supplies purchased from Metropolitan Water District of Southern California (MWD) to meet a majority of the San Diego region’s water needs. MWD obtains its water from two sources: the Colorado River via the Colorado River Aqueduct, which it owns and operates; and the State Water Project, with which MWD has a water supply contract through the State of California. Until the late 1980s, MWD’s supplies were sufficient to meet its customers’ needs. However, during the 1987-1992 drought, MWD supplies dwindled to levels that forced it to reduce deliveries to its member agencies. As a result of the shortages, the Water Authority began aggressively pursuing actions to increase water supply reliability through diversification of the region’s supply sources. Figure 3-2 shows the major water conveyance systems in California.

Figure 3-2: Conveyance Systems & Facilities



### Water Authority Supplies

In the mid-1990s, the Water Authority began negotiations with the Imperial Irrigation District (IID) for a water transfer agreement. In 2003, as part of the Quantification Settlement Agreement (QSA) and related contracts, the Water Authority solidified a historic agreement with IID for the long-term transfer of conserved Colorado River water to San Diego County. The Water Conservation and Transfer Agreement (Agreement) is the largest agriculture-to-urban water transfer in United States history. Through the Agreement, Colorado River water conserved by implementation of on-farm conservation methods and development of IID water distribution system efficiency projects, is transferred to the Water Authority for use in San Diego County. In Calendar Year 2003, the Water Authority received the first water transfer totaling 10,000 acre-feet. Since then, the volume of IID transfer water increased annually based on a predetermined schedule and reached its maximum of 200,000 acre-feet per year in Calendar Year 2021.



All-American Canal

Additionally, as part of the QSA and related contracts, the Water Authority was assigned MWD’s rights to 77,700 acre-feet per year of conserved water from projects that concrete lined earthen portions of the All-American and Coachella Canals. The projects reduce the loss of water that occurs through seepage, and the conserved water is delivered to the Water Authority. The Water Authority also receives any unused portion of water associated with environmental mitigation projects for the Coachella Canal lining project. This conserved water will provide the San Diego Region with 8.5 million acre-feet over the 110-year life of the agreement.

Chart 3-4: Projected Imported Supplies (excludes MWD purchases)

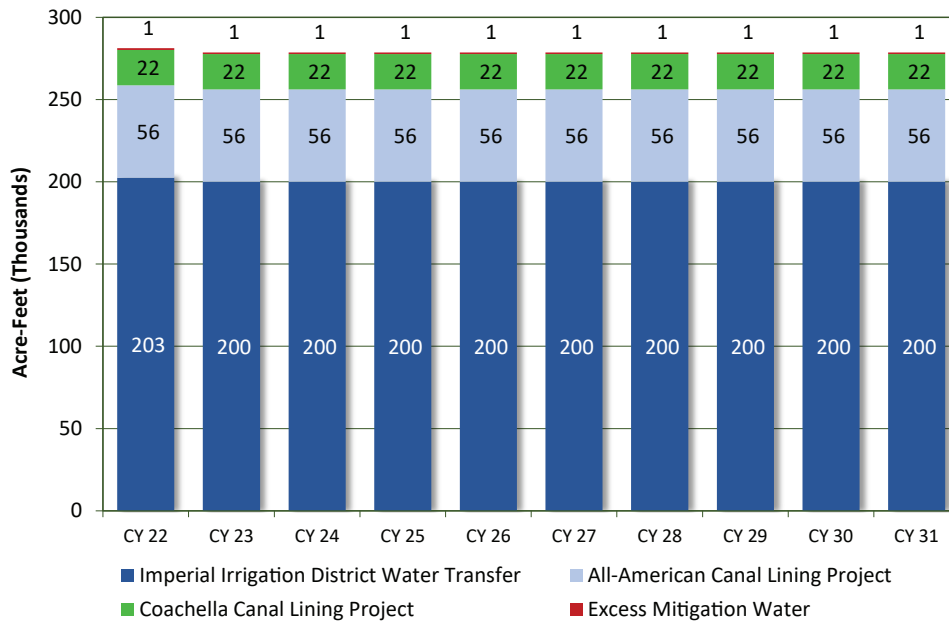


Chart 3-4 shows the breakdown of the projected imported Water Authority supplies (excluding MWD purchases) that will be used to meet water demands within the Water Authority’s service area. From 2023 forward, deliveries of conserved water from the IID water transfer and All-American and Coachella Canal lining projects are expected to yield 277,700 acre-feet per year plus any unused environmental mitigation water.

### Metropolitan Water District Supplies

Although the water transfer agreement and canal lining projects reduce the Water Authority’s demand for MWD supplies, water purchases from MWD continue to be an important element of the Water Authority’s supply portfolio.

As previously noted, MWD imports its water via the Colorado River Aqueduct (which it owns and operates), and the State Water Project (SWP). Water availability from the Colorado River is governed by a system of priorities and water rights that has been established over many years. Within the lower basin California has senior water rights. Within California, the Water Authority’s QSA supplies are tied to IID’s senior water rights over MWD’s, making them highly reliable because they are largely insulated from shortage cutbacks. The Colorado River Lower Basin states (California, Arizona, and Nevada) have an annual apportionment of 7.5 million acre-feet (MAF) of water divided as follows:

Table 3-2: Colorado River Lower Basin States Apportionment

California	4.4 MAF
Arizona	2.8 MAF
Nevada	0.3 MAF

California’s Priority System (Primary Users)		
Priority	Agency	Entitlement (MAF)
1	Palo Verde Irrigation District	0.42
3a	Imperial Irrigation District (Senior)	3.10
3a	Coachella Valley Water District (Junior)	0.33
4	Metropolitan Water District	0.55
<b>Total CA</b>		<b>4.40</b>

## Future Supply Challenges

The Water Authority closely monitors potential water supply challenges and pursues options to address those challenges. Due to the Water Authority's diversification strategy, it has reduced its reliance on the Bay-Delta in compliance with state law and policy. By reducing its Bay-Delta reliance, the Water Authority is less susceptible to SWP supply fluctuations. Prolonged drought on the Colorado River has necessitated additional river management measures, such as the implementation of the 2019 Drought Contingency Plan and other strategies to promote the long-term sustainability of the river. The Water Authority Board recently adopted its 2020 Urban Water Management Plan.

## State Water Project Pumping Restrictions

There are many federal and state regulatory processes, agreements, and proposals that impact the ability of the SWP to export water. The Water Authority closely monitors these matters and keeps its Board of Directors informed.

Originally negotiated and signed in 1986, the Coordinated Operations Agreement (COA) for the Central Valley Project and SWP establishes the projects' shared responsibility to meet water quality and regulatory standards. Between 1986 and 2018, the State Water Resources Control Board imposed additional restrictions, including new Delta outflow requirements, which further restricted exports and impacted Central Valley Project and SWP operations. In December 2018, the Department of Water Resources (DWR) and the Bureau of Reclamation agreed to a COA Addendum to reflect the current regulatory environment and hydrology. The COA Addendum shifts responsibility for meeting obligations between the Central Valley Project and SWP, resulting in a shift of about 115,000 acre-feet of long-term average annual exports from the SWP to the Central Valley Project. In January 2019, commercial fishing groups and the Winnemem Wintu Tribe filed a lawsuit against DWR alleging a violation of CEQA, the Delta Reform Act, and the public trust doctrine. Impacts resulting from this litigation cannot be determined at this time.

In October 2019, the U.S. Fish and Wildlife Service and National Marine Fisheries Service issued new biological opinions for delta smelt, green sturgeon, and salmon and steelhead species replacing the 2008 and 2009 biological opinions, which had resulted in the loss of about 1,000,000 acre-feet annually of SWP export supply during average years. In February 2020, the Bureau of Reclamation signed a Record of Decision for the biological opinions and adopted the 2019 long-term coordinated operations plan, which together are expected to increase SWP deliveries, on an average, by 200,000 acre-feet per year as compared to the biological opinions issued in 2008 and 2009. In late 2019 and early 2020, non-governmental organizations and state agencies sued the federal government over the biological opinions for various alleged violations of federal law. The State Water Contractors, a nonprofit organization of which MWD is the largest member, intervened as a defendant (supporting the federal government's biological opinions). Impacts resulting from this litigation cannot be determined at this time.

In January 2021, President Biden issued an Executive Order directing all executive departments and agencies to immediately review and, as appropriate and consistent with applicable law, take action to address the federal regulations and other actions during the previous four years under prior administration—including the 2019 biological opinions—for consistency with his administration's policies. Impacts on the 2019 biological opinions resulting from this review cannot be determined at this time.

In March 2020, DWR released a final Environmental Impact Report and Notice of Determination describing and adopting a modified long-term operations plan for the SWP with additional operational restrictions and conservation commitments in comparison to the federal biological opinions. The California Department of Fish and Wildlife issued an incidental take permit for the SWP that includes further operational restrictions, which, as issued, reduce SWP deliveries by almost 200,000 acre-feet annually, on average, as compared to the 2019 biological opinions. Several SWP and Central Valley Project contractors, the State Water Contractors, fishing groups, environmental groups, and the Winnemem Wintu Tribe sued the state over the incidental take permit over alleged violations including inadequate environmental review, violations of the Delta Reform Act, and breach of contract and the implied covenant of good faith and fair dealing by accepting SWP mitigation requirements in excess of those required by law. Impacts resulting from this litigation cannot be determined at this time.

The single-tunnel Bay-Delta Fix project concept was first announced by Governor Newsom in February 2019 as the preferred alternative to California WaterFix, a twin tunnel project for the SWP and Central Valley Project systems. Newsom's proposed Bay-Delta Fix would serve as an improvement to the SWP only, made up of a single tunnel with two intakes to transfer water under the Bay-Delta. The single tunnel is envisioned to reduce adverse pumping restrictions and improve ecosystem functions in the Bay-Delta. However, the extent the tunnel will improve Bay-Delta water supply reliability depends on the final regulatory structure and other factors. For example, the State Water Resources Control Board is currently updating the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary, which aims to balance the needs of the Bay-Delta ecosystem with water exports. MWD estimated the supply benefit of the single tunnel may range from 100,000 acre-feet to 1,000,000 acre-feet annually depending on regulatory decisions. Further analysis on the project's benefits is ongoing. The single tunnel is currently undergoing environmental review, which is expected to be complete in 2024.

### Supply Augmentation

The Water Authority's 2005 Urban Water Management Plan identified a potential need for up to 95,000 acre-feet of additional carryover storage capacity beyond the 100,000 acre-feet of carryover storage need identified in the Water Authority's Capital Improvement Program. In 2003, as part of the QSA, the Water Authority received approximately \$30.5 million in state grant to fund its groundwater program.

Through a Request for Proposal process, in June 2008, the Water Authority executed an agreement for 30,000 acre-feet of storage and capacity rights in the Semitropic Water Storage District's Original Water Bank in the southern part of the San Joaquin Valley in Kern County. The cost was approximately \$11.8 million. In August 2008, the Water Authority acquired 10,000 shares (which equates to 40,000 acre-feet of storage space with rights to certain storage withdrawal and placement capacities) in the Semitropic-Rosamond Water Bank Authority for \$15 million. Subsequently, the Water Authority purchased approximately 23,077 acre-feet of water from Butte Water District and Sutter Extension Water District for \$4.6 million. The Water Authority used the \$30.5 million in state funding to pay for the majority of costs associated with purchasing the groundwater storage capacity in Semitropic's Original and Rosamond Water Banks and the costs to purchase and place the transfer water into storage. With conveyance and carriage losses, the Water Authority was able to store 16,117 acre-feet of water into Semitropic's Original Water Bank, where it remains for future use.

In April 2021, following the completion of the draft 2020 Urban Water Management Plan, which determined that out-of-region storage supplies would not be needed in the foreseeable future, the Water Authority Board authorized the General Manager to seek opportunities to sell, lease, or swap the Water Authority’s 16,117 acre-feet of stored water in the Central Valley. Due to dry conditions in the state, 2021 is an opportune time to seek partnerships with agencies who need these supplies. However, due to limitations imposed by the Department of Water Resources, transactions to realize these partnerships are not available in calendar year 2021. Staff will continue to monitor conditions and return to the Board with additional partnership opportunities, should they be identified, in future years.

### **Water Shortage Contingency Plan**

While the Water Authority and its member agencies have plans in place to ensure a reliable water supply, there is always some level of uncertainty associated with maintaining and developing local and imported supplies. Therefore, as a prudent water management measure, the Water Authority, in coordination with its member agencies, developed a regional Water Shortage Contingency Plan (WSCP). The WSCP contains a suite of regional actions the Water Authority may take to avoid water shortages that require allocation of supplies. However, if supply cutbacks are necessary, the WSCP also contains a fair and equitable methodology to allocate Water Authority supplies to its member agencies. Section 7 of the WSCP contains a description of the Water Authority’s water supply allocation methodology.



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## CAPITAL IMPROVEMENT PROGRAM

The Water Authority has a long history of planning and executing large and complex capital projects. A major part of the Capital Improvement Program (CIP) planning process is focused on maintaining accurate project construction schedules and cost estimates. This began with the 1987 Water Distribution Study, followed by the 2008 Comprehensive Reliability and Cost Assessment of the CIP, and the 2013 Master Plan Update. The Water Authority continues the implementation of its Asset Management Program to ensure the safety and reliability of the Water Authority's pipelines and facilities. This close monitoring of the CIP and assets enables the Water Authority to base its Long-Range Financing Plan (LRFP) on timely and accurate data.

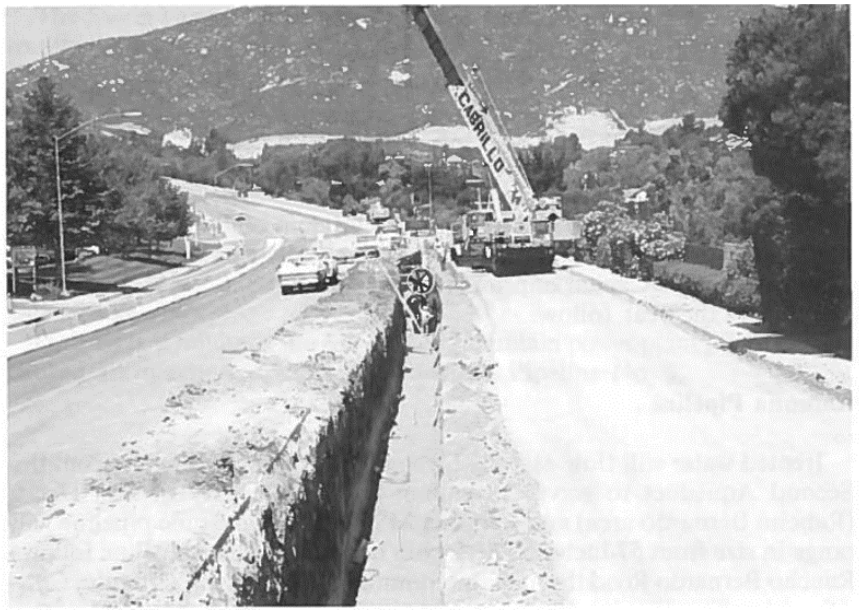
The Water Authority's budget for the CIP peaked with the construction of major water infrastructure projects in Fiscal Year 2007. The current 30-year CIP budget of \$1.5 billion, with an appropriation of \$170.4 million for Fiscal Years 2022 and 2023, reflects the shift from major construction projects to asset management and the optimization of the existing aqueduct system. The Water Authority is projecting to spend approximately \$982 million over the next ten years on CIP projects. It is important to note, however, that the CIP will continue beyond this ten-year planning horizon. Additional projects will no doubt be identified during the next ten years that will need to be programmed into the CIP and the Asset Management Program will continue to identify existing facilities that will need rehabilitation or replacement in the future.

This section provides a historical perspective on the evolution of the current CIP and a discussion of the adopted CIP. The adopted CIP is the basis for the capital expenditures, incorporated into the capital financing plan, presented in the Capital Financing Section.

### History and Growth of the Water Authority's CIP

#### 1987 Water Distribution Study

The beginnings of a CIP within the Water Authority can be traced back to 1987. In November 1987, staff presented the Water Authority's Board (Board) with the Water Distribution Study, which analyzed the population growth and water demand projections through the year 2010. The information was analyzed to project the future demands for supplemental water from the Metropolitan Water District of Southern California (MWD) and to determine the future requirements for water transmission pipelines and water treatment facilities.



*Ramona Pipeline Construction 1989*



The study proposed eight pipeline projects to meet the projected demand and increase the reliability of the aqueduct system. The need at that time to increase the capacity of the aqueduct system was based on the conclusion that the projected total demand was estimated to exceed capacity by 1990. In addition to the capacity limitations, it was discovered that Pipeline 3, a prestressed concrete cylinder pipeline and the only pipeline to several agencies in the southern portion of the Water Authority's service area, was being damaged by corrosion at several locations. An additional pipeline, the proposed Pipeline 4 Extension, Phases I and II was needed to add reliability to the system in the event Pipeline 3 failed and to accommodate anticipated increases in demands.

### 1989 Water Distribution Plan

The issues raised by the 1987 Water Distribution Study led to the creation of a Water Distribution Plan, which was established in the summer of 1989. The plan was presented to the Board and adopted in August 1989. In so doing, the Water Authority Board created its CIP. The plan was titled, "The Water Distribution Plan, A Capital Improvement Program Through the Year 2010." The resolution of the Board adopting the CIP in 1989 stated in part that: *"In order to meet the existing and future needs of its member agencies and the 2.25 million people whom they serve, it is necessary that existing pipeline capacities and filtration facilities be significantly improved."*

The Water Distribution Plan contained projects designed to meet the objectives of increased capacity, yield from existing water treatment plants, water supplies, and reliability of the aqueduct system.

### Review and Update of the CIP

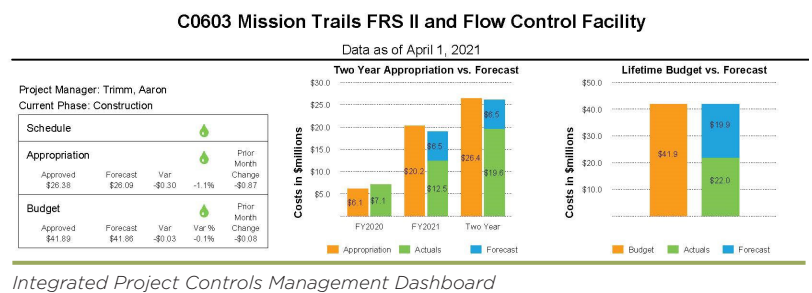
In September 1990, staff proposed that the CIP be reviewed and revised annually. This review is now performed biennially to correspond with the Water Authority's two-year budget cycle. This biennial review of the CIP allows the program to be responsive to changing conditions, particularly with respect to changes in demand projections and the changing needs of member agencies. The review also allows for the addition of projects and the acceleration or delay of project schedules that result from adopted changes in project priorities. In addition, the review allows for the update of cost estimates as detailed design information becomes available as well as reflect the current conditions in the construction market.

To optimize capital project management, staff has developed and broadly employs CIP Best Management Practices (BMPs). BMPs are measures for maximizing resources to achieve success. These BMPs implemented have been in use for over a decade and have helped guide the Water Authority in executing a successful CIP. Success is defined as consistently meeting project schedules, budgets, and cash flow projections, while maintaining scope and meeting stakeholder expectations. Some examples of Best Management Practices include the use of the following:

- ▶ **Project Risk Management** - Project Risk Management is a proactive process used to mitigate risks through the life of a project to ensure the project scope, schedule, and budget are met. Project Risk Management proactively identifies project risks and establishes measures to minimize or eliminate the risk. It also determines the potential cost of a project based on the risks that could come to fruition. This process begins in the planning phase of a project and contributes towards a realistic project scope, budget, and schedule.

- ▶ **Gate Process** - The Gate Process is a staff procedure that ensures all critical project components are completed as the project moves through the planning, design, and construction phases. This process ensures that a phase of a project (i.e. a gate) does not begin until an internal multi-departmental staff committee agrees that all the requirements for the previous gate are satisfied.
- ▶ **Highly Developed CIP Policy and Process Documents** - CIP policy and process documents such as Design Manuals, Construction Management Manuals, and Standard Drawings and Construction Contract Documents, are used to ensure that projects meet Water Authority needs and that consistent business practices are used agency-wide. They also ensure that professional service and construction contractors know how to do business with the Water Authority.
- ▶ **Construction Cost Estimating** - The Water Authority uses a bottom-up construction cost estimating process which is similar to how a construction contractor assembles their costs on bid day. This process considers current market and economic conditions leading to increased accuracy in the prediction of construction costs, realistic CIP project budgets, and adequate funding needs.

▶ **Project Controls Reporting** - Project Controls Reporting is used to monitor CIP projects. This rigorous monitoring process entails tracking and managing project schedule and expenditures regularly to promote timely completion of the project within the budget. Project Managers are required to use and analyze cost and schedule performance data to proactively identify and avert budget and schedule overruns. Sophisticated cash flow and forecasting tools are also used to plan bond sales and appropriations which help to facilitate debt and associated water rate management.



### Regional Water Facilities Master Plan

In June 1997, the Board approved a Regional Water Facilities Master Plan project. The purpose of this project was to assess future water demands and supplies through the year 2030 and recommend the best facilities’ solution to meet the region’s needs. The Master Plan is reviewed and updated on a regular basis. In March 2014, the Board approved the latest 2013 Regional Water Facilities Optimization and Master Plan Update (2013 Master Plan Update) as well as the first ever Water Authority Climate Action Plan. The update also included preparation of a Supplemental Program Environmental Impact Report (SPEIR), which was certified by the Board in March 2014. The Climate Action Plan and SPEIR were prepared to address in a comprehensive manner potential environmental impacts in compliance with the California Environmental Quality Act (CEQA) and the California Global Warming Solution Act of 2006 (AB32).

As part of the 2013 Master Plan Update, the Water Authority conducted a comprehensive evaluation of future infrastructure needs based on a plausible range of projected supplies and demands through 2035. With a focus on maximizing previous infrastructure investments, the 2013 Master Plan Update included projects for near-term implementation that would enhance or optimize the aqueduct system. Over the next few years, staff will continue working to complete construction of projects identified in the 2013 Master Plan update.



*San Vicente Dam*

Another master plan update is proposed for 2023. This proposed 2023 Master Plan Update will identify new system optimization opportunities, review seismic resilience, and account for changing conditions such as climate change, lower aqueduct flows, and water quality challenges. The 2023 Master Plan Update is anticipated to be presented to the Board in 2024.

### Adoption of the Emergency Storage Project

The Emergency Storage Project (ESP) was one of the initial ten projects included in the first CIP but only as a planning phase project. The ESP is a system of reservoirs, interconnected pipelines, and pumping stations designed to make water available to the San Diego region in the event of an interruption in imported water deliveries. As planning work moved forward, it included adding additional scope for the Carryover Storage Project (CSP) – additional storage with the goal of providing water for use during periods of prolonged drought. Currently, the ESP/CSP is a combined \$1.5 billion program with only the North County Pump Station project left to complete. This remaining project is a series of pump station and pipeline improvements to ensure emergency deliveries to the northern most portion of the Water Authority’s service area.

### Water Authority Business Plan

In late 2003, staff began work to refine the focus of its efforts to align its activities with the latest update to the Master Plan (2003 Master Plan Update), which was adopted by the Board in June 2004. What resulted was the implementation plan to diversify the water supplies portfolio and build new facilities that could store, transport, and treat those new supplies to meet future regional demands. Staff presented the Water Authority’s Business Plan to the Board in 2004. The Business Plan is updated biennially and is based on a five-year horizon. The most recent update is the 2021-2025 Business Plan. The plan describes the key focus areas (water supply, water facilities, and core business), programs, key issues, management strategies and goals necessary to carry out the policies and strategic direction set forth by the Water Authority Board of Directors in support of its mission. The LRF is a core business goal in the 2021-2025 Business Plan.

### Asset Management

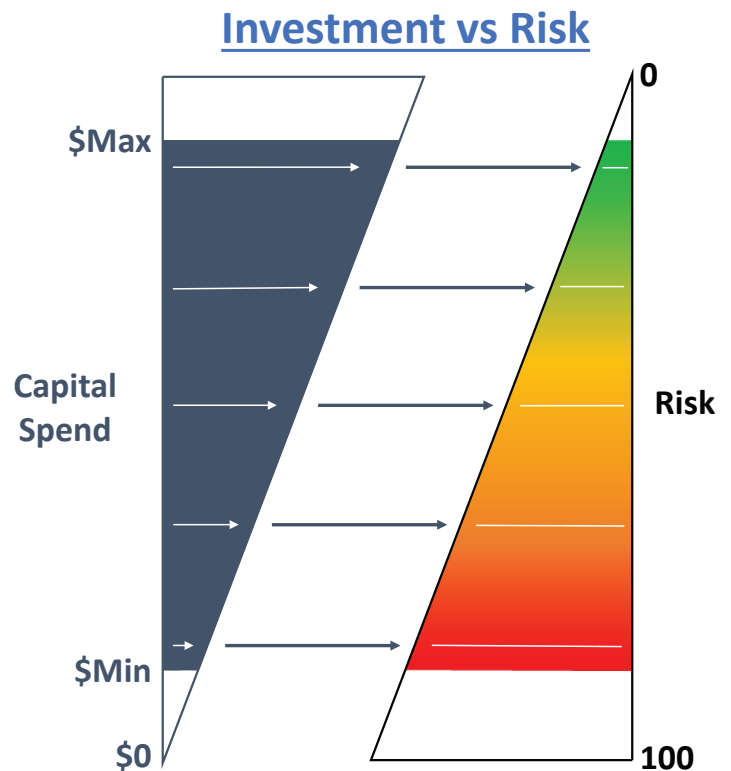
Nationally there is a growing emphasis on aging infrastructure and the need for infrastructure repair. Each year the American Water Works Association (AWWA) releases a state of the Water Industry report based on responses to an annual survey of industry professionals. The survey provides an industry-wide

self-assessment and gathers information to support the water community’s major challenges. The 2020 report identified renewal and replacement of aging water infrastructure as the continuing number one issue facing the industry. The Water Authority has a long history of being proactive in infrastructure inspection and repair starting over three decades ago by pioneering the first pipeline relining project. Later the Water Authority Board of Directors established an asset management program for inspection and pipeline management. Since then, the Water Authority has become a national leader in asset management by utilizing the latest technology for pipeline inspections and methods for risk assessment. In 2017 the program was recognized by the AWWA for leading business practices in asset management, and by Government Technology and the AT&T Special Districts Program for pipeline risk visualization. The Water Authority regularly evaluates its methodology through industry-specific peer review at an international level, and by self-monitoring its progress through its 5-year Scorecard evaluation. This ensures key areas of asset management are resourced, managed, and continually evaluated at an appropriate level. Over the past three decades, the program has completed over 45 miles of pipeline rehabilitation, the scanning and evaluation of over 120 miles of pipelines, and visually inspected all 310 miles of pipelines in the system on a rolling 10 to 15-year cycle.

Aging infrastructure can result in several risks to the Water Authority’s mission. These risks include loss of service to our member agency customers and direct, localized failure of a pipeline or facility resulting in possible environmental and physical damage.

To mitigate these risks, the Asset Management Program is driven by the following best management practices:

- ▶ Implementation of a five-year rolling Condition Assessment Plan, ensuring the Water Authority focuses on obtaining comprehensive condition data on a routine basis to assist in the continued evaluation of asset condition and remaining useful life.
- ▶ Thorough risk assessment, assessing the probability of failure together with potential consequences of failure to identify high-risk areas.
- ▶ Identifying and prioritizing projects that will repair, replace, or rehabilitate aging assets at the right time, prior to each two-year budget period.



The Asset Management Program is comprised of several projects, the largest of which are Infrastructure Rehabilitation and the Relining and Pipe Replacement Program. Not only is risk considered, but asset repair, replacement, and rehabilitation projects are also defined and prioritized considering available resources, economic factors, customer rate and delivery impacts, timing, and other issues.

Over the next several years, the CIP will focus on completing the highest priority asset management projects. These projects are rehabilitations or replacements of existing aging infrastructure (pipelines and facilities) that are near the end of their service life or require work on them due to changes in the operation of our system or are at risk of failure due to seismic or some other issue. As part of the Asset Management Program, a detailed seismic and hydraulic/cavitation analyses of several flow control facilities will be performed in addition to routine condition inspections, with a view to maximizing the lifespan of facilities while optimizing resources. In addition, comprehensive pipeline condition assessments will be conducted to ensure work is being performed on the most critical assets in support of the Water Authority's mission to provide a safe and reliable water supply for the region.

### Energy Initiatives

The Water Authority's Energy Program is relatively new and seeks opportunities to lower the Water Authority's energy costs and use existing and new infrastructure to maximize energy revenue opportunities. The Board approved the 2019 Energy Management Policy that concentrates on six areas: energy supplies, existing system operations, energy generation and storage, energy efficient equipment and features, collaborative relationships, and government relations.

The CIP contains several projects created to assist with reaching the Water Authority's energy goals. In addition to projects to rehabilitate and improve existing hydroelectric facilities, the CIP contains three studies related to energy: Inline Hydroelectric Energy Generation Facilities (studies to determine the technical and economic feasibility of candidate sites for development), Energy Resiliency and Reliability Study (which will evaluate critical facilities to determine how to provide uninterrupted water services during power supply blackouts and Public Safety Power Shutoff events and potentially generate additional energy revenue to help stabilize water rates), and the San Vicente Energy Storage Facility Study (a feasibility study for a potential facility to provide up to 500 megawatts of "on call" hydroelectric power for the region). The San Vicente Energy Storage Facility project received \$18 million as part of the 2021-2022 California state budget to advance the project through initial design, environmental reviews, and the federal licensing process.

### Regional Conveyance System Study

Through the 2003 Quantification Settlement Agreement (QSA), the Water Authority receives approximately 280,000 acre-feet of cost-effective, highly reliable conserved Colorado River supplies each year. Because the Water Authority does not have a direct connection to the Colorado River, it pays the MWD to deliver it via a separate agreement. The Water Authority evaluated alternative conveyance of its QSA supplies directly from the Imperial Valley to the San Diego region via a new pipeline, as part of past studies and in conjunction with Regional Water Facilities Optimization and Master Plan efforts. This current two-phase study is building upon previous work to further evaluate the technical and economic feasibility of a regional conveyance system and evaluate potential partnership opportunities that could yield multiple benefits to the Southwest and support the Governor's Water Resilience Portfolio. Phase A, completed in August 2020, focused on engineering and cost, and showed that the proposed project is technically viable and economically competitive with other options and identified several partnership opportunities. In November 2020, the Board authorized proceeding with Phase B which is focusing on economics, partnerships, and stakeholder outreach. Phase B is scheduled to be complete in June 2022 at which time the Board will consider any potential next steps. No funds beyond Phase B are included in the 10-year CIP forecast or LRFPP.



## Adopted Capital Improvement Program

The adopted CIP Budget is built upon the Water Authority’s updated 2022–2031 LRFP portfolio of projects and the 2021–2025 Business Plan, placing primary emphasis of the CIP on repair, replacement, or rehabilitation of the existing system through the Asset Management Program and modification of the Water Authority’s infrastructure to optimize system operation. As part of updating the LRFP, staff performed a risk analysis of both pipelines and facilities, placing particular emphasis on seismic risk to older structures. Following this assessment, the CIP was prioritized, and facilities were identified for rehabilitation or replacement over the next ten-year period. It is important to note the ten-year plan will be revisited periodically to incorporate additional needs as they are identified.

Opportunities to further optimize the system will be evaluated in the next Master Plan Update that is scheduled to be completed in 2024, incorporating the information from the completed 2020 Urban Water Management Plan.

Through June 30, 2021, approximately \$3.5 billion has been spent to complete various capital projects since 1989. The current multi-year CIP budget is \$1.5 billion. Once a project is completed and placed into service, it is removed from the CIP and no longer included in the multi-year budget. A significant portion, approximately \$1 billion, of the CIP budget is projected to be spent during the ten-year LRFP planning period.

### Projects in the CIP

Table 4-1 summarizes the status of the CIP budget as of June 30, 2021 by project category. The projects are primarily a mix of pipeline, Asset Management, ESP, water supply, system-wide improvements, flow control and pumping facilities, and projects that are reimbursable through state and federal funding as well as member agency agreements.

**Table 4-1: Summary of CIP Categories & Projected Expenditures (\$ Thousands)**

CIP Category	Multiyear Plan	Cumulative expenditures through June 30, 2021	Projected Expenditures FY 2022-2031
Asset Management	\$1,235,238	\$175,928	\$834,237
Emergency Storage Program	57,446	5,838	42,338
Environmental Mitigation	56,847	27,346	26,085
Master Planning and Studies	33,125	10,720	10,730
New Facilities	112,789	33,330	64,597
Other	6,790	3,253	3,538
<b>Total</b>	<b>\$1,502,235</b>	<b>\$256,414</b>	<b>\$981,524</b>

The Water Authority is projecting expenditures of approximately \$982 million over the next ten years on capital improvement projects. Chart 4-1 shows the breakout of projects, with a significant portion of the Asset Management Program allocated to both the Infrastructure Rehabilitation and Relining and Pipe Replacement programs.

Chart 4-1: CIP Projects, Fiscal Years 2022-2031

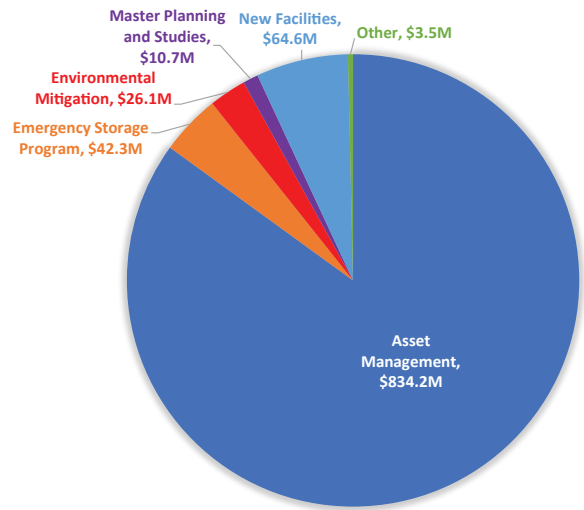
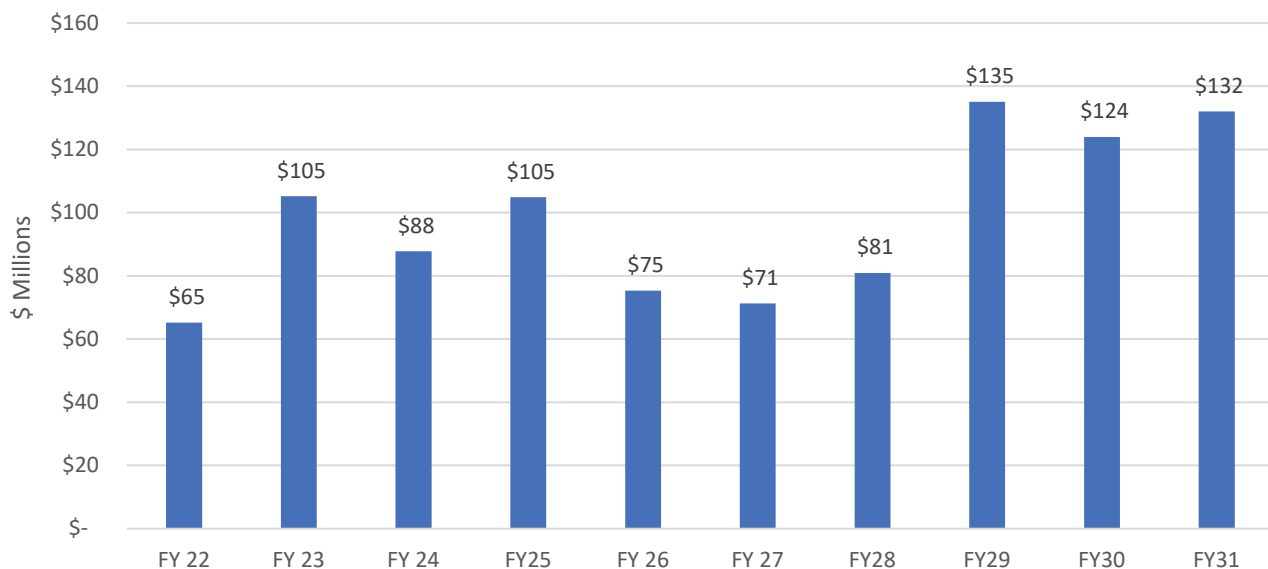


Chart 4-2 shows the projected annual CIP expenditures for all 33 projects over the next ten years. These projected annual expenditures form the capital funding needs of the Water Authority during the LRF planning period. The Water Authority’s Relining and Pipe Replacement Program and the Infrastructure Rehabilitation projects represent the majority of projected continuing expenditures for Fiscal Year 2022 and through Fiscal Year 2031. The increase in spending in the later years represent expenditures on a few large projects entering the construction phase, such as, the new Operations and Maintenance Department Facility, Crossover Pipeline Rehabilitation/Replacement, and Lake Hodges Dam Rehabilitation/ Replacement.

Although the Lake Hodges Dam Rehabilitation/Replacement project is included within the ten-year projection, planning work for the project is in its early stages. Preliminary budget numbers for the Water Authority’s share of the project costs have been included in the Board approved multi-year plan for the CIP as well as the Long-Range Financing Plan. These preliminary budget numbers will be modified as the planning work progresses, and cost estimates are further refined. As requested at the August 26, 2021, A&F Committee meeting, the City of San Diego and the Water Authority will give a joint presentation on the Lake Hodges Dam rehabilitation/replacement project at a Water Authority Board meeting.

Chart 4-2: Projected Annual CIP Expenditures

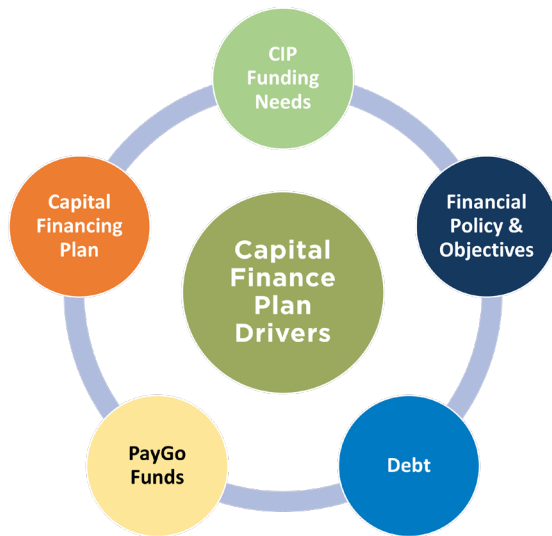




## CAPITAL FINANCING PLAN

The Capital Financing Plan for the Water Authority’s Capital Improvement Program (CIP) is an important driver of the Long-Range Financing Plan (LRFP). The Capital Financing Plan considers the Water Authority’s financial goals and objectives and the mix of current and future funds available for capital investment to determine the most prudent funding sources for the projected CIP expenditures. Prudently managing the capital financing plan is a complex and iterative process. The most prudent funding mix is achieved by balancing the use of Water Authority cash or Pay-As-You-Go (PAYGO) with debt proceeds against the rate and charge increases required to support the funding mix. Figure 5-1 illustrates the factors affecting the LRFP.

**Figure 5-1: Capital Financing Plan Drivers**



The Capital Financing Plan considers the appropriate mix of debt instruments, particularly the balance between fixed-rate and variable-rate obligations, to prudently manage the Water Authority’s cost of capital and interest rate risk. With the goal of enhancing the Water Authority’s ability to manage interest rate risk, Water Authority staff periodically reviews new financial products available. The Water Authority has from time to time considered the use of derivative financial products (e.g. interest rate swaps), but to date has not determined that the use of such products would be prudent.

This section provides a detailed overview of the debt instruments that the Water Authority anticipates using

to finance the forecasted CIP, the methodology used to define the CIP financing mix, and the fundamental assumptions underlying the new debt service projections and the projected debt service schedules for new debt.

### Water Authority Borrowing Options

The California State Constitution and various State Supreme Court decisions interpreting the State Constitution set forth the powers of public agencies to borrow money. The powers of the Water Authority to incur indebtedness are further dictated by California statutes, most importantly the County Water Authority Act (Act) adopted in 1943, under which the Water Authority is organized, and which Act has been amended from time to time. The Act authorizes the Water Authority to issue general obligation bonds secured by property taxes when approved by voters (Section 45-7), and to issue voter-approved revenue bonds (Section 45-7.5). The Act also authorizes the Water Authority to enter various obligations without voter approval. The Act authorizes the Water Authority to purchase real or personal property (through installment sale agreements) (Section 45-5(4)) and also incur contracts of indebtedness (Section 45-8); both such forms of contract can be used to secure a borrowing through the issuance of Certificates of Participation (COPs) and JPA Revenue Bonds (JPA Revenue Bonds). The Act also authorizes the Water Authority to issue and sell short-term revenues certificates (Section 45-8.2), under which the Water Authority has issued commercial paper (CP) and extendable commercial paper

(ECP). The Water Authority may also issue and sell, without voter approval, water revenue refunding bonds to refund its outstanding indebtedness under the Local Agency Revenue Bond Refunding Law (Articles 10 and 11 of Chapter 3 of Part 1 of Division 2 of Title 5 of the California Government Code). The Water Authority may also enter into other long-term obligations, such as long-term water purchase agreements, installment sale agreements and settlement agreements.

The Water Authority's debt issuance is further governed by Water Authority Resolution No. 89-21, adopted May 11, 1989, Resolution 97-52, adopted December 11, 1997, and Resolution No. 09.23, adopted on December 17, 2009, all of which together constitute the General Resolution.

The Water Authority may issue short-term and long-term debt, using the debt instruments described below.

### General Obligation Bonds

The Water Authority is empowered, under the Act, to levy taxes on all taxable property within its boundaries for the purpose of paying its voter-approved general obligation bonds and, subject to certain limitations in the Act, the California Revenue and Taxation Code and the California Constitution, for other Water Authority purposes. The Water Authority is authorized to sell general obligation bonds, subject to the approval of a two-thirds majority of those voting in a local election.

### Revenue Bonds

The Act also provides for the issuance of revenue bonds under another statute, the Revenue Bond Act of 1941. Bonds issued under this act must be authorized by a majority vote of the qualified electors of the Water Authority. Due to voter-approval requirements and a number of outdated provisions, the statute is rarely used by any California entity, including the Water Authority.

### Certificates of Participation

Certificates of Participation (COPs) provide financing through a lease, installment sale agreement or contract of indebtedness and typically do not require voter approval. Board action is sufficient to legally authorize a COP issue. The Water Authority is permitted to use the installment sale form of COPs, based upon its ability to execute installment sale agreements (Section 5 of the Act) and contracts of indebtedness (Section 8 of the Act). The Water Authority's issuance of COPs is facilitated by the San Diego County Water Authority Financing Corporation, a California nonprofit benefit corporation, incorporated in 1997 to serve as party to the installment sale agreements and contracts of indebtedness securing Water Authority COPs. The Water Authority must pledge net revenues to the repayment of its COPs, under the terms and conditions specified in the General Resolution. The Water Authority can exercise its power to acquire property and enter into installment purchase or installment sale agreements, which are then used to secure COPs. This approach to COPs allows for borrowing in excess of the limitation on contracts of indebtedness. COPs can be issued as either fixed-rate or variable-rate instruments. To date, all of the Water Authority's COPs have been fixed-rate.

Both types of contracts that support Water Authority COPs— contract of indebtedness and installment sale agreements—are limited by the Act to 40 years. As such, the Water Authority's COPs are limited to a term not to exceed 40 years as well. The Water Authority's practice has been to issue 30-year COPs, although it may consider the possibility of issuing COPs for longer or shorter terms as part of its prudent debt management practices.

### JPA Revenue Bonds

As an alternative to COPs, the Water Authority may obtain financing through the issuance of bonds by a joint exercise of powers agency with such bonds payable from amounts paid by the Water Authority under a lease, installment sale agreement, or contract of indebtedness. The San Diego County Water Authority Financing Agency is a joint exercise of powers agency formed for the purpose of facilitating Water Authority financing through the issuance of such revenue bonds.

The structure of the JPA Revenue Bonds is similar to COPs. JPA Revenue Bonds are secured by Contracts of Indebtedness or installment sale agreements, which are payable from Net Water Revenues. The final maturity for JPA Revenue Bonds can be up to 40 years.

### Water Revenue Refunding Bonds

Under the Local Agency Revenue Bond Refunding Law, the Water Authority may issue refunding revenue bonds to refinance outstanding Water Authority indebtedness pursuant to the State of California local agency refunding revenue bond law (Articles 10 and 11 of Chapter 3 of Part 1 of Division 2 of Title 5 of the Government Code).

### Commercial Paper

Per Section 8.2 of the Act, the Water Authority may issue short-term revenue certificates, including commercial paper and extendable commercial paper. Board action is sufficient to legally authorize a commercial paper program. The Water Authority's commercial paper is secured by net revenues, but on a subordinate lien basis to the Water Authority's long-term debt (i.e. COPs). Voter approval is not required to issue commercial paper. The rate covenant related to CP requires the Water Authority to maintain net revenues at a level that covers all Water Authority obligations by 100%.

The principal payments of maturing securities are usually funded with a subsequent issue of CP; this process is referred to as "rolling" the CP. A bank line of credit in the form of a revolving note purchase agreement, commonly referred to as a liquidity facility, is used to ensure that funds are available to pay investors at each maturity in the unlikely event of a failed CP remarketing. While some entities use CP for temporary financing during construction, and refund their CP with some form of long-term debt, the Water Authority has historically utilized this form of financing to create a more permanent variable interest rate component of its capital structure. The Table 5-1 on the following page summarizes key characteristics of the various types of debt.

The Water Authority has a Tax-Exempt Commercial Paper (TECP) program through which it can borrow funds on a tax-exempt basis for periods of up to 270 days to provide financing for the Water Authority's CIP. In 2014, the Water Authority authorized the issuance of Extendable Commercial Paper (ECP) in its debt policy. Mechanically, ECP is similar to traditional CP. The notes carry many of the same security provisions as CP, wherein principal and interest are paid from a subordinate lien on net revenues and the rate covenant requiring that net revenues cover all Water Authority obligations still applies. The main distinction between CP and ECP is that ECP is not supported by a bank liquidity facility. Instead, ECP notes are issued with maturity of up to 120 days. If the ECP notes are not remarketed on the stated maturity date, the maturity date is extended up to 150 days and the ECP notes will bear interest at a higher predetermined rate. During the 150 days, the Water Authority must either remarket the ECP, refinance it with another debt instrument, or pay it off with cash. The elimination of the bank liquidity facility means that ECP generally provides a lower cost of funds than traditional CP.

The Water Authority may issue a debt instrument or other debt obligation as Senior Obligations, Subordinate Obligations or otherwise. Senior Obligations are those obligations authorized by the Water Authority that have the highest claim on revenues for their repayment. The Water Authority's Senior Obligations, for which net revenues are pledged, must be limited to that amount for which current and projected revenues generate a Senior Obligations debt service coverage of at least 1.20 times. Subordinate Obligations are those obligations authorized by the Water Authority and payable on a basis that is a lower priority than Senior Obligations. The Water Authority's Subordinate Obligations, for which net revenues are pledged, shall be limited to that amount for which current and projected revenues generate overall debt service coverage of at least 1.0 times if no subordinate bonds are outstanding, and 1.05 times if subordinate bonds are outstanding.

### Subsidized Loans

Under the Water Infrastructure Finance and Innovation Act (WIFIA), qualified borrowers, such as the Water Authority, may obtain long-term, low-cost supplemental loans to finance nationally and regionally significant projects, such as water conveyance and treatment projects, drinking water treatment and distribution projects, enhanced energy efficiency projects, desalination, aquifer recharge and water recycling projects and related capital expenses. Qualified projects are identified on a competitive basis and must meet minimum criteria, including size, equity funding, financing duration and creditworthiness. The interest rate for WIFIA loans are based on U.S. Treasury borrowing rates and may have flexible financial terms, including customized amortization, payment deferrals and subordination.

Under the California Drinking Water State Revolving Fund Program (DWSRF), qualified borrowers, such as the Water Authority, may obtain variable term, low-cost supplemental loans to finance eligible projects, such as planning/design and construction of drinking water infrastructure projects including: treatment systems, distribution systems, interconnections, consolidations, pipeline extensions, water sources and water meters. Qualified projects must meet minimum criteria and also must go through an application process. The interest rate for DWSRF loans are advantaged and is based on the state of California's borrowing rates. Principal forgiveness programs may be available.

Table 5-1: Characteristics of Various Types of Debt

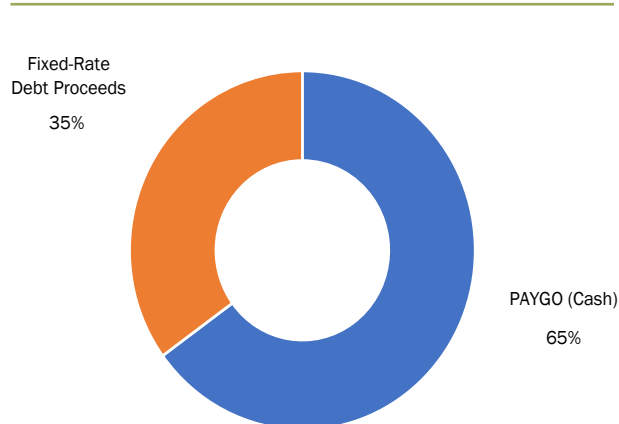
Types of Debt	Security	Repayment Term Limit	Procedure
<b>Fixed-Rate Debt</b>			
General Obligation (GO) Bonds	<ul style="list-style-type: none"> <li>• Ad valorem property taxes</li> </ul>	50 Years	2/3 voter approval
Revenue Bonds	<ul style="list-style-type: none"> <li>• Water sales net revenue</li> <li>• IAC</li> <li>• Standby charges</li> <li>• Capacity charges</li> <li>• Interest on cash balances</li> <li>• Property taxes</li> </ul>	40 Years	Majority voter approval
JPA Revenue Bonds	<ul style="list-style-type: none"> <li>• Water sales net revenue</li> <li>• IAC</li> <li>• Standby charges</li> <li>• Capacity charges</li> <li>• Interest on cash balances</li> <li>• Property taxes</li> </ul>	40 Years	Board Action
Water Revenue Refunding Bonds	<ul style="list-style-type: none"> <li>• Water sales net revenue</li> <li>• IAC</li> <li>• Standby charges</li> <li>• Capacity charges</li> <li>• Interest on cash balances</li> <li>• Property taxes</li> </ul>	40 Years	Board Action
COPs	<ul style="list-style-type: none"> <li>• Water sales net revenue</li> <li>• IAC</li> <li>• Standby charges</li> <li>• Capacity charges</li> <li>• Interest on cash balances</li> <li>• Property taxes</li> </ul>	40 Years	Board Action
<b>Variable-Rate Debt</b>			
Commercial Paper	<ul style="list-style-type: none"> <li>• Water sales net revenue</li> <li>• IAC</li> <li>• Standby charges</li> <li>• Capacity charges</li> <li>• Interest on cash balances</li> <li>• Property taxes</li> </ul>	Rates reset periodically but are limited to 270 days or less	Board Action
Extendable Commercial Paper	<ul style="list-style-type: none"> <li>• Water sales net revenue</li> <li>• IAC</li> <li>• Standby charges</li> <li>• Capacity charges</li> <li>• Interest on cash balances</li> <li>• Property taxes</li> </ul>	Rates reset periodically but are limited to 120 days or less	Board Action
<b>Other Debt</b>			
Drinking Water State Revolving Fund Program (DWSRF)	<i>Subject to Application Process:</i> <ul style="list-style-type: none"> <li>• Water sales net revenue</li> <li>• IAC</li> <li>• Standby charges</li> <li>• Capacity charges</li> <li>• Interest on cash balances</li> <li>• Property taxes</li> </ul>	30-40 Years	Subject to Application Process, Board Action
Water Infrastructure Finance and Innovation Act (WIFIA)	<i>Subject to Application Process:</i> <ul style="list-style-type: none"> <li>• Water sales net revenue</li> <li>• IAC</li> <li>• Standby charges</li> <li>• Capacity charges</li> <li>• Interest on cash balances</li> <li>• Property taxes</li> </ul>	35 Years	Subject to Application Process, Board Action

## Prudent Management of the Capital Financing Mix

The Water Authority's CIP funding sources include accumulated revenues (fund balances), future revenues allocated towards capital expenditures (pay-as-you-go financing) and future revenues allocated towards debt service. All of these funding sources must be integrated into the Capital Financing Plan.

In order to prudently manage the Capital Financing Plan several key steps must be followed, including: determining the annual CIP funding mix of cash and debt; determining the mix of types of debt; and creating principal amortization schedules for proposed debt. Each step must balance the goals outlined in the Financial Management Objectives and Policies section, including: cost efficiency, predictable rates, and intergenerational equity with rate and charge increases.

**Chart 5-1: Long-Term Target CIP Funding Mix**



### Target Cash and Debt Financial Profile

Like any business enterprise, the Water Authority needs to determine the optimal mix of resources to finance both its operations and its CIP. The Water Authority's target cash and debt financing profile identifies the annual use of fund balances (cash) and debt to fund CIP outlays. The Water Authority's target cash and debt financing profile is designed to maintain a level of cash investment in existing (renewal and replacement) and new system assets that both prudently sizes the Water Authority's debt and maintains intergenerational equity among ratepayers.

There are several reasons why a mix of PAYGO financing and debt financing is desirable. Cash funding throughout the CIP horizon increases the likelihood that current customers are equitably contributing funds towards the capital investments that they are benefiting from, and not deferring these costs entirely to future generations of ratepayers. In addition, there are certain sources that should be available for such funding: Generally Accepted Accounting Principles requires that the Water Authority expense its prior capital expenditures by recording depreciation, which was \$64.4 million for the fiscal year ending June 30, 2021. In other words, PAYGO funding of renewal and replacement projects will naturally be balanced with depreciation.

Further, the counterparties of the Water Authority's debt desire that the Water Authority's rate structure generate a margin of revenues over operating and debt expenditures. The Water Authority covenants under its Board Resolution Providing for the Allocation of Water System Revenues and Establishing Covenants to Secure the Payment of Obligations Payable from Net Water Revenues, as amended (General Resolution), that it will at all times fix, prescribe and collect or cause to be collected rates, fees and charges for Water Service (a term defined under the General Resolution) which are reasonably fair and nondiscriminatory and which will be at least sufficient to yield, during the next succeeding fiscal year of the Water Authority, Net Water Revenues (a term defined under the General Resolution) sufficient for the payment of all amounts payable from Net Water Revenues during such fiscal year and at least equal to 1.20 times the Debt Service (a term defined under the General Resolution) on all Bonds and Contracts (terms defined under the General Resolution) for such fiscal year.

The Water Authority may make adjustments from time to time in such rates, fees and charges and may make such classification thereof as it deems necessary, but will not reduce the rates, fees and charges then in effect unless the Net Water Revenues from such reduced rates, fees and charges will at all times be sufficient to meet the requirements of such covenant. The Water Authority covenants under the Indenture entered into in connection with its subordinate obligations that it will at all times fix, prescribe and collect or cause to be collected rates, fees and charges for the Water Service which are reasonably fair and nondiscriminatory and which will be at least sufficient to yield during the next succeeding fiscal year of the Water Authority, Net Water Revenues sufficient for the payment of all amounts payable from Net Water Revenues during such fiscal year, including payment of interest on and principal of the Water Authority’s subordinate obligations expected by the Water Authority to be paid with Net Water Revenues (e.g., excluding capitalized interest and principal expected to be paid from the proceeds of refunding obligations).

The Water Authority has adopted a policy that will maintain senior lien debt service coverage at 1.50 times. This policy is designed to bolster the Water Authority’s credit and in turn lower the Water Authority’s cost of debt and thereby mitigate the amount of debt borne by the water system in the future by increasing the cash funding of the CIP. The additional revenue required to meet the coverage target of 1.50 times has the added benefit of being available for capital investment (in the form of PAYGO).

As shown in Charts 5-2 and 5-3, in line with adopted policy, the Water Authority expects to meet its enhanced debt service coverage target of 1.50 times and its overall coverage requirement of 1.0 times.

**Chart 5-2: Senior Lien Debt Coverage**

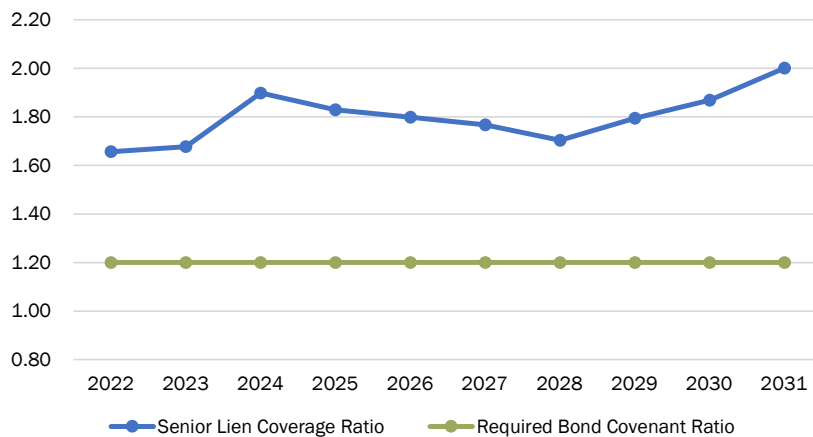
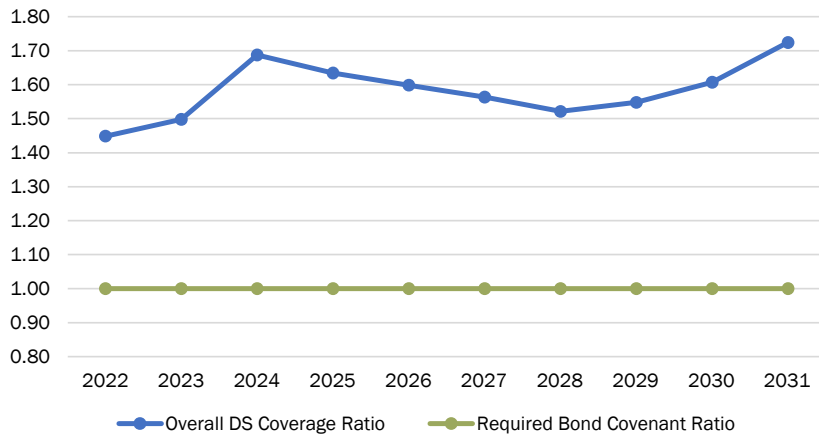




Chart 5-3: Overall Debt Service Coverage

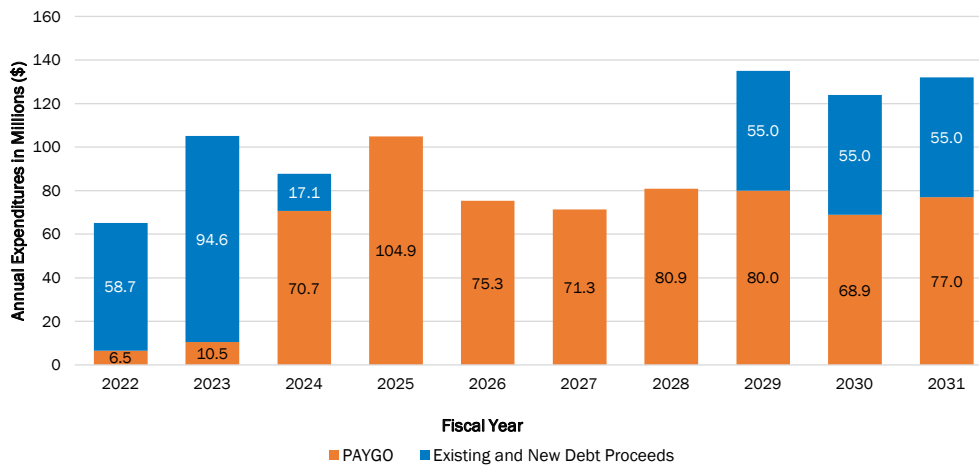


By meeting this 1.5 times coverage policy, the Water Authority’s revenues would generate sufficient resources to fund approximately 65% or \$646 million of its \$982 million 10-year capital program on a PAYGO basis, with the balance financed with debt. The percent of capital expenditures financed with cash is a common performance metric used by the credit markets and rating agencies in evaluating utilities.

Another factor in a long-term plan of finance is the timing of the use of cash. By varying the financing source mix over time, different pressures are alleviated or created. For instance, as more debt is used to finance the CIP, debt service coverage requirements may increase, thereby putting stress on the Water Authority to increase water rates. At the same time, cash can be invested at taxable interest rates; the potential for investments to yield higher rates of return than the cost of borrowing. The availability of fund balances also enhances the Water Authority’s ability to pay for unanticipated capital expenditures. These factors make it advantageous to maintain a prudent level of cash and investments. The financing mix profile balances these options to achieve efficient and stable water rates.

Chart 5-4 on the following page illustrates the mix of debt and cash that the Water Authority plans to use to finance the CIP over the projection period. As the chart shows, the amount of cash and debt planned to be used varies from year to year. The proposed timing of new debt issues provides two primary benefits. First, the initial issuance avoids otherwise necessary rate spikes. This allows rates to rise gradually over-time to support a higher level of PAYGO. Second, a 2029 issuance is forecasted to mitigate a relative spike in the forecasted CIP. These coverage ratios are naturally balanced with the forecasted 35%/65% funding mix and do not result in excess revenues. As demonstrated in Chart 7-1, the Water Authority’s forecasted reserve balances remain relatively flat reinforcing the appropriateness of the planned timing, use, and sizing of new debt issues (funding mix).

Chart 5-4: CIP Funding Mix



### Fixed/Variable Debt Mix (Target)

The next step in developing the Capital Financing Plan is selecting the appropriate mix of fixed and variable-rate debt to fund the CIP. To determine the mix of fixed and variable-rate debt to fund the CIP, the benefits and risks each must be evaluated in the context of the prevailing interest rate environment, the Water Authority’s policy goals and objectives and the Water Authority’s current and projected fund balances.

Fixed-rate debt offers the advantage of a set debt service payment schedule upon which budgets and projections can be based, but typically requires higher interest rates. In 2022, approximately 82% of the Water Authority’s outstanding debt will be fixed-rate debt.

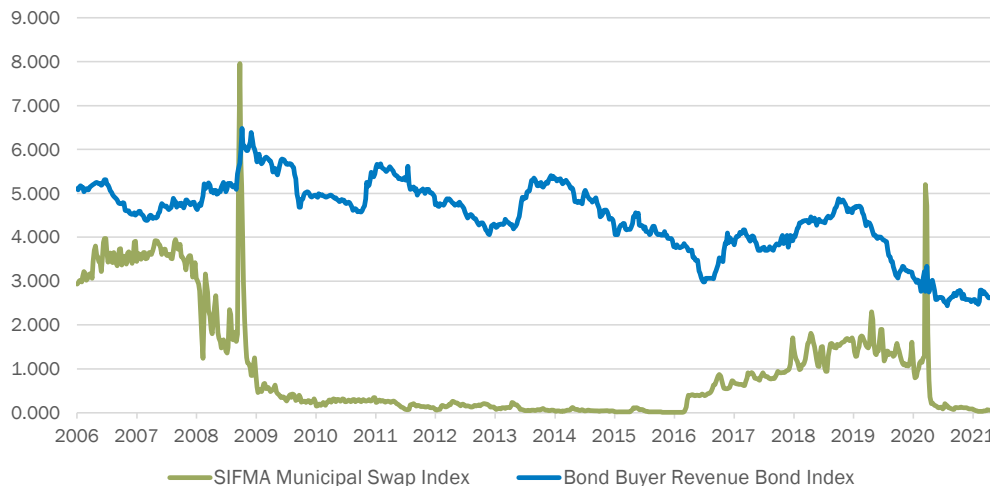
Variable-rate debt offers expected lower interest rates, as compared to fixed-rate debt, because interest rate risk (the risk that interest rate may unfavorably change) is borne by the issuer not the investor. Often, variable-rate debt comprises the longest term bonds in a debt portfolio, as the expected interest rate savings are greatest when compared to the fixed-rates of a comparable long-term bond.

Because the interest rate paid on variable-rate debt changes as often as on a daily basis, this type of debt introduces uncertainty into debt service payment budgets and projections. Another challenge associated with variable-rate debt is the potential for interest rates to rise steeply causing debt service payments to increase as well. This is often referred to as interest rate risk.

An important factor that mitigates the interest rate risk associated with variable-rate debt is the cash resources held by the Water Authority in the Operating and RSF funds. To the extent that the Water Authority maintains cash resources, any increase in interest rate paid on variable-rate debt is offset, or hedged, by an increase in investment earnings on cash reserves. This is due to the fact that investment earnings tend to move in parallel with the interest rates on variable-rate debt. It should also be noted that lower interest rates reduce investment earnings (interest rate risk is inherent on the investment side). Thus variable-rate debt can actually reduce budgetary risk, as the impacts of lower interest rates can be offset by lower than budgeted payments on outstanding variable-rate debt.

Variable-rate debt also offers additional flexibility, as compared to fixed-rate debt, with respect to principal repayment, as many types of variable-rate debt can be refunded or prepaid on any payment date with no prepayment penalty.

**Chart 5-5: Borrowing Rates (Fixed & Variable)**



The relative desirability of fixed-rate debt and variable-rate debt also depends on the interest rate environment and the shape of the yield curve at any given point in time. For example, during a period where interest rates are near historical lows, fixed long-term debt may be very attractive. On the other hand, in an environment where interest rates are high and expected to decline, variable-rate debt may be attractive. As shown in Chart 5-5, the current interest rate environment is very favorable for fixed-rate debt (as shown by the Bond Buyer Revenue Bond Index, a long-term bond index) with rates near to historical lows.

The mix of fixed-rate debt to variable-rate debt is developed from time to time by the Water Authority based upon projected fund balances. It should be noted that the actual use of debt in the future may vary from what is currently forecasted and no assurance can be given that the Water Authority will continue to use the same mix of fixed-rate and variable-rate debt. A total of \$335 million is planned to be issued over the LRFPP planning period.

### Debt Structure and Principal Amortization

The last step in developing a prudent financing plan is developing the debt structure and principal amortization schedules for the new fixed-rate debt and variable-rate debt. Generally, the Water Authority structures each debt issue to provide a smooth and level total debt service payment schedule over the subsequent 30 years to minimize near and long-term water rate impacts and to equitably and prudently spread the debt service cost over current and future ratepayers. To achieve more level aggregate annual debt service for its bond portfolio, the Water Authority from time to time structures its bond issues with somewhat deferred principal amortization. By deferring the amortization of the principal of debt issued during the peak years of CIP expenditures and paying interest-only in the earlier years, the Water Authority's aggregate total debt service can remain fairly level. For purposes of this forecast, the two projected issuances have not been "wrapped," rather a standard amortization schedule is assumed. The Water Authority will work with its financial advisors at time of issuance to determine a sensible approach.

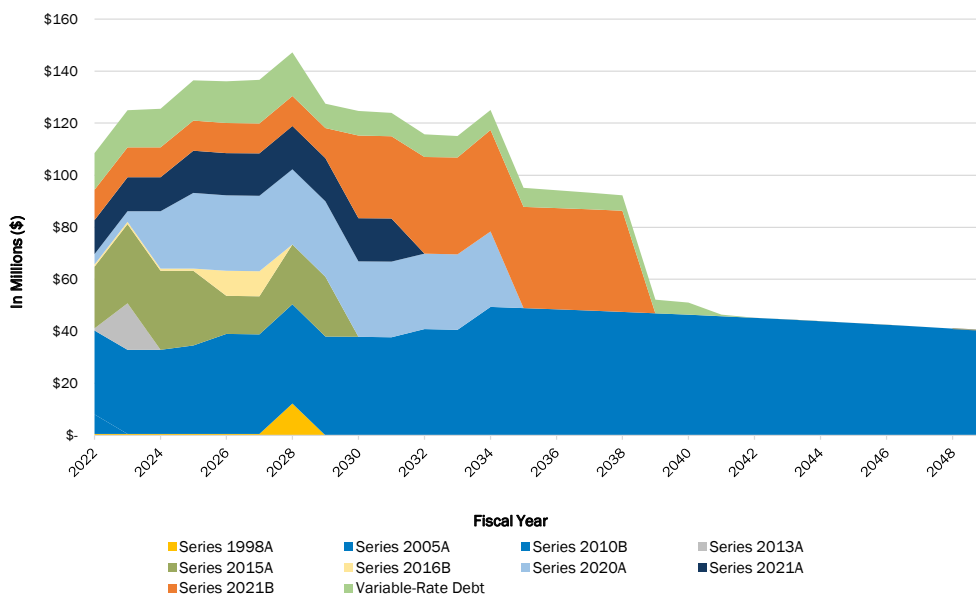
Typically, longer-term debt better matches the expected useful service life of many of the assets financed by public utilities, and help mitigate the rate impacts from new debt issues by enhancing the Water Authority’s ability to “wrap” the new debt around the existing debt. Debt longer than 30 years has become more common among utilities as a result of a relatively “flat” yield curve, with 40-year interest rates being only moderately higher than 30-year rates.

Even with a 40-year term, many of the assets funded with debt would still be in service after the debt is retired. For example, many of the Water Authority’s existing pipeline assets are more than 30 years old and have been fully paid for by previous ratepayers and the San Vicente Dam is expected to have a 100-year service. Therefore, extending the term of the debt does not necessarily contradict the goal of intergenerational ratepayer equity. To the contrary, it may better match the benefits of long-lived assets to all ratepayers, now and in the future.

The Water Authority’s variable rate debt, which is made up of traditional commercial paper and, from time to time, extendable commercial paper programs typically is structured with a 30-year amortization schedule. This ensures that the amortization schedule matches the expected service life of the assets funded with the proceeds.

The Water Authority’s Commercial Paper Program is typically structured with principal amortized over a 30-year period. Chart 5-6 below and Tables 5-2, 5-3, and 5-4 on the following page show the Water Authority’s current debt obligations and projected debt repayment schedules. The Schedule of Future Debt Issuance Section shows the projected debt service payments of new debt over the planning period.

**Chart 5-6: Outstanding Debt & Debt Service Payment Schedules**



Excludes Desal Pipeline Bond debt issue. Variable-rate debt includes Commercial Paper and Series 2021S-1 debt.

Table 5-2: Outstanding Long-Term Debt as of June 30, 2021

Issue Name	Final Maturity	Original Par Amount	Amount Outstanding
<i>Water Revenue Certificates of Participation:</i>			
Series 1998A	2028	180,000,000	11,685,000
Series 2005A	2022	107,455,000	7,075,000
<i>Water Revenue Bonds:</i>			
Series 2010B (Taxable Build America Bonds)	2049	526,135,000	526,135,000
Series 2013A	2023	299,105,000	17,120,000
Series 2015A	2029	184,795,000	154,645,000
Series 2016B	2027	197,395,000	17,865,000
Series 2019 (Pipeline Bond)	2045	183,155,000	182,580,000
Series 2020A	2034	283,470,000	283,470,000
Series 2021A	2031	117,690,000	117,690,000
Series 2021B	2038	271,455,000	271,455,000
<b>Total</b>		<b>\$ 2,497,145,000</b>	<b>\$ 1,736,210,000</b>

Table 5-3: Subordinate Lien Fixed-Rate Debt as of June 30, 2021

Issue Name	Final Maturity	Original Par Amount	Amount Outstanding
Water Revenue Refunding Bonds, Series 2021S-1	2028	\$146,490,000	\$146,490,000

Table 5-4: TECP &amp; ECP Program Summary as of June 30, 2021

Short-Term Active Debt Instruments	Size	Liquidity Provider
Series 9	\$135,000,000	Bank of America
Series 10	\$110,000,000	Bank of the West

## Significant Debt Program Assumptions

A variety of structuring decisions are made each time the Water Authority issues debt and a number of similar assumptions are incorporated in the planning process to project future debt service. A number of key assumptions governing new debt projections are discussed below.

- ▶ **Term** - All new money debt is assumed to be amortized over a 30-year term. This includes fixed and variable-rate debt. While long-term 40-year debt will be considered, 30 years represents a more conservative assumption.
- ▶ **Fixed and Variable Interest Rates** - In projecting fixed-rate debt for the Capital Financing Plan, interest rates are derived from the ten-year historical average of a long-term municipal interest rate index, adjusted for the Water Authority's strong credit characteristics.

For short-term debt interest rate projections, the current interest rate of 0.15% is trended to a historical average interest rate of 2.5% over the next three years. Given current market conditions, the forecasted 2022 issue assumes a 3.5% interest rate while the 2029 issue assumes a more conservative 5.0%.

The Capital Financing Plan assumes that all future debt will be tax-exempt as well, and that any expenditure that would not qualify for tax-exempt financing would be financed with Water Authority cash or within the “de minimis” portion of tax-exempt bond proceeds allowed for under the Tax Code for “private activity” projects. That being said, the Water Authority may find it prudent to issue some taxable debt from time-to-time and accept the higher interest cost in exchange for greater flexibility in the use of proceeds.

- ▶ **Issuance Costs and Capitalized Interest** - The cost of issuance of expected debt is projected at 0.5% of the par amount and annual fees are based upon current fees escalated. These costs will include underwriting fees, legal fees, financial advisory fees, and other miscellaneous fees typically associated with a debt financing.
- ▶ **Principal Amortization** - Projected debt issuances assume a normal amortization schedule. At the time of issuance, the Water Authority will review opportunities to “wrap” annual debt service payments around existing payments to mitigate potential spikes and minimize rate impacts.
- ▶ **Debt Service Reserve** - No debt service reserves were assumed with either the 2022 or the 2029 issues.

## Schedule of Future Debt Issuance

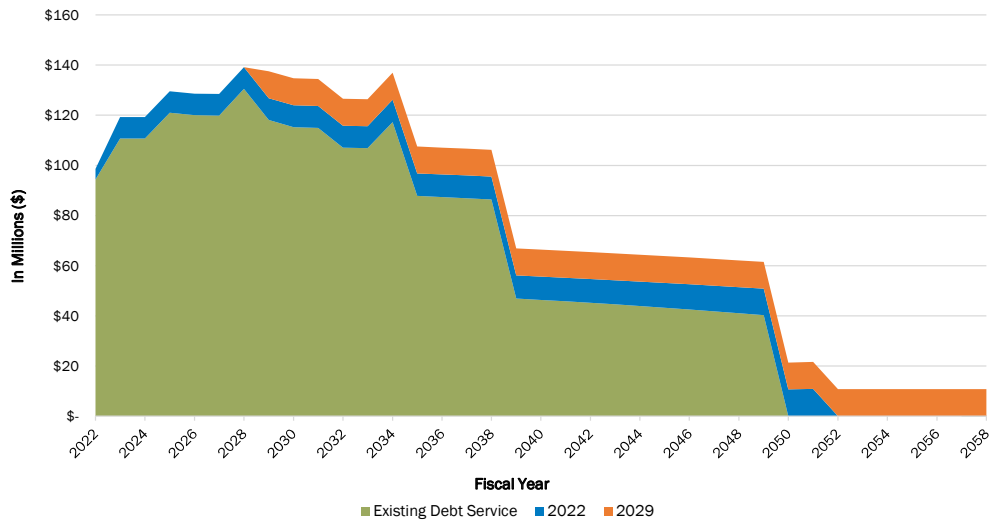
Future new money fixed rate debt issuances and their estimated size are summarized below. Table 5-5 shows the issue amount for all projected fixed-rate debt. It should be noted that all fixed-rate debt is expected to be issued on a senior lien basis and is included in the debt service coverage ratio presented in Chart 5-2. The projected debt service payments for existing and expected debt issuances are shown in Chart 5-7.

**Table 5-5: Projected Senior Lien Debt Issuances**

Projected Issuance	Issue Amount
Series 2022	\$170,000,000
Series 2029	\$165,000,000
<b>Total</b>	<b>\$335,000,000</b>

Chart 5-7 shows the impact of the projected new money senior lien debt issuances on the Water Authority’s annual debt service payments. As shown, the debt service payment increases over the LRFPP planning period are minor and reflect the CIP spending levels. The projections presented here reflect a 30-year long-term bond term. It is important to note that at the time of issuance longer term debt will be considered.

Chart 5-7: Existing and Projected Debt Issuance



The expectations included herein are based upon financial forecasts and projections that are based on many factors, including estimates of the operating expenses, including electricity costs; state and federal laws, any or all of which may change from time to time; assumptions regarding the rate of return on invested monies; the occurrence of future events, conditions and Water System performance. Furthermore, future events, over many of which the Water Authority has no control, may adversely affect Net Water Revenues. Actual results will differ from such forecasts and projections because circumstances and events will not occur as projected and some of those differences may be material. The financial forecasts and projections included herein contain statements relating to future results that are “forward-looking statements” as defined in the Private Securities Litigation Reform Act of 1995. When used herein, the words “anticipate,” “estimate,” “intend,” “expect,” “assume,” “forecast,” “maintain” and other similar words and expressions identify forward-looking statements. Any forward-looking statement herein is based on various assumptions and estimates and are inherently subject to uncertainty and risks, including risks and uncertainties relating to the possible invalidity of the underlying assumptions and estimates and possible changes or developments in the social, economic, business, industry, market, legal and regulatory circumstances and conditions and actions taken or omitted to be taken by third parties, including legislative, judicial and other governmental authorities and officials. Assumptions related to the foregoing involve judgments with respect to, among other things, future environmental, economic, competitive and market conditions and future business decisions, all of which are difficult or impossible to predict accurately and many of which are beyond the control of the Water Authority. Any such assumptions could be inaccurate and, therefore, there can be no assurance that the forward-looking statements included herein will prove to be accurate, and actual results, performance or achievements may differ, possibly materially, from those contemplated in such forward-looking statements. Inevitably, some assumptions used to develop forward-looking statements will not be realized or unanticipated events and circumstances may occur. Therefore, readers hereof should be aware that there are likely to be differences between forward-looking statements and actual results and those differences could be material.



## WATER AUTHORITY FINANCIAL FORECAST

In concert with the Water Authority's biennial budget process, the Water Authority assesses and adjusts its Rates and Charges annually to ensure adequate cost recovery. As dictated by changes in system design, use, cost structures, or Board policies, the design or implementation of the Water Authority rates have undergone comprehensive rate redesigns. In 2003, the Water Authority's Board implemented a new rate structure designed to more effectively allocate the cost of service to its customers and to increase the proportion of revenues collected by fixed charges. The defined rate categories include fixed annual Storage and Customer Service Charges, and volumetric Transportation and Melded Municipal and Industrial (M&I) Supply Rates. The pre-existing Infrastructure Access Charge, which was created to protect against potential future rate "spikes", was carried over. In 2006, a Treatment rate was added. In March 2015, the Board further enhanced the rate and charge structure by creating the Supply Reliability Charge (SRC). The Transitional Special Agricultural Water Rate (TSAWR) program, which began in 2008 with the objective of providing water to farmers at a discounted rate in exchange for a lower level of service, was replaced with the Permanent Special Agricultural Water Rate (PSAWR) in January of 2021. Refinement of the rate and charge structure is ongoing with the objectives of balancing ratepayer equity and financial resilience.

This section provides a brief description of the Water Authority's rates and charges and a forecast of the Water Authority's sources and uses of funds. The forecast represents the Water Authority's current projections, which are based upon current and historical data. It is important to note that these projections are subject to change and should be viewed as estimates. The Rate Guidance Drivers and Sensitivities section provides an analysis of select non-deterministic (i.e. random) variables critical to the execution of this plan. The remainder of this section provides an overview of the Water Authority's various sources and uses of funds and the financial projections.

### Water Authority Rates and Charges

The Water Authority collects revenues from a variety of sources. Some sources are fixed and predictable, whereas others are variable, subject to changes in the amount of water sold or economic development.

The Water Authority's rates and charges are summarized in Figure 6-1 on the following page. The water rates can be split into two types; fixed and commodity (variable). The Customer Service, Storage, and Supply Reliability Charge (SRC) are fixed (based on historical use) while the Melded Supply, Melded Treatment Rate, and Transportation Rate are assessed upon water purchased. Other rates and charges include the Infrastructure Access Charge (IAC), property taxes and in-lieu charges. Capital charges include the System Capacity, the Treatment Capacity and the Water Standby Availability Charge. A description of each of the Water Authority's rates and charges are provided below.

Figure 6-1: Water Authority Rates and Charges

<b>WATER RATES</b>	<b>Annual Fixed Charges (\$M)</b> Customer Service Charge Storage Charge Supply Reliability Charge	<b>Commodity (variable) Rates (\$/AF)</b> Melded Supply Rate Melded Treatment Rate Transportation Rate PSAWR
<b>OTHER RATES AND CHARGES</b>	Infrastructure Access Charge (\$/ME) Property Taxes (\$M) In-Lieu Charges (\$M)	
<b>CAPITAL CHARGES</b>	System Capacity Charge (\$/ME) Treatment Capacity Charge (\$/ME) Water Standby Availability Charge (\$/Parcel)	

### Water Authority Annual Fixed Water Charges

The Water Authority’s annual fixed charges are assessed annually based on historical use of the system. While the revenue is fixed (for the year assessed), each member agency’s assessment changes annually based on new data.

#### **Customer Service Charge**

The Customer Service Charge is set to recover costs that are necessary to support the functioning of the Water Authority, develop policies, and implement programs that benefit the region as a whole. The Customer Service Charge is allocated among the member agencies on the basis of each agency’s share of the three-year rolling average of all deliveries (excludes member agency wheeled water).

#### **Storage Charge**

The Storage Charge is set to recover costs associated with the Emergency Storage Project (ESP) and the Carryover Storage Program (CSP). The Storage Charge is allocated among the member agencies on the basis of each agency’s three-year rolling average of M&I deliveries. In return for not paying the Storage Charge, agricultural customers participating in the Permanent Special Agricultural Water Rate (PSAWR) program agree to receive a level of service during an emergency that is less than that received by the Water Authority’s M&I customers. The level of service reduction PSAWR customers experience will be double the rate of the targeted system-wide reductions, up to a maximum of 90%.

#### **Supply Reliability Charge**

This charge recognizes the importance of equitably recovering the cost of the Water Authority’s investments in long-term water supply reliability in accordance with cost of service principals and California law. As adopted by the Board, the SRC recovers a portion of the water supply costs associated with the Carlsbad Desalination Plant and the Imperial Irrigation District’s (IID) water transfers. Together these supplies are the cornerstones of the supply reliability diversification efforts and the Water Authority’s most reliable water supplies. As with the Storage Charge, PSAWR customers do not pay the Supply Reliability Charge and in exchange receive a lower level of service in the

event of water cutbacks. In addition to recovering a proportionate share of the cost of water supply reliability, the SRC also helps to reduce water sales revenue volatility by increasing the amount of fixed revenues. The Supply Reliability Charge of each Member Agency is assessed based on the five-year rolling average of M&I deliveries.

## Water Authority Commodity Rates

### ***Melded Untreated M&I Supply Rate***

The per acre-foot Melded Untreated M&I Supply Rate recovers the cost of water to the Water Authority. The melded supply rate includes the costs of water purchased from Metropolitan Water District of Southern California (MWD) and IID, the costs of water supplies from the canal lining projects, the MWD transportation costs for non-MWD supplies, desalination supply costs, and system losses. In addition, the rate recovers certain fixed costs associated with the Quantification Settlement Agreement (QSA), and may recover costs of certain operating budget expenditures associated with the procurement of water and wheeling.

MWD costs are the largest single contributor to the Melded Untreated M&I Supply Rate. While MWD does not provide the largest supply of water to the Water Authority, all water imported to the San Diego region is conveyed through MWD's system, and is assessed a charge accordingly. MWD's rates are broken into supply, system access/distribution, power, and treatment (included in the Melded M&I Treatment Rate), with a two-tiered pricing (inclining block) structure for water supplies. The Water Authority is not expected to incur MWD's higher tier 2 rate due to the implementation of the Water Authority's supply diversification plan.

### ***Melded M&I Treatment Rate***

Effective January 1, 2006, the Water Authority implemented a Melded Treatment Rate. This per-acre-foot rate is designed to recover the Water Authority's water treatment costs. The Melded M&I Treatment Rate includes the costs of purchasing treated water from MWD, the operating and capital costs associated with the Water Authority's agreement with Helix Water District's Levy Water Treatment Plant, the operating and capital costs associated with the Water Authority's Twin Oaks Valley Treatment Plant, other costs associated with the delivery of treated water, and when utilized, the operating costs associated with the Olivenhain Treatment Plant. Some desalinated water costs are also allocated to this rate as the result of the desalination process is treated water.

### ***Transportation Rate***

The Transportation Rate is a uniform rate set to recover capital, and operating and maintenance costs of the Water Authority's aqueduct system including all facilities used to physically transport the water to member agency meters. The Transportation Rate is charged to each acre-foot of water as delivered by the Water Authority through Water Authority facilities. All users, member agencies, and third-party wheelers pay the Transportation Rate.

### ***Permanent Special Agricultural Water Rate***

Through the PSAWR program, agricultural water users are able to purchase untreated water at the MWD rate. The PSAWR program rates correspond to a lower level of water supply reliability for its participants than M&I customers receive. PSAWR customers that desire treated PSAWR supplies also pay the Treatment Rate.

## Other Rates and Charges

The Water Authority also levies other rates and charges. These include:

### ***Infrastructure Access Charges***

In June 1998, the IAC was adopted by the Board to provide fixed revenue to help stabilize the Water Authority's revenues. By increasing fixed revenues, the IAC helps to mitigate water sales revenue volatility that can result from sudden changes in water demand/availability and/or economic cycles. The IAC is a fixed charge that is levied on all retail water meters within the Water Authority's service area. The IAC maintains a minimum ratio of projected fixed revenues to projected fixed expenditures of 25% in any future fiscal year, excluding fixed water rate revenues. Fixed expenditures are defined as capital costs (i.e., annual debt expense, PAYGO CIP, or depreciation), 80% of operations and maintenance expenditures, and a portion of the Local Water Supply Development program costs.

### ***Property Taxes & In Lieu-Charges***

The Water Authority is empowered under the County Water Authority Act to levy taxes on all taxable property within its boundaries for the purpose of paying its voter-approved general obligation bonds (G.O. Bonds), or for other Water Authority purposes, subject to certain limitations in the Act, the California Revenue and Taxation Code, and the California Constitution.

The San Diego County Assessor determines assessed valuation, and the Water Authority's Board of Directors levies the property taxes annually. The taxes levied are billed and collected by the County of San Diego and are remitted to the Water Authority throughout the year. The tax rate set by the Water Authority's Board is based upon the assessed valuation of taxable property within the Water Authority's service area. The City of San Diego pays the Water Authority an in-lieu charge instead of the tax levy.

The Water Authority also receives a portion of the 1% ad valorem property tax levied by the County pursuant to Article XIII A of the California Constitution, which it uses for annual operating expenditures and debt service.

## Capital Charges

The Water Authority's rates and charges include fees designed to recover a portion of the capital costs for the region's water system. Revenues generated by these charges are restricted to capital costs, which includes debt service. These charges include:

- ▶ **Water Standby Availability Charges-** On April 12, 1990, the Board of Directors adopted Resolution 90-17 for Standby Charges, under Section 45-5.2 of the Act and Article 23 of the Water Authority's Administrative Code. The charge is \$10 per acre per year, or \$10 for a parcel less than one acre per year. The charge for each parcel that includes more than one acre shall be determined by multiplying the total number of acres in said parcel by \$10. The charge is added to the Secured Tax Roll collected via the San Diego County property tax collection process and remitted by the County to the Water Authority.

- ▶ **System Capacity Charges-** In May 1990, the Water Authority’s Board of Directors adopted a System Capacity Charge on all new or upsized retail water meters installed. The charge is designed to recover a proportionate share of the capital costs associated with providing services to new connections in the Water Authority’s service area. This follows existing Government Code (Section 54991), which states that System Capacity Charges “shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed...” In May 2005, the Board approved a change in the System Capacity Charge calculation methodology, which balances the extra capacity present in the system financed by existing customers with the benefits of use by future customers. This methodology was again confirmed in the Water Authority’s 2015 Capacity Charge Study.
- ▶ **Treatment Capacity Charges-** In May 2005, the Board also approved the creation of a Treatment Capacity Charge to help fund the Water Authority’s regional water treatment facility. The charge recovers a portion of the capital costs from the future users of the facility. Like the System Capacity Charge, the fee is based upon the size of the meter installed.

### MWD Pass-Through Charges

Additional charges include MWD’s Readiness-to-Serve Charge and MWD’s Capacity Charge, formerly known as the Capacity Reservation Charge. These charges are passed through to member agencies based upon the member agencies in kind. The charge and allocation method is discussed below.

#### ***MWD Readiness-to-Serve Charge***

The Readiness-to-Serve Charge (RTS) recovers MWD’s debt service for construction projects necessary to meet the reliability and water quality needs of current water users, as opposed to new customers. MWD passes these costs, as well as an administration fee, to its member agencies based upon the member agency’s share of the ten-year rolling average firm water deliveries. This ensures that all member agencies pay a share of the fixed costs necessary to meet existing demand for MWD’s water. The MWD Standby Charge revenues, which MWD collects from ratepayers in the Water Authority’s service area, offset the RTS charge paid by the Water Authority. The Water Authority utilizes the same methodology when passing the RTS Charge to its member agencies. The charge is expected to increase as MWD’s debt service on new reliability and water quality related construction projects increases.

MWD collects delinquent payment of its Standby Charge revenue from the Water Authority. These delinquency charges are paid by the Water Authority and are not passed on to member agencies. The Water Authority keeps penalties and interest collected on the delinquent accounts.

### MWD Capacity Charge

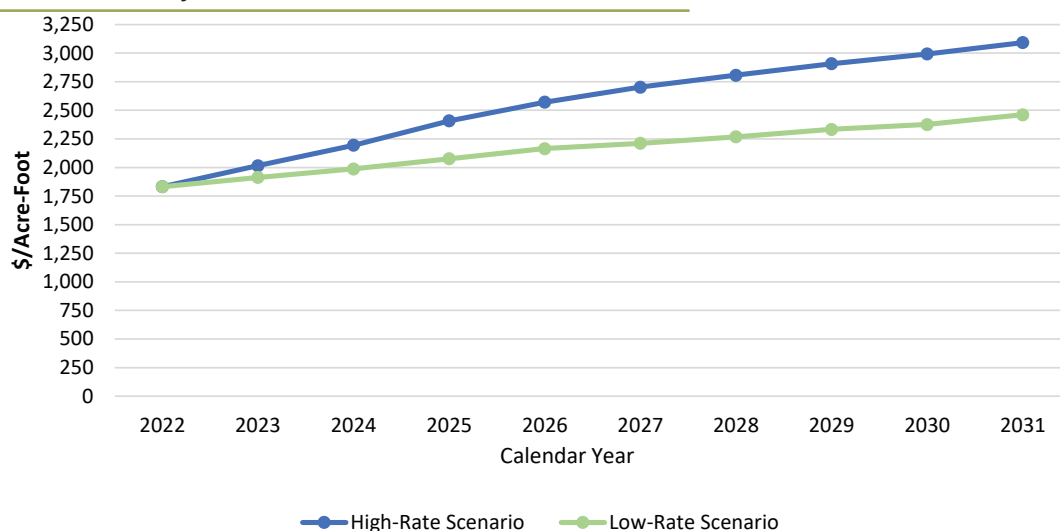
The Capacity Charge is a fixed charge levied on an agency’s maximum daily flows over the three previous fiscal years. It recovers the cost of providing peak capacity within the distribution system, and is designed to encourage member agencies to shift demands and avoid placing large daily peaks on the MWD system during the summer months. Daily flow measured between May 1 and September 30 for purposes of billing the Capacity Charge will include deliveries (except long-term seasonal storage deliveries) made by MWD to a member agency or member agency customer including water transfers, exchanges, and agricultural deliveries. As part of a separate surface reservoir operating agreement to manage seasonal peaking, the Water Authority is expected to reserve its full available capacity. The Water Authority’s Board has directed that the Capacity Charge be recovered proportionally based on a five-year rolling average of member agency flows during coincident peak weeks.

### Projected Rates and Charges

While a baseline forecast was developed and serves as the foundation of this analysis, future rates and charges will ultimately be determined by many fluctuating and irregular factors that include water demand, water supply costs, capital costs, operating costs, etc. These factors have long-term rate and charge impacts making it difficult to narrowly project the Water Authority long-term rates and charges. As a result, a high and low range of rates are developed to provide general guidance on the anticipated rate and charge impacts. The high rate and charge projection is based upon low water sales outlook and higher input costs (MWD, Desal, O&M, and CIP). Inversely, the low-rate projection is based upon higher water demands and lower input costs. Specific details are discussed in the Rate Guidance Drivers and Sensitivities section.

The rate and charge projections in Chart 6-1 show the All-in Treated M&I rate per acre-foot of treated water. The overall rate includes the Water Authority’s volumetric charges, as well as the customer service, supply reliability, and storage charges. The fixed water charges are converted to an average rate (i.e. \$/acre-foot) by dividing them by the projected water sales. The commodity rates and the average fixed water rates are then summed to calculate the Water Authority’s overall M&I water rate. As the chart shows, rates and charges are projected to continue to increase throughout the LRF planning period as water supply costs continue to increase well above general inflation. As a result of historical rate smoothing (implementing rates below full cost), increases will also serve to balance existing rate shortfalls.

**Chart 6-1: Projected M&I All-in Treated Water Rates**





**Table 6-1: Projected M&I Treated All-In Rates (\$/AF) \*(Calendar Year)**

	2022*	2023	2024	2025	2026	2027	2028	2029	2030	2031
High-Rate Scenario	1,833	2,017	2,196	2,408	2,571	2,703	2,807	2,908	2,993	3,092
Low-Rate Scenario	1,833	1,913	1,988	2,077	2,165	2,212	2,269	2,334	2,376	2,462

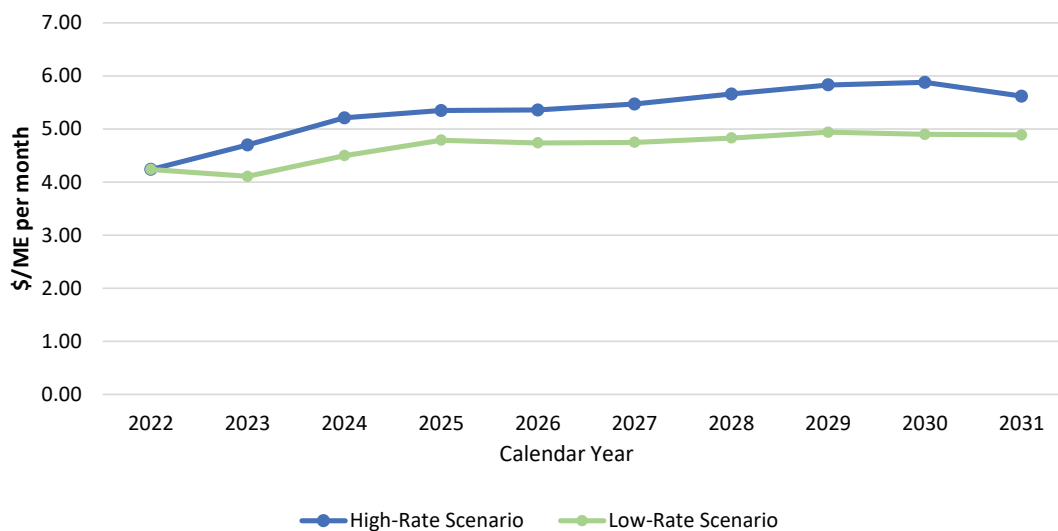
\*CY 2022 reflects Board Adopted Rates and Charges

The compounded annual growth rate (CAGR) of the high and low projections are 6.0% and 3.3%, respectively. Chart 6-1 shows the estimated overall high and low M&I water rate estimates which includes both the fixed charges converted to a cost per acre-foot and the commodity water rates.

Given that the fixed charges are converted into cost per acre-foot, it is important to recognize the water sales forecast’s impact. Even if the Water Authority’s actual rates and charges do not change, some movement in the overall M&I water rate is expected. The overall M&I water rate is only intended to provide a simple summary of the Water Authority’s water rates and charges for illustrative purposes.

A projected high and low IAC forecast is shown in Chart 6-2. The variability illustrated in the IAC reflects the input cost volatility of fixed expenses. Additionally, the IAC is projected to increase over the LRF planning period as PAYGO, debt service, and other defined fixed costs increase.

**Chart 6-2: Infrastructure Access Charge (Calendar Year)**



**Table 6-2: Projected Infrastructure Access Charge (\$/ME per month) (Calendar Year)**

	2022*	2023	2024	2025	2026	2027	2028	2029	2030	2031
High-Rate Scenario	4.24	4.70	5.21	5.35	5.36	5.47	5.66	5.83	5.88	5.62
Low-Rate Scenario	4.24	4.11	4.50	4.79	4.74	4.75	4.83	4.94	4.90	4.89

\*CY 2022 reflects Board Adopted Rates and Charges

### Projected Sources of Funds

A baseline financial projection for the Water Authority was developed using expected rate and charge assumptions for CIP, water sales, capital financing plan, and other assumptions provided in this section. As there is both upside and downside risk, this provides an estimate of the Water Authority’s expected financial performance Table 6-3 and Chart 6-3 below show the projected sources of funds for the planning period.

**Table 6-3: Revenues & Other Funding Sources\* (Fiscal Year),(\$ Millions)**

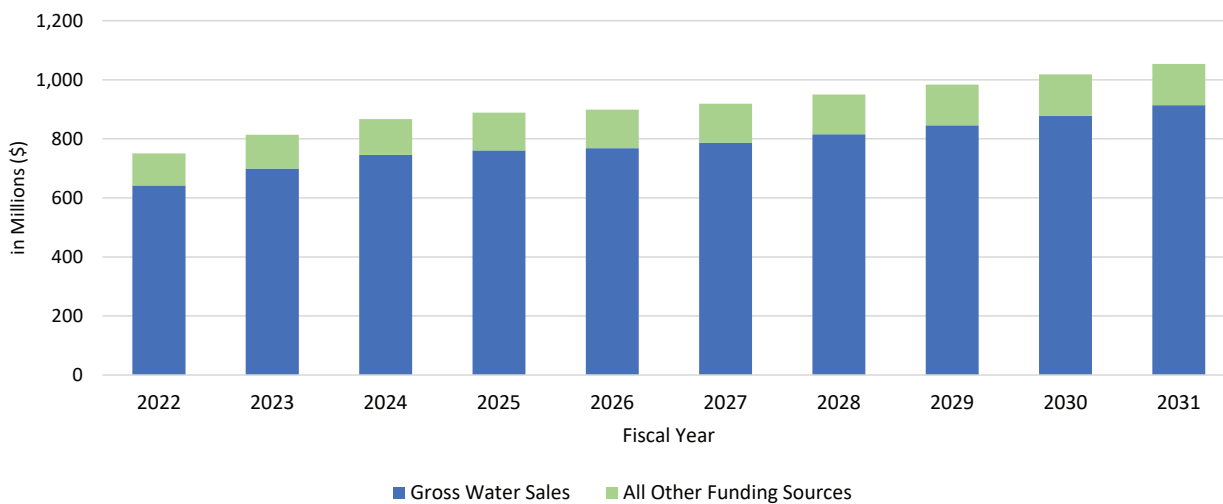
	Projected									
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Gross Water Sales	641.73	699.43	745.90	761.21	768.01	786.82	815.30	845.86	878.54	914.42
Property Taxes & In-Lieu Charges	16.10	16.42	16.75	17.09	17.43	17.78	18.13	18.49	18.86	19.24
Investment Income	4.36	4.76	6.36	8.58	10.13	10.64	11.05	11.62	11.84	12.22
<b>Capital Contributions</b>										
Water Standby Availability Charges	11.11	11.11	11.11	11.11	11.12	11.12	11.12	11.12	11.12	11.12
System Capacity Charges	16.32	16.56	16.95	17.35	17.75	18.17	18.60	19.03	19.48	19.94
Treatment Capacity Charges	0.46	0.46	0.48	0.49	0.50	0.52	0.53	0.55	0.56	0.58
Contributions in Aid of Construction <sup>(1)</sup>										
Infrastructure Access Charge	44.76	47.80	51.91	55.82	57.07	57.49	58.79	60.54	61.54	60.51
Hydroelectric Revenue	2.89	3.66	3.68	3.71	3.74	3.77	3.79	3.82	3.86	3.89
Other Income <sup>(2)</sup>	13.28	13.32	13.35	13.39	13.15	12.93	12.71	12.51	12.30	12.11
Fund Withdrawals (Deposits)	33.38	55.33	12.17	29.94	0.73	(4.26)	6.13	54.49	30.89	31.37
<b>Totals</b>	<b>\$784.38</b>	<b>\$868.85</b>	<b>\$878.67</b>	<b>\$918.69</b>	<b>\$899.64</b>	<b>\$914.97</b>	<b>\$956.15</b>	<b>\$1,038.03</b>	<b>\$1,049.00</b>	<b>\$1,085.38</b>

\* Based upon the baseline rate and charge scenario assumptions. Numbers may not foot due to rounding.

(1) Contributions in Aid of Construction excluded to ensure that CWA has appropriate funding in place.

(2) Includes the Build America Bonds (BAB's) interest rate subsidy.

**Chart 6-3: Revenues & Other Funding Sources\***



\* Does not include fund deposits or withdrawals

### Gross Water Sales

Gross water sales projections were developed based upon the baseline assumptions. The increase in revenues over time is due to increasing rates and charges as well as a return to average water sales volumes.

### Infrastructure Access Charge

As discussed previously, the IAC is calculated to help cover a percentage of the Water Authority's fixed costs. The forecasted revenue increases shown in Table 6-3 reflect the increased fixed costs as well as Meter Equivalent (MEU) growth rate.

### Property Tax and in-Lieu Charges

Property taxes and in-lieu charge revenues are projected using a 2% growth rate. The primary driver for increases in this revenue stream are increases in assessed value and improvements. This reflects a conservative assumption based on recent valuation trends.

### Investment Income

The Water Authority, at times, has received a significant amount of income from investing its cash balances. This is an important source of revenue which helps offset the Water Authority's expenditures. Investment income on the cash balances in the Operating Fund, Rate Stabilization Fund, and Debt Service Reserve Fund is available to fund general Water Authority operating expenditures. The PAYGO Fund investment income is restricted to paying for capital expenditures or debt service. The Construction Fund investment income is used to fund construction expenditures and is included as part of the available funds, thus reducing the issuance sizing accordingly.

Investment income projections are based upon projected cash balances and prevailing interest rates. Interest rate projections are based upon a three-year trend from current rates to the 15-year average earning rate.

### Capital Contributions

Capital contributions are independent of water use and are fixed to recover costs associated with new system capacity/reliability or maintaining existing system capacity/reliability. The use of capital contributions revenue is restricted to paying for CIP projects and is deposited in the PAYGO Fund.

Capital contributions are made up of Water Standby Availability Charges, System Capacity Charges, Treatment Capacity Charges, and Contributions in Aid of Construction (CIAC). Each of these revenue sources is discussed below.

Water Standby Availability Charges are based upon parcels/acres in the Water Authority's service area. This revenue stream is projected to remain flat with no rate increases anticipated.

System Capacity and Treatment Charge revenues are projected to remain relatively flat with inflationary increases in the charges and a low rate of new system connections. Revenues are projected using a 2% annual increase.

Grants or contributions from member agencies for capital projects make up CIAC. Typically these revenues are restricted to specific projects/uses. In some instances, a member agency may reimburse the Water Authority for improvements to their system as part of a Water Authority project.

## Hydroelectric Revenues

The Water Authority owns and operates two hydroelectric facilities that generate revenue. These facilities include a facility at Lake Hodges and the Rancho Peñasquitos facility. These revenues are projected to remain flat with an annual inflation adjustment of just under 1%.

## Other Income

Other income includes encroachment permits, easements, gain/loss on the sale of assets, delinquency fees, plan-check reimbursements, and operating grants. These revenues are projected to remain flat.

## Net Fund Withdrawals

Cash fund withdrawals provide an important source of funds for the Water Authority. Fund withdrawals may be made to meet annual operations and maintenance, CIP or debt service expenses, to stabilize water rates and charges, or to comply with debt service coverage and operating fund policies. Deposits are made when funds are available once all of the fiscal year operational or fund policy requirements are met (i.e. deposit into the RSF) or when planned (i.e. Stored Water Fund deposits).

## Uses of Funds

The following chart and table show the projected use of funds over the planning period. The largest uses of funds include:

- ▶ **Water Purchases**
- ▶ **Capital Budget**
- ▶ **Debt Service**
- ▶ **Operations and Maintenance**

**Table 6-4: Expenditures**

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Water Purchases	530.03	555.52	580.27	588.85	597.70	615.21	633.78	655.41	677.69	703.96
Capital Budget	65.23	105.15	87.75	104.90	75.31	71.31	80.87	135.02	123.94	132.03
Debt Service <sup>(1)</sup>	112.78	133.51	134.13	145.03	144.71	145.22	155.84	159.44	156.62	156.00
Operating Budget	59.49	59.49	61.28	64.20	66.12	68.11	70.15	72.26	74.42	76.66
Equipment Replacement Fund	3.09	3.47	3.57	3.68	3.79	3.90	4.02	4.14	4.27	4.39
QSA Environmental/Other Commitments <sup>(2)</sup>	13.75	11.71	11.66	12.04	12.00	11.22	11.49	11.77	12.06	12.34
<b>Totals</b>	<b>\$784.38</b>	<b>\$868.85</b>	<b>\$878.67</b>	<b>\$918.69</b>	<b>\$899.64</b>	<b>\$914.97</b>	<b>\$956.15</b>	<b>\$1,038.03</b>	<b>\$1,049.00</b>	<b>\$1,085.38</b>

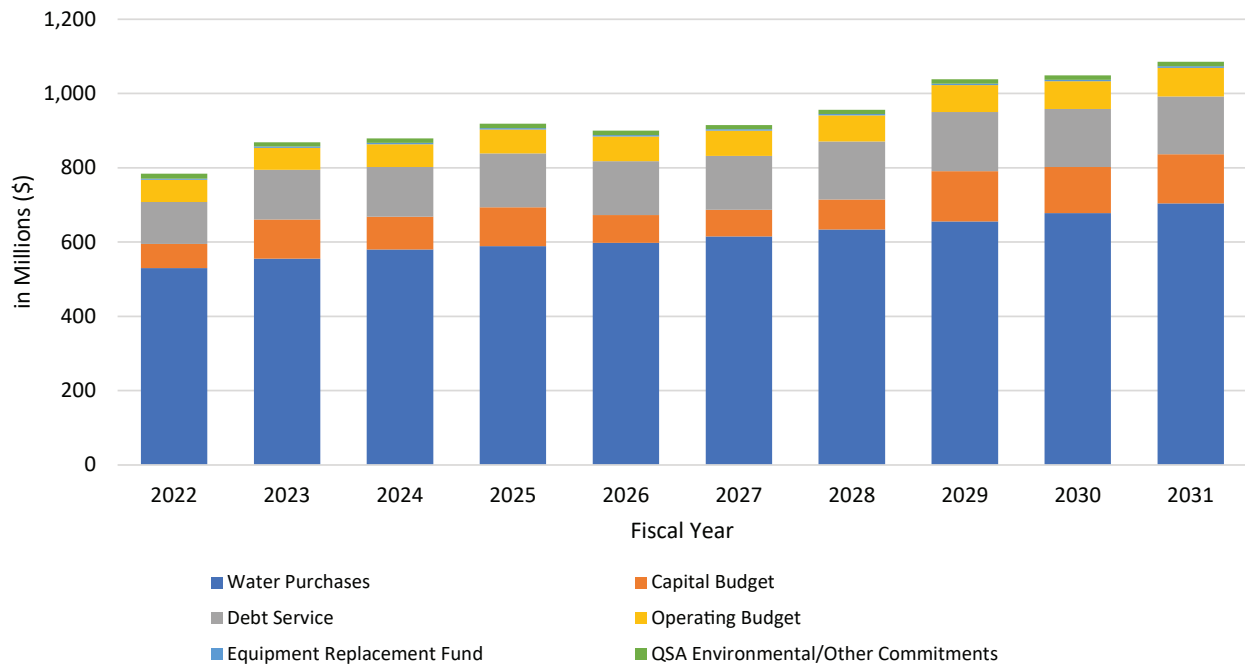
(1) Includes management fees and charges

(2) Other Commitments includes the 2019 Pipeline Bonds

## Water Purchases

Water purchases include all expenditures incurred by the Water Authority for supply and treatment. The Water Authority purchases water from MWD and IID, the Carlsbad Desalination Plant, and incurs operations and maintenance costs associated with the canal lining program. Other expenditures include MWD's transportation charges for transporting the IID and canal lining water to the Water Authority's system, MWD's RTS Charges, MWD's Capacity Charges, and the Water Authority's local

Chart 6-4: Expenditures



supply development credit programs. Water treatment costs are those associated with either MWD or water treatment contracts that the Water Authority has with other entities, including the operations contract for its Twin Oaks Water Treatment Plant.

In addition to MWD’s per acre-foot cost of water, MWD also charges its member agencies a RTS and a Capacity Reservation Charge. These charges are passed through to the Water Authority’s member agencies, so they have no net revenue or expenditure impact for the Water Authority.

MWD baseline untreated water rates and charges for 2023-2031 are projected to mirror historical increases and result in a CAGR of approximately 5.3%. Per existing agreements, the IID water supply rate is inflated based upon expected inflation. Other water purchase costs are projected based upon MWD rates and other costs.

### Capital Budget

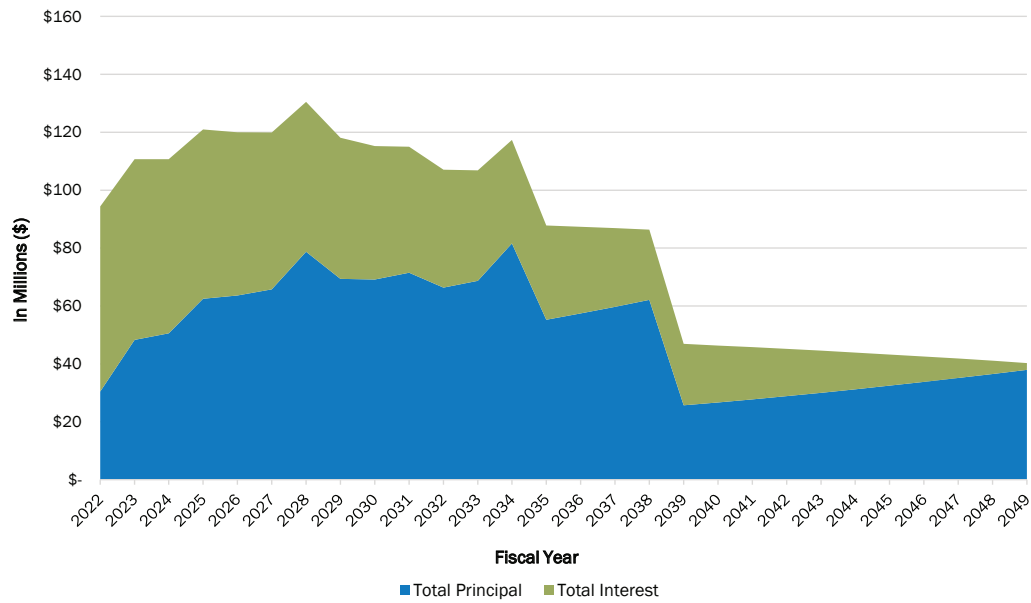
The capital budget reflects the CIP provided in the Capital Improvement Program section. The projected costs are adjusted for inflation and represent the best estimate of annual project costs.

### Debt Service (Existing)

The Water Authority’s current debt service expenditures include two certificate of participation issues, one revenue bond issue, six water revenue refunding bond issues, one water furnishing revenue refunding bond issue, two outstanding CP series, and one subordinate lien water revenue refunding bond issue. The scheduled principal and interest payments are shown in Table 6-5. The projected debt service payments are based upon the assumptions provided in the Capital Financing Plan Section.

Total debt service is projected to slightly increase over the Planning Period as the CIP continues to be partially funded with bonds, as shown in Chart 6-5 and Table 6-5.

Chart 6-5: Existing Long-Term Debt Service



Operating Budget

The operating budget makes up a small portion (6.7% for Fiscal Years 2022 and 2023) of the Water Authority’s total budgeted expenditures. Over the past several years only limited increases in the operating budget have occurred due to the careful management of operating expenditures. The increase in expenditures reflects increasing benefit costs. The projections beyond 2023 include a 3% annual rate of inflation in the operating budget and funding of 4 of the 7 eliminated positions in the Fiscal Years 2022 and 2023 Budget.

**QSA SUPPLIES AND THE PRICE STABILITY REALIZED**

The IID Conserved Water Transfer price is based on the U.S. Bureau of Economic Analysis’s Gross Domestic Product Implicit Price Deflator, a general inflation index which has experienced consecutive favorable increases of less than 2% annually. The conserved water received from the canal lining projects is the Water Authority’s lowest cost supply with pricing based on the Water Authority’s share of the operations and maintenance costs of the lined sections of the canals and increases less than general inflation. IID water deliveries from 2023 forward are scheduled at 200,000 acre-feet per year and compose approximately 50% of the Water Authority’s water supply mix, helping to stabilize the price the Water Authority will pay for future water supplies while enhancing water reliability.

Chart 6-6: IID & Canal Lining Delivery Schedule

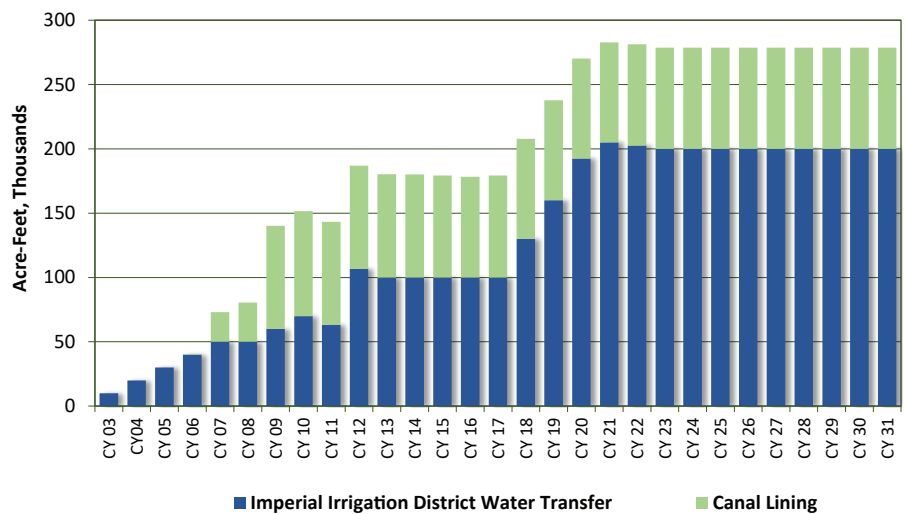




Table 6-5: Existing Long-Term Debt Service (Accrual Basis)\*

Fiscal Year	Total Principal	Total Interest	Total Debt Service
2022	30,450,000	63,914,265	94,364,265
2023	48,315,000	62,389,916	110,704,916
2024	50,580,000	60,124,616	110,704,616
2025	62,525,000	58,445,571	120,970,571
2026	63,650,000	56,369,574	120,019,574
2027	65,755,000	54,136,376	119,891,376
2028	78,730,000	51,753,824	130,483,824
2029	69,395,000	48,718,696	118,113,696
2030	69,155,000	46,104,899	115,259,899
2031	71,490,000	43,486,536	114,976,536
2032	66,325,000	40,716,455	107,041,455
2033	68,660,000	38,151,500	106,811,500
2034	81,575,000	35,743,765	117,318,765
2035	55,225,000	32,612,886	87,837,886
2036	57,425,000	29,934,488	87,359,488
2037	59,730,000	27,149,382	86,879,382
2038	62,105,000	24,252,514	86,357,514
2039	25,670,000	21,240,549	46,910,549
2040	26,695,000	19,664,924	46,359,924
2041	27,765,000	18,026,385	45,791,385
2042	28,870,000	16,322,170	45,192,170
2043	30,020,000	14,550,129	44,570,129
2044	31,220,000	12,707,501	43,927,501
2045	32,465,000	10,791,218	43,256,218
2046	33,760,000	8,798,516	42,558,516
2047	35,110,000	6,726,327	41,836,327
2048	36,510,000	4,571,276	41,081,276
2049	37,965,000	2,330,292	40,295,292
<b>TOTAL</b>	<b>\$ 1,407,140,000</b>	<b>\$ 909,734,551</b>	<b>\$ 2,316,874,551</b>

\*less 2021S1 &amp; 2019 desal

## Equipment Replacement Fund

The Equipment Replacement Fund was established to capitalize and allow for the replacement of vehicles, software, computers and other operations related equipment. The fund is sized to support the long-term needs of the Water Authority with the goal of moderating annual fluctuations and smoothing the impact of costly replacements.

## QSA Environmental/Other Commitments

As shown previously in Table 6-4, QSA Environmental and Other Commitments include scheduled payments for QSA environmental mitigation and payments for the 2019 Pipeline Bonds. The QSA environmental mitigation payments peaked in 2016 and will continue to decrease through Fiscal Year 2026, at which point the Water Authority's environmental mitigation contribution requirements will have been met. The 2019 Pipeline Bond payments increase through 2031.

Table 6-6 details the Fiscal Year 2022 through 2031 financial projections for revenues, expenditures, and debt service, calculating the projected Debt Service Coverage Ratio.

Table 6-6: Financial Projections (\$ Thousands)\*

	FY 22	FY 23	FY 24	FY 25
<b>OPERATING REVENUE</b>				
Water Sales	641,727	699,429	745,904	761,210
Capital Contributions				
Water Standby Availability Charges	11,111	11,112	11,113	11,114
System Capacity Charges	16,318	16,561	16,949	17,346
Treatment Capacity Charges	455	463	475	489
Infrastructure Access Charges	44,760	47,796	51,915	55,825
<b>TOTAL OPERATING REVENUE</b>	<b>714,372</b>	<b>775,361</b>	<b>826,357</b>	<b>845,984</b>
Plus Withdrawals from or Minus Deposits to the Rate Stabilization Fund	5,000	5,000	5,000	5,000
<b>NON-OPERATING REVENUE</b>				
Investment Income	4,359	4,760	6,358	8,584
Property Taxes & In-Lieu Charges	16,100	16,422	16,750	17,085
Hydroelectric Revenue	2,890	3,658	3,684	3,710
BABs Interest Rate Subsidy Revenue	10,659	10,659	10,659	10,659
	2,625	2,658	2,692	2,727
<b>TOTAL NON-OPERATING REVENUE</b>	<b>36,633</b>	<b>38,157</b>	<b>40,143</b>	<b>42,765</b>
<b>TOTAL REVENUE</b>	<b>756,005</b>	<b>818,519</b>	<b>871,500</b>	<b>893,749</b>
<b>OPERATING EXPENSES</b>				
Cost of Sales	530,033	555,520	580,270	588,847
Other Maintenance & Operations Costs	59,493	59,493	61,278	64,198
Equipment Replacement Fund	3,090	3,469	3,573	3,680
<b>TOTAL OPERATING EXPENSES</b>	<b>592,617</b>	<b>618,481</b>	<b>645,121</b>	<b>656,725</b>
<b>Net Water Revenue Available for Debt Service</b>	<b>163,388</b>	<b>200,037</b>	<b>226,380</b>	<b>237,024</b>
<b>LONG-TERM DEBT SERVICE<sup>(1)</sup></b>				
1998 Certificates	555	555	555	555
2005 Certificates	7,446	0	0	0
2010B Bonds (BABs)	32,294	32,294	32,294	34,029
2013A Bond	806	17,926	0	0
2015A Bond	23,682	30,418	30,415	28,678
2016A&B Bond	893	893	893	893
2020A Bond	4,005	4,005	21,930	29,034
2021A Bond	13,070	13,065	13,068	16,232
2021B Bond	11,613	11,549	11,549	11,549
2022 <sup>(2)</sup>	4,265	8,542	8,558	8,575
2029 <sup>(2)</sup>	0	0	0	0
<b>TOTAL LONG-TERM DEBT SERVICE</b>	<b>98,629</b>	<b>119,247</b>	<b>119,262</b>	<b>129,546</b>
<b>TOTAL SHORT-TERM DEBT SERVICE</b>	<b>14,154</b>	<b>14,258</b>	<b>14,871</b>	<b>15,483</b>
<b>TOTAL DEBT SERVICE</b>	<b>112,783</b>	<b>133,505</b>	<b>134,133</b>	<b>145,029</b>
Senior Lien Debt Service Coverage Ratio	1.66	1.68	1.90	1.83
Overall Debt Service Coverage Ratio	1.45	1.50	1.69	1.63

\*Projections are based upon the baseline rate and charge scenario assumptions.

(1) Does not include debt related management or other fees, or super subordinate 2019 Pipeline Bonds.

(2) Projected new money issuance

FY 26	FY 27	FY 28	FY 29	FY 30	FY 31
768,015	786,822	815,300	845,858	878,543	914,424
11,115	11,117	11,118	11,119	11,120	11,121
17,753	18,170	18,596	19,032	19,479	19,935
503	518	532	546	561	575
57,069	57,491	58,788	60,536	61,544	60,507
<b>854,455</b>	<b>874,117</b>	<b>904,333</b>	<b>937,092</b>	<b>971,247</b>	<b>1,006,563</b>
0	(5,000)	(5,000)	(5,000)	(10,000)	0
10,129	10,642	11,045	11,624	11,839	12,217
17,427	17,776	18,131	18,494	18,864	19,241
3,737	3,766	3,794	3,824	3,855	3,887
10,392	10,132	9,879	9,632	9,391	9,157
2,762	2,799	2,836	2,874	2,912	2,952
<b>44,449</b>	<b>45,114</b>	<b>45,686</b>	<b>46,448</b>	<b>46,861</b>	<b>47,453</b>
<b>898,904</b>	<b>914,231</b>	<b>945,019</b>	<b>978,540</b>	<b>1,008,109</b>	<b>1,054,016</b>
597,703	615,214	633,777	655,408	677,692	703,958
66,124	68,107	70,151	72,255	74,423	76,656
3,790	3,904	4,021	4,142	4,266	4,394
<b>667,617</b>	<b>687,225</b>	<b>707,949</b>	<b>731,804</b>	<b>756,381</b>	<b>785,007</b>
<b>231,287</b>	<b>227,006</b>	<b>237,070</b>	<b>246,736</b>	<b>251,728</b>	<b>269,009</b>
555	555	12,240	0	0	0
0	0	0	0	0	0
38,413	38,281	38,143	37,995	37,845	37,688
0	0	0	0	0	0
14,635	14,638	22,932	22,932	0	0
9,608	9,608	0	0	0	0
29,032	29,031	29,027	29,037	29,032	29,035
16,228	16,231	16,593	16,601	16,599	16,606
11,549	11,549	11,549	11,549	31,784	31,647
8,596	8,619	8,645	8,675	8,709	8,746
0	0	0	10,733	10,733	10,733
<b>128,615</b>	<b>128,510</b>	<b>139,129</b>	<b>137,522</b>	<b>134,702</b>	<b>134,456</b>
<b>16,096</b>	<b>16,708</b>	<b>16,708</b>	<b>21,913</b>	<b>21,918</b>	<b>21,544</b>
<b>144,711</b>	<b>145,218</b>	<b>155,837</b>	<b>159,435</b>	<b>156,620</b>	<b>156,000</b>
1.80	1.77	1.70	1.79	1.87	2.00
1.60	1.56	1.52	1.55	1.61	1.72

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## FUNDS AND RESERVES

The Water Authority maintains a number of different funds dedicated to support financial operations. Each fund serves a specific purpose which can be generally categorized as either an operating, capital, or debt service reserve fund. Funds categorized as operating provide monies for system operations, emergencies, working capital, debt service, and capital projects. The Water Authority’s operating funds include the Operating Fund, the Rate Stabilization Fund (RSF), and the Stored Water Fund. Capital funds hold monies for the Capital Improvement Program (CIP) and related asset expenditures. The Debt Service Reserve Fund contains reserves held in trust for the benefit of investors in the Water Authority’s long-term debt and currently consists of the 1998A COP and Series 2019 Pipeline Bond debt issuances. Funded with cash from proceeds from the debt issuances, these funds are applied to debt service if pledged revenues are insufficient to satisfy the debt service requirements. The Canal Maintenance Reserve Fund is responsible for maintenance costs necessary to maintain operation of the All-American and Coachella Canals and is funded through the cost of sale and rates and charges.

Figure 7-1 illustrates how the Water Authority’s rates and charges flow into the various funds. The funds can be used for the listed permitted expenditures while the Pay-As-You-Go (PAYGO) Fund is a restricted fund, limited to capital expenditures. It should be noted that the Construction and Debt Service Reserve Funds are not shown since their funding source is debt proceeds.

**Figure 7-1: Flow of Revenues**

Funds	Operating	Stored Water	Equipment Replacement	Canal Maintenance Reserve	Rate Stabilization	PayGo <sup>1</sup>
Sources	<ul style="list-style-type: none"> <li>• Net Water Sales Revenue</li> <li>• Taxes</li> <li>• IAC</li> <li>• Interest Earnings</li> <li>• Miscellaneous Revenue</li> </ul>	<ul style="list-style-type: none"> <li>• Operating Fund Transfers</li> </ul>	<ul style="list-style-type: none"> <li>• Operating Fund Transfers</li> </ul>	<ul style="list-style-type: none"> <li>• Operating Fund Transfers</li> </ul>	<ul style="list-style-type: none"> <li>• Operating Fund Transfers</li> <li>• RSF Interest Earnings</li> </ul>	<ul style="list-style-type: none"> <li>• Operating Fund Transfers</li> <li>• Capacity Charges</li> <li>• Standby Charges</li> <li>• PAYGO Interest Earnings</li> <li>• CIAC</li> </ul>
Permitted Expenditures	<ul style="list-style-type: none"> <li>• Water Purchases</li> <li>• Equipment Replacement Fund</li> <li>• Operating Budget</li> <li>• Debt Service</li> <li>• CIP Cash Funding</li> </ul>	<ul style="list-style-type: none"> <li>• Water Purchases</li> </ul>	<ul style="list-style-type: none"> <li>• Equipment Purchases</li> </ul>	<ul style="list-style-type: none"> <li>• Maintenance costs for All-American and Coachella Canals</li> </ul>	<ul style="list-style-type: none"> <li>• Water Purchases</li> <li>• Operating Budget</li> </ul>	<ul style="list-style-type: none"> <li>• CIP Cash Funding</li> <li>• QSA Environmental</li> <li>• Debt Service</li> </ul>

<sup>1</sup>PAYGO is a legally restricted fund consisting of Capacity Charges and Water Standby Availability Charges and is restricted per Board adopted ordinances for the Capital Improvement Program (CIP). The funds are dedicated for capital project outlays, as well as debt service.

It is important to note that the Water Authority’s overall fund balances fluctuate over time, especially with respect to capital funds, which are funded by proceeds from debt issuances and then spent down over a two-to-three year period. The balance of this section provides a brief description of each fund held by the Water Authority and its function within the Long-Range Financing Plan (LRFP).

## Description of Specific Funds and Policies

**Operating Fund** - The Operating Fund holds the Water Authority's working capital and emergency operating reserve. In April 2003 the Water Authority amended its Operating Fund policy from a 60-day minimum balance of average annual operating expenditures to a balance of 45 days of average annual operating expenditures. Common to both policies is a requirement that \$5 million of such calculated amount must be designated and held available for emergency repairs to the Water Authority's system due to unforeseen events. The Operating Fund provides working capital to ensure that even with mismatching cash receipts and disbursements, the Water Authority has ample liquidity/working capital.

**Rate Stabilization Fund** - In fiscal year 1990, the Water Authority established the RSF for the purpose of collecting amounts of water revenues greater than expenditures in years of strong water sales. Funds can then be used to mitigate "rate shock" in years of weak water sales and/or to manage debt service coverage. In August 2006, the Board updated the policy governing the RSF balances. In June 2018, Board adopted the current policy. The RSF target balance is equal to the financial impact of 2.5 years of wet weather or mandatory drought regulations and the maximum fund balance is set equal to the financial impact of 3.5 years of wet weather or mandatory drought regulations. The effect of the current policy is to create a target for fund balances that is tied to the real financial impacts/risks that the fund is designed to protect against.

As a general rule, net water revenues exceeding the Board's 1.5 times debt service coverage policy are available for transfer (deposit) into the RSF. From time to time, as needed, the Water Authority will transfer amounts from its RSF into water revenues to meet its debt service ratio requirements, or to help provide adequate working capital to the Operating Fund. The funds are invested with maturities of one to five years and include restricted cash and investments.

**Stored Water Fund** - The Stored Water Fund (previous the Dam-Fill Fund) provides the working capital necessary to purchase water inventory to utilize the Water Authority's storage facilities. In Fiscal Year 2016, the Water Authority completed the fill of the San Vicente Dam and updated the policy guidelines for the Stored Water Fund. The new guidelines established a target of 70,000 acre-feet for Carryover Storage inventory. The Stored Water Fund will maintain the funds necessary to maintain the Carryover Storage levels at 70,000 acre-feet. A maximum for the Carryover Storage level was also set at 100,000 acre-feet, which is the storage capacity.

**Pay-As-You-Go Fund** - The PAYGO Fund was established in Fiscal Year 1990 to serve as a mechanism to collect System and Treatment Capacity Charges and Water Standby Availability Charges to be used to fund CIP expenditures. The PAYGO Fund is a capital fund; therefore, all monies in the fund, including investment income, are restricted to capital expenditures including debt service. Contributions in Aid of Construction (CIAC) from member agencies are also deposited into the PAYGO Fund. CIAC are funds paid to the Water Authority by its member agencies for capital projects constructed on their behalf.

The Water Authority has some flexibility when determining the annual draws from PAYGO. Typically, the expenditure of PAYGO funds occur when bond proceeds are exhausted or when a project does not qualify for tax exempt financing. At a minimum, a portion of debt service corresponding to the capacity charges collected in the fourth preceding year is paid from the PAYGO fund.



**Construction Fund** - Similar to the PAYGO Fund, the Construction Fund is a capital fund. The Construction Fund is funded with the proceeds from the Water Authority's sale of debt (See Capital Financing Plan Section).

Upon the sale of any single issue of tax-exempt debt, federal tax law currently dictates that the Water Authority must spend the proceeds of the issue within a prescribed period of time. As a result, the Construction Fund will typically fluctuate over two-to-three year periods as funds are raised through debt issuance, and then spent prior to the next issuance.

**Debt Service Reserve Fund** - The Debt Service Reserve Fund was created to hold the required legal reserve for Water Authority debt issues. Such reserves are held for the purpose of making an issue's annual debt service payments in the event that the Water Authority's pledged revenues are insufficient to make such payments. The reserve requirement is held in this fund until it is expended, generally to fund the last payment of the debt issuance. Interest earned on the Debt Service Reserve Fund is transferred into the Operating Fund and is not restricted. In Fiscal Year 2021, the Debt Service Reserve Fund totaled \$22.2 million comprised of reserves for the Series 1998A COP and Series 2019 Pipeline Bond.

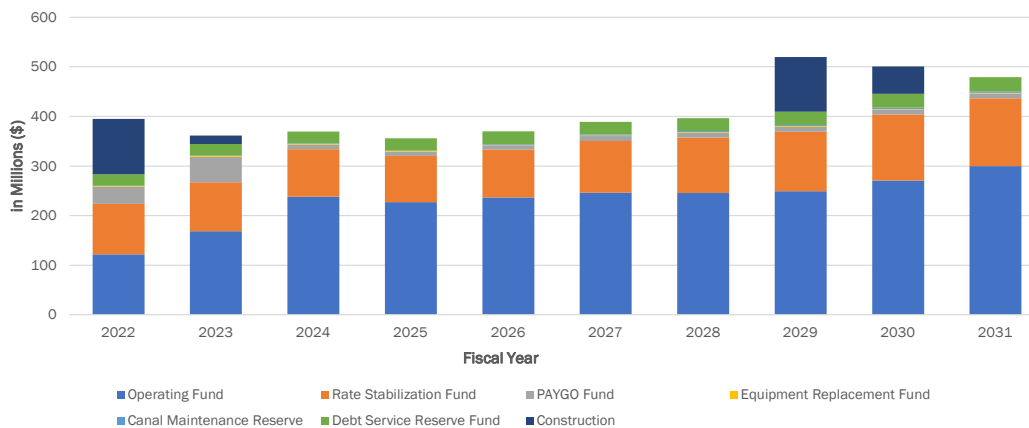
**Equipment Replacement Fund** - In 2003, the Board separated the Equipment Replacement Fund from the Operating Fund. The Equipment Replacement Fund is funded by annual draws from the Operating Fund per depreciation schedules for small capital and operating equipment, such as computers, vehicles, the SCADA system, etc. It is used to replace equipment that has reached the end of its effective useful life.

**Canal Maintenance Reserve Fund** - The Canal Maintenance Reserve Fund was established in Fiscal Year 2021. The fund is responsible for maintenance costs consisting of replacement of concrete panels, grading of major canal access roads, and other non-routine work necessary to maintain operation of the All-American and Coachella Canals that can occur every five to eight years. The Canal Maintenance Reserve Fund is funded through the cost of sale and rates and charges.

### Projected Fund Balances

Projected fund balances over the planning period are presented in the Chart and Table 7-1. The fund balance projections are based upon the sources and uses of funds data presented in the Water Authority Financial Forecast Section. The Construction Fund exhibits the most volatility as debt is issued and the proceeds are spent down. In general, the funds are relatively stable with the PAYGO fund being drawn down over the projection period to provide cash funding for the CIP.

**Chart 7-1: Projected Year-End Fund Balances (Fiscal Year)**



**Table 7-1: Projected Year-End Fund Balances (Fiscal Year)**

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
<b>Operating Fund</b>	121.67	168.42	238.15	226.95	236.77	246.45	245.50	249.16	270.60	299.42
<b>Rate Stabilization Fund</b>	101.67	98.77	96.05	93.52	96.16	103.97	111.85	119.97	133.33	136.93
<b>PAYGO Fund</b>	35.26	51.71	9.15	8.65	8.95	10.00	10.00	10.00	10.00	10.00
<b>Equipment Replacement Fund</b>	1.05	1.07	1.10	1.12	1.15	1.19	1.22	1.26	1.29	1.33
<b>Canal Maintenance Reserve</b>	0.49	0.71	0.93	1.17	1.42	1.69	1.97	2.27	2.59	2.92
<b>Debt Service Reserve Fund</b>	22.92	23.38	23.89	24.48	25.13	25.87	26.06	26.84	27.62	28.42
<b>Construction Fund</b>	111.72	17.08	-	-	-	-	-	110.00	55.00	-
<b>Total</b>	394.79	361.13	369.27	355.89	369.59	389.17	396.61	519.50	500.43	479.02

As shown in Charts 7-2, the Operating Fund meets the Water Authority’s fund balance target throughout the planning period. Chart 7-3 illustrates the forecasted RSF levels and associated targets. As demonstrated by the chart, the RSF fund balances are expected to remain relatively flat under baseline conditions. The gradual increase to the targets are reflective of cost inflation. Minor deposits and withdrawals are performed over the planning period to maintain policy levels.

Chart 7-2: Operating Fund Balance Requirements

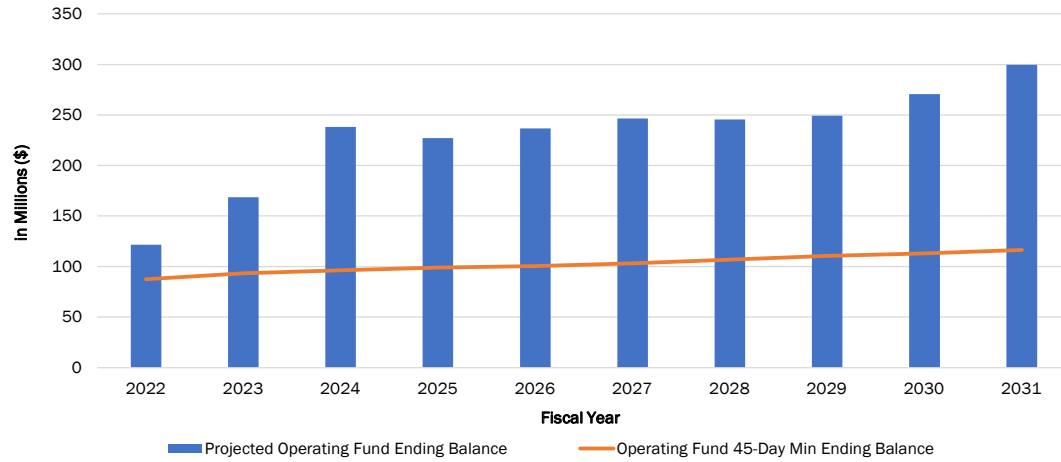
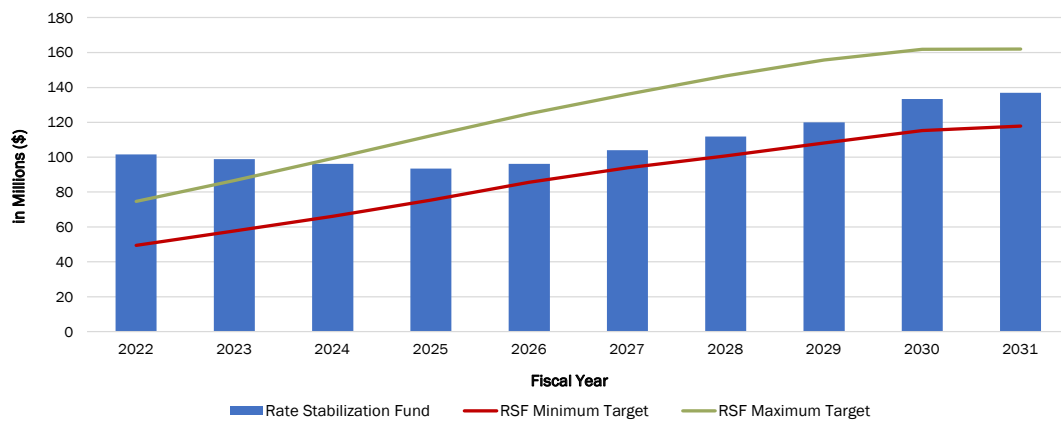


Chart 7-3: Current Board Policy - RSF Fund Balance Requirements



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## RATE GUIDANCE DRIVERS AND SENSITIVITIES

The Water Authority will be exposed to a variety of potential of financial and economic risks during the long-range financial planning period that are common to most water agencies. Given volatile hydrological conditions and financial or economic uncertainty, even the most careful planning can be disrupted by changing conditions. As history has revealed, there is always the potential for considerable swings in hydrological, environmental, and economic cycles. While preparing for them is a challenge, it is critical to understand the potential financial volatility. As part of its continuous improvement efforts, the Water Authority actively evaluates and prepares for different outcomes. The Water Authority has convened workgroups at various times to evaluate financial policies. These evaluations have led to the implementation of a new fixed charge (Supply Reliability Charge), the implementation of the PSAWR program, an IAC ramp-up, and other rate or policy refinements. Following the development of the 2021 LRFP, the Financial Strategy Work Group will assess the influence of local supply additions and long-term member agency equity.

The High-Low Rate forecast presented in the Water Authority Financial Forecast section is the result of this sensitivity analysis. While planning for and mitigating potential risk factors is necessary, equally important is to develop a reasonable and appropriate baseline forecast based on expected results. It is likely that all or some of the variables could be more favorable, strengthening rather than hindering the Water Authority’s financial position. Over the course of the forecasted period, it is expected that the financial and hydrological ebbs and flows will fall within the identified high/low. Being either overly optimistic or conservative have material impacts. Optimistic assumptions lower forecasted increases and may result in actual increases above and beyond what was “planned”. Inversely, conservative assumptions can artificially spike rates in the near term creating equity and affordability concerns. The Water Authority’s annual rate setting process is the single greatest forecasting risk mitigation tool. Regardless of what is forecasted in the LRFP, the Water Authority Rates and Charges will be assessed annually to ensure all costs and financial obligations (including coverage) are met.

While there are countless considerations, the risk analysis focused on the four most consequential factors. Figure 8-1 provides an overview of the sensitivity variables that the Water Authority may face in the future. The foremost category of risk is water sales – the potential for diminished revenue due to multiple years of wet/drought conditions or due to shortages of water available to sell. Reductions in water sales represent the most significant financial risk that the Water Authority will face during the planning period.

**Figure 8-1: Rate Guidance Sensitivity Variables**



As water purchases and treatment account for 66% of the Water Authority's annual budget, the cost to procure and exchange that water is a significant risk factor. While some of these costs are under the Water Authority's control or linked to beneficial escalators, Metropolitan Water District of Southern California's (MWD) future rate increases reflect the second largest financial risk and potential increases are not fully identified. To a lesser extent, cost of water sensitivity associated with desalination was reviewed.

Finally, the macro-economic environment may give way to greater or lesser inflation, influencing both the cost of the Water Authority's approved 10-year CIP and its O&M budget.

## Water Sales

Over the past two decades, the Water Authority modified its rate and charge structure to protect it from wide swings in water sales. In 2002, the Water Authority collected just 7% of revenue from fixed sources. Today that number is closer to 25%. In addition to enhancing revenue stability, the changes to the rate and charge structure also enhance and maintain equity between member agencies when paying for long-term water reliability projects.

Despite improvements, the Water Authority continues to have a roughly 75% exposure to immediate water sales variability. The largest component of variability is the volumetric melded supply rate. This rate creates a weighted cost of sales from the different sources of water that the Water Authority purchases, and also recovers various other costs of supply, such as Imperial Irrigation District (IID) socioeconomic payments, annual costs of the semitropic groundwater storage agreements, and a portion of debt service on the canal lining projects that is not reimbursed by state grants, etc. These fixed costs are components of the entirely volumetric melded M&I supply rate. If sales are lower than projected, rates will under-recover the associated fixed cost components. In addition, when excluding MWD fixed charges, supplies from MWD cost less in the near term than supplies from either IID or the desalination plant, which have a contractually fixed delivery schedule. Therefore, in a reduced sales environment, the Water Authority will roll off of the less expensive MWD (volumetric) supplies, and the higher-cost IID/desalination supplies will compose a larger share of the water purchases, again leading to under-recovery on the melded rate. However, should sales exceed forecast, the Water Authority will generate excess funds to rebuild reserves. As the Water Authority forecasts "normal" conditions, there is a relative likelihood of both occurrences.

The second largest source of variability is the transportation rate, another volumetric rate that recovers the fixed costs associated with maintaining the Water Authority's conveyance system. An additional, but lesser source of revenue variability is on the melded treatment rate. This rate is composed of several sources that produce treated supplies. Some of these costs are base-loaded due to contractual arrangements, or as in the case of the Water Authority's Twin Oaks Valley Water Treatment Plant, produce the lowest per-unit cost when run at the highest capacity. Because treatment facilities have different existing or implicit unit rates, variations in water sales produce shortages or surpluses in revenues.



Table 8-1 illustrates the forecasted net financial impact of a 10% variance between actual and budgeted sales.

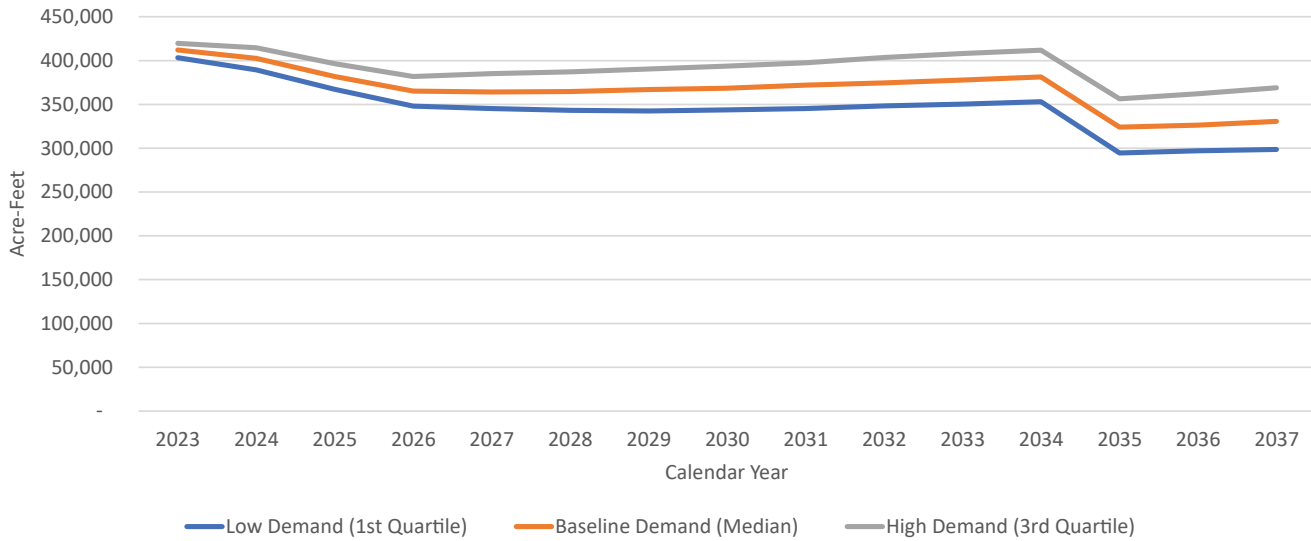
**Table 8-1: Scenarios for Possible M&I Water Sales Variance**

Sales Volatility Impact	Unit Cost	10% Less Sales	10% Greater Sales
M&I Sales Variance (AF)	-	(36,000)	36,000
PSAWR Sales Variance (AF)	-	(3,600)	3,600
<b>Expenditures Impact</b>			
MWD Tier 1 Full Service	\$799	(\$31,640,400)	\$31,640,400
MWD Treatment	\$344	(\$13,622,400)	\$13,622,400
Transportation	-	\$0	\$0
<b>Revenues Impact</b>			
Melded Supply Rate	\$1,009	(\$36,324,000)	\$36,324,000
PSAWR Supply Rate	\$799	(\$2,876,400)	\$2,876,400
Melded Treatment Rate	\$310	(\$12,276,000)	\$12,276,000
Transportation Rate	\$173	(\$6,850,800)	\$6,850,800
<b>Net Impact</b>	-	(\$13,064,400)	\$13,064,400
<i>Supply Impact</i>	-	(\$7,560,000)	\$7,560,000
<i>Treatment Impact</i>	-	\$1,346,400	(\$1,346,400)
<i>Transportation Impact</i>	-	(\$6,850,800)	\$6,850,800

In order to forecast the Water Authority’s sales over the planning period, a stochastic probability model was developed. The model incorporated a variety of deterministic (fixed) and stochastic (random) demand variables. Deterministic factors included Calendar Year 2022 regional demand, conservation, and local supply additions. Stochastic factors, variables that are random within historical reference ranges, include population growth and annual rainfall. A thousand simulations were forecasted.

The LRFPS baseline sales assumptions is based on the median result of the probabilistic sales model. The High-Low Rates presented herein reflect the 1st (low demand High-Rate) and 3rd (high demand Low-Rate) quartiles of the resulting 1,000 simulations. The Water Authority’s strong history of financial planning, effective reserve policies, and annual rate setting schedule have proven fruitful in the prevention of unscheduled mid-cycle rate increases. Chart 8-1 details the utilized sales forecast. While 2032-2037 fall outside the planning horizon, the Water Authority is aware of continued local supply development (notably Phase 2 of the City’s of San Diego’s Pure Water). The forecast defined in this document enables continued smooth and predictable rates thereafter.

Chart 8-1: Demand Simulation Forecast



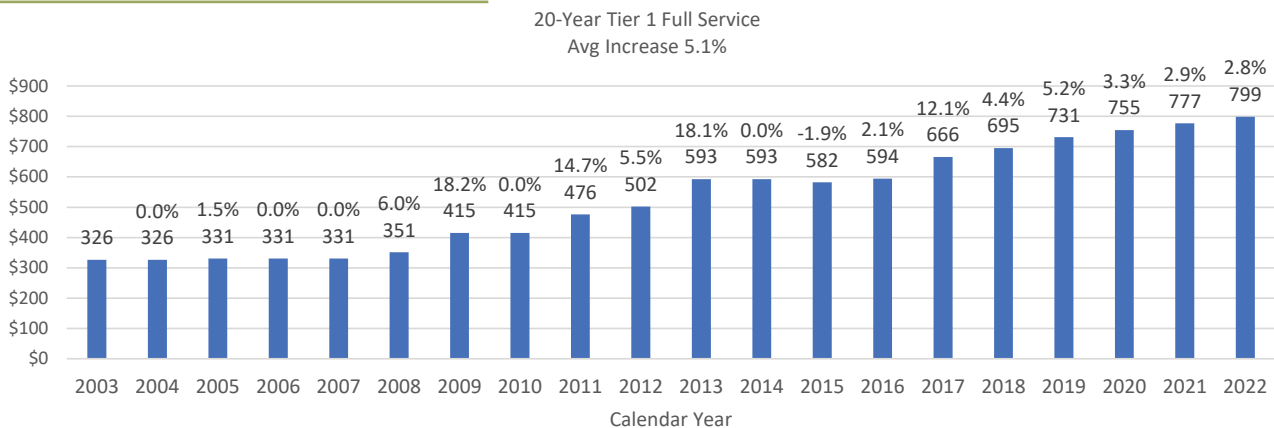
Cost of Water - MWD Rates and Charges Forecast

In the Fiscal Years 2022 and 2023 Budget, MWD represented nearly 51% of our cost of water. Given its impact on the overall budget and the unpredictability in rates, MWD’s rates comprise a large portion of the overall High-Low Rate variability.

MWD’s water rates have historically seen large jumps relative to inflation followed by small subsequent increases or even decreases until the next large jump. While the Water Authority explicitly targets smooth and predictable rates, MWD’s water rates change abruptly - see 2009, 2011, 2013, 2017. Regardless, the LRF forecast did not attempt to mimic this sporadic nature, electing instead to target a historical compounded annual growth rate (CAGR) for each of the MWD rate components. Should dramatic jump occur, the forecasted MWD rates may be significantly lower.

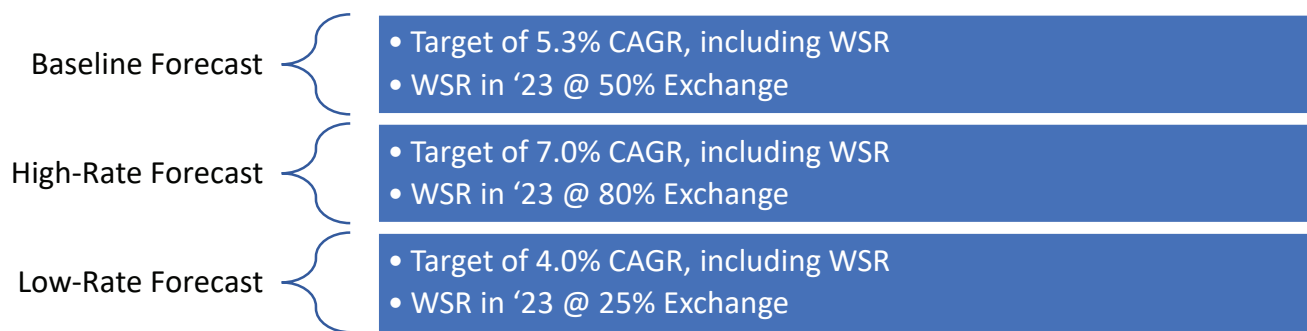
As presented in chart 8-2 below, MWD’s Full Service Tier 1 rate has increased in aggregate 5.1% over the past two decades. However, given the Water Authority’s IID and Canal water, it is necessary to review the individual components. Additionally, it is expected that MWD will reinstate its Water Stewardship Rate (WSR) that was fully suspended for the Calendar Year 2020 and 2021 rate cycles. The methodology MWD will use to re-instate and allocate the WSR is unknown.

Chart 8-2: 20 Year Tier 1 Full Service



While MWD faces many of the same challenges as the Water Authority, each agency is at a different cycle in their capital program. Where the Water Authority has shifted its focus from completing major capital projects to maintaining facilities, MWD is planning several concurrent multi-billion-dollar investments. The purpose of the financial sensitivity analysis wasn't to fully capture a "worst case" or "best case" scenario, but rather encapsulate a range of annual increases. Given that the timing, scope, cost, and financing plan of these facilities remain unclear, a high-low was developed to reflect partial funding of these projects and/or changes in water sales. Should MWD fully fund these projects (or other needs) over the planning period, or expedite project timelines, rates would need to increase well beyond the "high" scenario. Figure 8-2 below highlights the overall assumptions for MWD included in the LRF high-low analysis.

**Figure 8-2: MWD Rate Forecast Factors**



**Cost of Water - Desalination**

Alongside sensitivity in MWD rates and charges, the Water Authority adjusted the unit price assumptions behind the cost of desalination in the High-Low Rate analysis. While the majority of costs are hedged within its Water Purchase Agreement, there is risk associated with changes in electricity costs and the construction costs for the permanent intake modification. In the high-rate case, higher electricity costs and a high estimate for the intake modification was utilized. The low rate projection included baseline electricity costs and lower intake modification costs. Note that the intake modification assumptions will not diverge until Calendar Year 2024 when the unit price adjustment is in place.

In 2022, Poseidon will have an opportunity to refund it's Desal Plant debt. As such, the Water Authority's unit cost of water for Desal could benefit. Given the speculative nature and potential changes to market conditions or credit rating (Water Authority's included), no savings were assumed in the Baseline or High-Rate guidance. The Low-Rate Guidance includes 10% assumed refunding savings (over the term of the bond) applied per the WPA.

**Changes in Capital Construction Costs**

As discussed in the Capital Improvement Program section, the Water Authority has defined a risk-based capital improvement program. While these projects have a defined price, the economic conditions at that time will increase or decrease the actual costs. For inclusion in the High-Rate scenario, the approved CIP program was inflated by 10%. In the Low-Rate scenario, the CIP program was deflated by 10%.

## Changes in O&M Costs

In the FY 2022 and FY 2023 Budget, the Water Authority eliminated 7 full time positions. As was presented at that time, the elimination was a cost-savings measure rather than a right-sizing of the organization. Given this, the baseline assumptions are for an overall annual cost increase of 3%, and additionally 4 of the previously eliminated positions returning in fiscal year 2025. The High-Rate assumption is for 4% inflation and all 7 positions returning in fiscal year 2025. The Low-Rate assumption is for 2% inflation with no positions returning. As with the CIP program, the actual O&M budget will be the product of macro and micro economic factors.

## LRFP Policy Impacts

The High-Low Rate guidance focuses on factors that are outside the control of the Water Authority. The purpose of this plan is to identify general policies necessary to formulate a plan of finance and is provides a range of potential impacts and covers a 10-year period. The policies as recommended do not driver or materially impact rate guidance as it reflects the full 10-year period, rather than lesser cross-sections. For example, the funding mix changes based on the defined time horizons: 3, 5 and 10 years.

If the policies were taken to an extreme, they could impact guidance, but the recommended policies reflect a consistency with existing practices. Each year, as part of rates and budget development, the Water Authority reviews current financial conditions and opportunities to achieve the lowest and most affordable rates. These opportunities are then presented and recommended to the Board.

## APPENDIX

### Summary of Outstanding Obligations

The Water Authority is authorized to issue General Obligation Bonds, Revenue Bonds, JPA Revenue Bonds, Water Revenue Refunding Bonds, Certificates of Participation (COPs), Commercial Paper, Tax-Exempt Commercial Paper (TECP), and Extendable Commercial Paper as well as enter into other long-term obligations, such as long term water purchase agreements, installment sale agreements and settlement agreements to meet its funding needs.

#### Revenue Bonds

**Water Revenue Refunding Bonds, Series 2021B Green Bonds.** On April 29, 2021, the Water Authority issued \$271,455,000 of Water Revenue Refunding Bonds, Series 2021B Green Bonds (the 2021B Bonds) to refinance a portion of the design, acquisition, and construction of various capital projects of the Water Authority's CIP by advance refunding all of the 2016A Bonds in the amount of \$98,945,000 and a portion of the 2016B Bonds in the amount of \$179,530,000.

The 2021B Bonds have a stated interest rate of 5.00 percent payable semi-annually on May 1 and November 1. Their maturities extend to May 1, 2038. No debt service reserve fund was created to secure the 2021B Bonds. The principal balance of outstanding bonds at June 30, 2021 was \$271,455,000.

**Water Revenue Refunding Bonds, Series 2021A Green Bonds.** On February 3, 2021, the Water Authority issued \$117,690,000 of Water Revenue Refunding Bonds, Series 2021A Green Bonds (the 2021A Bonds) to refinance a portion of the design, acquisition, and construction of various capital projects of the Water Authority's CIP by advance refunding a portion of the 2011A Bonds in the amount of \$68,050,000 and a portion of the 2011B Bonds in the amount of \$77,265,000.

The 2021A Bonds have a stated interest rate of 5.00 percent payable semi-annually on May 1 and November 1. Their maturities extend to May 1, 2031. No debt service reserve fund was created to secure the 2021A Bonds. The principal balance of outstanding bonds at June 30, 2021 was \$117,690,000.

**Subordinate Lien Water Revenue Refunding Bonds, Series 2021S-1 Green Bonds.** On April 6, 2021, the Water Authority issued \$146,490,000 of Subordinate Lien Water Revenue Refunding Bonds, Series 2021S-1 Green Bonds (the 2021S-1 Bonds) to refinance a portion of the design, acquisition, and construction of various capital projects of the Water Authority's CIP by refinancing the Water Authority Extendable Commercial Paper Notes, Series 1 in the amount of \$100,000,000, and the Water Authority Subordinate Lien Water Revenue Refunding Bonds, Series 2016S-1 in the amount of \$87,685,000.

The 2021S-1 Bonds have a stated interest rate of 5.00 percent payable semi-annually on May 1 and November 1. Their maturities extend to May 1, 2028. No debt service reserve fund was created to secure the 2021S-1 Bonds. The principal balance of outstanding bonds at June 30, 2021 was \$146,490,000.

**Water Revenue Refunding Bonds, Series 2020A Green Bonds.** On July 1, 2020, the Water Authority issued \$283,470,000 of Water Revenue Refunding Bonds, Series 2020A Green Bonds (the 2020A Bonds) to refinance a portion of the design, acquisition, and construction of various capital projects of the Water Authority's CIP by advance refunding a portion of the 2013A Bonds in the amount of \$253,355,000.

The 2020A Bonds have stated interest rates ranging from 0.59 percent to 1.95 percent payable semi-annually on May 1 and November 1. Their maturities extend to May 1, 2034. No debt service reserve fund was created to secure the 2020A Bonds. The principal balance of outstanding bonds at June 30, 2021 was \$283,470,000.

**Water Revenue Refunding Bonds, Series 2019 (Pipeline Bond).** On February 19, 2019, the Water Authority issued \$183,155,000 of Water Furnishing Revenue Refunding Bonds, Series 2019 (2019 Pipeline Bonds) to refinance a portion of the design, acquisition, and construction of various capital projects of the Water Authority's CIP.

The 2019 Pipeline Bonds have a stated interest rate of 5.00 percent payable semi-annually on January 1 and July 1. Their maturities extend to November 21, 2045. The principal balance of outstanding bonds at June 30, 2021 was \$183,155,000. A debt service reserve fund was created to secure the 2019 Pipeline Bonds. The balance of the fund increases from \$10,221,750 at the end of 2021, and peaks at \$18,034,750 on July 1, 2045.

**Water Revenue Refunding Bonds, Series 2016B.** On June 23, 2016, the Water Authority issued \$197,395,000 of Water Revenue Refunding Bonds, Series 2016B (the 2016B Bonds) to refinance a portion of the design, acquisition, and construction of various capital projects of the Water Authority's CIP by advance refunding a portion of the 2008A Certificates in the amount of \$205,195,000, and a portion of Series 2010A Water Revenue Bonds, in the amount of \$20,425,000.

The 2016B Bonds have a stated interest rate of 5.00 percent payable semi-annually on May 1 and November 1. Their maturities extend to May 1, 2027. No debt service reserve fund was created to secure the 2016B Bonds. The principal balance of outstanding bonds at June 30, 2021 was \$17,865,000.

**Water Revenue Refunding Bonds, Series 2015A.** On September 1, 2015, the Water Authority issued \$184,795,000 of Water Revenue Refunding Bonds, Series 2015A (the 2015A Bonds) to refinance a portion of the design, acquisition, and construction of various capital projects of the Water Authority's CIP by advance refunding a portion of the 2008A Certificates in the amount of \$142,445,000, and a portion of Series 2010A Bonds in the amount of \$52,375,000.

The 2015A Bonds have stated interest rates ranging from 2.00 percent to 5.00 percent payable semi-annually on May 1 and November 1. Their maturities extend to May 1, 2029. No debt service reserve fund was created to secure the 2015A Bonds. The principal balance of outstanding bonds at June 30, 2021 was \$154,645,000.

**Water Revenue Refunding Bonds, Series 2013A.** On March 13, 2013, the Water Authority issued \$299,105,000 of Water Revenue Refunding Bonds, Series 2013A (the 2013A Bonds) to refinance a portion of the design, acquisition, and construction of various capital projects of the Water Authority's CIP by advance refunding a portion of the 2004A Certificates in the amount of \$344,785,000.

The 2013A Bonds have stated interest rates ranging from 3.00 percent to 5.00 percent payable semi-annually on May 1 and November 1. Their maturities extend to May 1, 2023. No debt service reserve fund was created to secure the 2013A Bonds. The principal balance of outstanding bonds at June 30, 2021 was \$17,120,000.

**Water Revenue Bonds, Series 2010B (Taxable Build America Bonds).** On February 4, 2010, the San Diego County Water Authority Financing Agency (SDCWFA) issued \$526,135,000 of Water Revenue Bonds, Series 2010B (Taxable Build America Bonds) (the 2010B Bonds) for the design, acquisition, and construction of various capital projects in furtherance of the Water Authority's CIP and to refund a portion of the 1998A Certificates in the amount of \$51,005,000. The 2010B Bonds have a stated interest rate of 6.138 percent payable semi-annually on May 1 and November 1. Their maturities extend to May 1, 2049. No debt service reserve fund was created to secure the 2010B Bonds.

The 2010B Bonds were designated as Taxable Build America Bonds (BABs) under the provisions of the American Recovery and Reinvestment Act of 2009, the interest with respect to which is not excluded from gross income for federal income tax purposes, but is exempt from State of California personal income taxes. The Water Authority receives interest subsidy payments in connection with the payment by the Water Authority of interest on the 2010B Bonds. The Water Authority is unable to predict whether any interest subsidy payments to be received by the Water Authority will at any point be suspended, reduced or terminated. The Federal Government's sequestration rate impacts the subsidy received to offset the debt service on the BABs. For the Federal fiscal year ending September 30, 2020, the Water Authority received a total of \$10,670,588 which is \$632,370 (6 percent) less than the subsidy payment originally projected for such fiscal year.

### Certificates of Participation (COPs)

**Water Revenue Refunding Certificates of Participation, Series 2005A.** On March 9, 2005, the Water Authority issued Water Revenue Refunding Certificates of Participation in the amount of \$107,455,000 to refund, in advance, \$117,310,000 of the 1998A Certificates with stated interest rates between 4.5 percent and 5.25 percent. The Serial Certificates, with an aggregate principal amount of \$107,455,000, have stated interest rates ranging from 5.00 percent to 5.25 percent payable semi-annually on May 1 and November 1.

A debt service reserve account of either \$10,745,500 or the maximum annual debt service on the 2005A Certificates is required. As of June 30, 2021, the reserve requirement was fully satisfied by a Reserve Surety Bond issued by FGIC. The 2005A Certificates are also insured by FGIC. The principal balance of outstanding certificates on June 30, 2021 was \$7,075,000, and the Certificates mature serially through May 1, 2022.

**Water Revenue Certificates of Participation, Series 1998A.** On November 17, 1998, the Water Authority issued Water Revenue Certificates of Participation, Series 1998 (Series 1998 Certificates), in the amount of \$180,000,000 to provide funds for the design and construction of the Water Authority's Emergency Storage Project and other water system improvements in furtherance of the Water Authority's CIP. On March 9, 2005, the Water Authority issued Water Revenue Refunding Certificates of Participation, Series 2005A (the 2005A Certificates) to advance refund a portion of the 1998A Certificates in the amount of \$117,310,000.

The 1998A Certificates required that a reserve be maintained in an amount equal to the lesser of \$15,391,555 or maximum annual debt service on the 1998A Certificates. After the refunding from the 2005A Certificates, the reserve requirement was reduced to \$12,240,775. At June 30, 2021, the reserve was fully funded. The 1998A Certificates are insured by Financial Guaranty Insurance Company (FGIC). The principal balance of outstanding certificates at June 30, 2021 was \$11,685,000.



## Commercial Paper

The Water Authority has a Tax-Exempt Commercial Paper (TECP) program through which it can borrow funds on a tax exempt basis for periods up to 270 days to provide financing for the Water Authority's Capital Improvement Program (CIP). The Water Authority has remarketing agreements with seven separate broker-dealers: BofA Securities, Inc., Citigroup Global Markets Inc., Goldman, Sachs and Co., JP Morgan Securities, LLC, LOOP Capital Markets LLC, Morgan Stanley and Co. LLC, and RBC Capital, LLC. The remarketing fees for the various dealer agreements range from 0.05 percent to 0.10 percent per annum on the par amount of TECP outstanding. No advances have been made under any of the revolving credit and term loan agreements during the fiscal year ending June 30, 2021.

The TECP and ECP notes are secured and payable on a parity basis solely from net water revenues and are subordinate to the Water Revenue Certificates of Participation (COP), Water Revenue Bonds, and Water Revenue Refunding Bonds. As of June 30, 2021, the Water Authority had short-term debt outstanding of \$245,000,000.

**Commercial Paper Notes, Series 9.** On May 11, 2016, the Commercial Paper Notes, Series 9 (the Series 9 Notes) were issued for a total maximum authorized amount of \$135,000,000. The Series 9 Notes have liquidity support in the form of a revolving credit and term loan agreement with Bank of America, N.A. and, unless otherwise extended, will terminate on June 22, 2022. Effective June 19, 2019, the Water Authority pays annual commitment fees of 0.28 percent based on the par amount of the commitment. At June 30, 2021 the balance outstanding was \$135,000,000.

**Commercial Paper Notes, Series 10.** On June 19, 2019, the Commercial Paper Notes, Series 10 (the Series 10 Notes) were issued for a total maximum authorized amount of \$110,000,000. The Series 10 Notes have liquidity support in the form of a revolving credit and term loan agreement with Bank of the West and, unless otherwise extended, will terminate on June 19, 2024. During the term of the agreement, the Water Authority pays annual commitment fees of 0.30 percent based on the par amount of the commitment. At June 30, 2021 the balance outstanding was \$110,000,000.

## Other Obligations

### ***QSA Environmental***

**Contributions Payable.** Contributions Payable concern the Water Authority's payment obligations for environmental and socioeconomic impacts related to the Quantification Settlement and other connected Agreements. These payments include contributions to the QSA JPA for environmental mitigation pursuant to the QSA JPA Creation and Funding Agreement. Payments to the IID on behalf of the Imperial Valley Socioeconomic Improvement Committee, the Local Entity, to mitigate third-party socioeconomic impacts of the Conserved Water Transfer Agreement are complete.

(1) On April 25, 2007, the QSA JPA approved an agreement to modify the schedule of contributions payable pursuant to the QSA JPA Creation and Funding Agreement in order to more appropriately match environmental mitigation funding obligations. On May 20, 2015, the QSA JPA approved an agreement for a second modification of payment schedules pursuant to the QSA JPA Creation and Funding Agreement in order to conform to the long term financing plan. The outstanding balance of the payment obligation at June 30, 2020 was \$9,186,240. The total contributions payable are as follows:

**Table 9-1 QSA JPA Creation and Funding Agreement**

Year	Principal	Interest	Total
2021	\$ 1,374,649	\$ 526,187	\$ 1,900,836
2022	3,332,937	468,695	3,801,632
2023	1,248,878	268,719	1,517,597
2024	1,028,050	193,787	1,221,837
2025	1,213,335	132,104	1,345,439
2026	988,391	59,302	1,047,693
<b>Total</b>	<b>\$ 9,186,240</b>	<b>\$ 1,648,794</b>	<b>\$ 10,835,034</b>

*This section provides detailed information regarding the Water Authority's Quantification Settlement Agreement (QSA) - related environmental and socioeconomic mitigation payments. However, the Water Authority's overall contractual obligation is much larger than just these amounts. The full Water Authority QSA obligation is included in the "Water Purchases" category in Table 6-4 and in the discussion of Water Purchases.*

(2) On May 14, 2007, the Water Authority and the IID executed the Settlement Agreement Resolving Present and Future Disputes under Sections 14.5 and 18.1 of the Revised Fourth Amendment to the IID/Water Authority Conserved Water Transfer Agreement pursuant to which the Water Authority will pay \$40,000,000 according to a payment schedule in the Agreement for third-party socioeconomic impacts as a result of the Conserved Water Transfer Agreement by and between the two agencies. As of June 2017, all payment obligations have been made and there is no outstanding balance.

### Defined Benefit Pension Plans

#### California Public Employees' Retirement System

**Plan Description.** All qualified full-time Water Authority employees are required to participate in the Water Authority's Miscellaneous Plan with the California Public Employees' Retirement System (CalPERS), an agent multiple-employer public employee defined benefit pension plan. CalPERS provides retirement, disability benefits, and death benefits to plan members and beneficiaries. CalPERS acts as a common investment and administrative agent for participating public entities within the State of California. A menu of benefit provisions as well as other requirements is established by state statutes within the Public Employees' Retirement Law. The Water Authority selects optional benefit provisions from the benefit menu by contract with CalPERS and adopts those benefits through Board approval. Benefit provisions and all other requirements are established by state statute, Water Authority resolution, and contracts with employee bargaining groups.

Effective January 1, 2013, Water Authority new hires who meet the definition of "new employee" and "new member" accrue and receive defined benefit pension plan benefits in accordance with the California Public Employees' Pension Reform Act (PEPRA) of 2013.

Financial statements for the Water Authority's plan is not separately issued. Requests for detailed plan provisions and copies of CalPERS' annual financial report can be obtained from CalPERS Fiscal Services Division, P.O. Box 942703, Sacramento, CA, 94229-2703 or <http://www.calpers.ca.gov>

**Benefits Provided.** CalPERS provides service retirement and disability benefits, annual cost of living adjustments and death benefits to plan members, who must be public employees and beneficiaries. Benefits are based on years of credited service, equal to one year of full time employment. Members with five years of total service are eligible to retire at age 50 with statutorily reduced benefits. All members are eligible for non-duty disability benefits after ten years of service. The death benefit is the Optional Settlement 2W Death Benefit. The cost of living adjustments are applied as specified by the Public Employees' Retirement Law.

The Plans' provisions and benefits in effect at June 30, 2020, are summarized as follows:

Hire Date	Miscellaneous Plan	
	Prior to 1/1/2013	On or After 1/1/2013
Benefit Formula	2.5% @ 55	2.0% @ 62
Benefit Vesting Schedule	5 Years of Service	5 Years of Service
Benefit Payments	Monthly for Life	Monthly for Life
Retirement Age	50-55	52-67
Monthly Benefits, as a % of eligible compensation	2.0% - 2.5%	1.0% - 2.5%
Required Employee Contribution Rate	8%	6%
Required Employer Contribution Rates	26.22%	26.22%

**Employees Covered.** At June 30, 2018, the following employees were covered by the benefit terms under the Miscellaneous Plan:

	Miscellaneous Plan
Inactive Employees or Beneficiaries Currently Receiving Benefits	250
Inactive Employees Entitled to but Not Yet Receiving Benefits	163
Active Employees	236
<b>Total</b>	<b>649</b>

**Contributions.** Water Authority employees hired prior to January 1, 2013, and any employees hired on or after this date who are not considered “New Members” within the meaning of the Public Employees’ Pension Reform Act of 2013 (PEPRA) are Tier 1 members or “Classic Members”. Tier II members are employees hired on or after January 1, 2013 and are considered “New Members” as defined by PEPRA. Current Classic Members are required to contribute eight percent of their annual covered salary to fund the Plan. The Water Authority currently pays seven percent of the employees’ required member contribution. Employees pay the remaining one percent of the required member contribution. As a cost sharing method, pursuant to Government Code Section 20516 of the California Public Employees’ Retirement Law, Classic Members pay seven percent of the Water Authority’s required employer contributions.

Due to cost sharing, for “classic” employees, effective July 1, 2013, the Technical/Support, Professional/Administrative, Managerial/Supervisory, and Confidential classified employees increased the amount they pay toward CalPERS by 1.25 percent for a total contribution of seven percent, increasing to eight percent by July 2014. Executive and Senior Management employees increased the amount they pay toward CalPERS by 1.75 percent for a total contribution of eight percent as of July 1, 2013.

The terms of PEPRA mandate that a “New Member” contribution rate be the greater of 50 percent of the total normal cost rate for their defined benefit plan or the current contribution rate of similarly situated employees. The current employee contribution rate of new members and similarly situated employees at the Water Authority is six percent.

The Water Authority is required to contribute the remaining amounts, as determined by calculating the required employer contribution rate multiplied by the covered salary, necessary to fund the benefits for its members, using the actuarial basis recommended by CalPERS actuaries and actuarial consultants, and adopted by the CalPERS Board of Administration.

Section 20814(c) of the California Public Employees’ Retirement Law requires that the employer contribution rates for all public employers be determined on an annual basis by the actuary and shall be effective on the July 1 following notice of a change in the rate. Funding contributions for the Plan are determined annually on an actuarial basis as of June 30 by CalPERS. The actuarially determined rate is the estimated amount necessary to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. The Water Authority is required to contribute the difference between the actuarially determined rate and the contribution rate of employees. Employer contribution rates may change if plan contracts are amended. Payments made by the employer to satisfy contribution requirements that are identified by the pension plan terms as plan member contribution requirements are classified as plan member contributions.

**Actuarial Methods and Assumptions Used to Determine Total Pension Liability.** The June 30, 2018 valuation was rolled forward to determine the June 30, 2019 total pension liability, based on the following actuarial methods and assumptions:

Actuarial Cost Method:	Entry Age Normal in accordance with the requirements of GASB 68
<b>Actuarial Assumptions:</b>	
Discount Rate	7.15%
Inflation:	2.50%
Salary Increases:	Varies by Entry Age and Service
Mortality Rate Table <sup>(1)</sup> :	Derived using CalPERS' Membership Data for all funds
Post Retirement Benefit Increases	Contract COLA up to 2.5% until Purchasing Power Protection Allowance Floor on Purchasing Power applies, 2.50% thereafter

<sup>(1)</sup> The mortality table used was developed based on CalPERS-specific data. The probabilities of mortality are based on the 2017 CalPERS Experience Study for the period from 1997 to 2015. Pre-retirement and Post-retirement mortality rates include 15 years of projected mortality improvement using 90% of Scale MP-2016 published by the Society of Actuaries. For more details on this table, please refer to the CalPERS Experience Study and Review of Actuarial Assumptions report from December 2017 that can be found on the CalPERS website improvements using Society of Actuaries Scale BB.

**Discount Rate.** The discount rate used to measure the total pension liability in this time period was 7.15%. The rate decreased to 7.00% in fiscal year 2021, and will likely decrease to 6.80% in fiscal year 2022. The projection of cash flows used to determine the discount rate assumed that contributions from plan members will be made at the current member contribution rates and that contributions from employers will be made at statutorily required rates, actuarially determined. Based on those assumptions, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class.

In determining the long-term expected rate of return, CalPERS took into account both short-term and long-term market return expectations as well as the expected pension fund cash flows. Using historical returns of all the funds' asset classes, expected compound (geometric) returns were calculated over the short-term (first 10 years) and the long-term (11+ years) using a building-block approach. Using the expected nominal returns for both short-term and long-term, the present value of benefits was calculated for each fund. The expected rate of return was set by calculating the rounded single equivalent expected return that arrived at the same present value of benefits for cash flows as the one calculated using both short-term and long-term returns. The expected rate of return was then set equal to the single equivalent rate calculated and adjusted to account for assumed administrative expenses.

Asset Class <sup>(4)</sup>	New Strategic Allocation	Real Return Years 1-10 <sup>(2)</sup>	Real Return Years 11+ <sup>(3)</sup>
Global Equity	50.0%	4.80%	5.98%
Fixed Income	28.0%	1.00%	2.62%
Inflation Assets	0.0%	0.77%	1.81%
Private Equity	8.0%	6.30%	7.23%
Real Estate	13.0%	3.75%	4.93%
Liquidity	1.0%	0.00%	-0.92%
<b>Total</b>	<b>100%</b>		

(1) Fixed Income is included in Global Debt Securities; Liquidity is included in Short-term Investments; Inflation Assets are included in both Global Equity Securities and Global Debt Securities.

(2) An expected inflation of 2.0% used for this period.

(3) An expected inflation of 2.92% used for this period.

**Net Pension Liability.** The Water Authority's net pension liability for the Plan is measured as the total pension liability, less the pension plan's fiduciary net position. The net pension liability of the Plan is measured as of June 30, 2019, using an annual actuarial valuation as of June 30, 2018, rolled forward to June 30, 2019, using standard update procedures.

Changes in the Net Pension Liability The following presents the net pension liability of the Water Authority, calculated using the discount rate of 7.15%:

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability/(Asset) (c) = (a) - (b)
<b>Balance at June 30, 2018</b>	<b>\$251,761,653</b>	<b>\$190,362,306</b>	<b>\$61,399,347</b>
Changes in the year:			
Service Cost	5,192,117	-	5,192,117
Interest on the Total Pension Liability	17,976,349	-	17,976,349
Actual and expected experience difference	2,433,181	-	2,433,181
Contribution-employer	-	7,445,103	(7,445,103)
Contribution-employee	-	2,097,507	(2,097,507)
Net Investment Income	-	12,669,038	(12,669,038)
Benefit Payments Including Refunds of Employee Contributions	(10,746,814)	(10,746,814)	-
Administrative Expenses	-	(135,847)	135,847
Other miscellaneous income/(expense)	-	442	(442)
<b>Balance at June 30, 2019</b>	<b>\$266,616,486</b>	<b>\$201,691,735</b>	<b>\$64,924,751</b>

**Sensitivity of the Net Pension Liability to Changes in the Discount Rate.** The following presents the net pension liability of the Water Authority if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the current rate:

**Miscellaneous Plan**

1% Decrease	6.15%
Net Pension Liability	\$101,603,798
Current Discount Rate	7.15%
Net Pension Liability	\$64,924,751
1% Increase	8.15%
Net Pension Liability	\$34,626,602

**Pension Plan Fiduciary Net Position.** Detailed information about the plans' fiduciary net position is available in the separately issued CalPERS financial report.

**Pension Expenses and Deferred Outflows/Inflows of Resources Related to Pensions.** For the Fiscal Year ended June 30, 2020, the Water Authority recognized pension expense of \$12,178,320 and reported deferred outflows of resources and deferred inflows of resources related to its pension plan from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Pension Contributions subsequent to measurement date	\$7,571,578	-
Changes of assumptions	2,409,385	(4,107,628)
Differences between expected and actual experiences	2,368,833	(320,745)
Net difference between projected and actual earnings on plan investments	-	(1,108,568)
<b>Total</b>	<b>\$12,349,796</b>	<b>\$ (5,536,941)</b>

The \$7,571,578 reported as deferred outflows of resources related to contributions subsequent to the June 30, 2019 measurement date will be recognized as a reduction of the net pension liability during the Fiscal Year ended June 30, 2021. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized as pension expense/(income) as follows:

Year Ending June 30:	Deferred Outflows/(Inflows) of Resources
2021	\$1,495,238
2022	(2,523,957)
2023	92,494
2024	177,502
Thereafter	-

The CalPERS Board of Administration has adopted a new amortization policy effective with the June 30, 2019 actuarial valuation. The new policy shortens the period over which actuarial gains and losses are amortized from 30 years to 20 years with the payments computed using a level dollar amount. In addition, the new policy removes the 5-year ramp-up and ramp-down on UAL bases attributable to assumption changes and non-investment gain/loses. The new policy removes the 5-year ramp-down on investment gains/losses. These changes will apply only to new UAL bases established on or after June 30, 2019.



**Funded Status and Funding Progress.** As of prior June 30, 2019 actuarial valuation date, the Plan was 75.65% percent funded with a plan net pension liability of \$64,924,751. The net pension liability resulted from a total pension liability of \$266,616,486 and a fiduciary net position of \$201,691,735. The covered annual payroll was \$27,362,934. The ratio of net pension liability to covered payroll was 237.27 percent.

## ***Other Post-Employment Benefits (OPEB)***

### ***Terminal Pay Plan***

**Plan Description.** The Water Authority established a Terminal Pay Plan (TPP), effective December 10, 2007, which is administered by the Water Authority's Controller, who serves as the administrator and trustee. The TPP was established and is governed under the Internal Revenue Code Section 414(d), which provides benefits to participants. The benefit is the accumulated balance of the retiring employee's (or a separated employee due to death) earned but unpaid vacation and sick leave on the date of retirement. Each employee of the Water Authority who is entitled to vacation-leave pay or sick-leave pay (under the applicable rules, regulations, and policies) is required to participate in the TPP if the participant retires, or separates employment due to death, from the Water Authority after reaching the age of 55 and completing five years of service.

GASB states the definition of pensions does not include postemployment healthcare benefits and termination benefits. As such, the TPP liability is related to earned, but unpaid sick and vacation benefits, and is recorded in the financial statements as compensated absences.

Employees may elect benefits be disbursed from the TPP in a lump sum or in monthly installments over a 60-month period (with no interest). As an alternative, an employee has the right to elect that all or a portion of benefits be immediately rolled over or transferred to an individual retirement account (IRA), a tax-sheltered annuity, another tax-qualified retirement plan, or an eligible deferred compensation plan such as a Section 457 deferred compensation plan. A separate financial report is not prepared for the TPP.

**Benefits Provided.** Contributions equal to the accumulated balance in the employee's earned but unpaid vacation and sick leave accounts are made by the Water Authority to the TPP for eligible employees who retire, or separate due to death, from the Water Authority after reaching the age of 55 and completing five years of service, and are made as soon as administratively practicable after termination of employment. Amounts held on behalf of participants are fully vested and held in trust at all times. TPP benefits for a participant who retires, or separates due to death, from Water Authority service are fully vested once they are accrued and the value of TPP benefits is the amount of an employee's earned but unpaid vacation and sick leave on the date of retirement. No additional employee contributions are permitted. Benefits earned are accrued as compensated absences.

**Distribution.** If the value of benefits is over \$5,000, a distribution will only be made if the employee consents before April 1st following the Calendar Year in which they reach age 70½. If the value of an employee's vested benefit is \$5,000 or less on the date of retirement, or separation due to death, benefits will be distributed in a single lump sum.

**Changes or Termination of Plan.** The Water Authority reserves the right to amend the TPP at any time and for any reason. In the event the TPP is terminated, no additional contributions will be made, but the retirees affected will continue to be entitled to the entire benefits under the TPP. Benefits under the TPP are not insured by the Pension Benefit Guaranty Corporation or any other government agency.

**Annual OPEB Cost and Net OPEB Obligation.** The Water Authority's annual OPEB cost is calculated based on the ARC of the employer, an amount actuarially determined in accordance with the parameters of GASB Statement No. 45. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost each year and amortize any unfunded actuarial liabilities over a period not to exceed 30 years.

### **Retiree Health Benefit**

**Plan Description.** The Water Authority has established a Retiree Healthcare Plan (HC Plan), an agent multiple-employer defined benefit retiree healthcare plan. The HC Plan, administered by the Water Authority and California Employers Retirement Benefit Trust (CERBT), provides employees who retire directly from the Water Authority, at a minimum age of 55, with a minimum of five years of service, a cash subsidy for monthly medical insurance premiums up to a cap of \$200 per employee or \$320 for employee plus spouse. Payments cease at age 65 when the retiree or spouse is eligible for Medicare. If applicable, a cash subsidy for the monthly medical premium continues up to a cap of \$160 for a spouse until age 65 is attained. Surviving spouses are also eligible for this benefit.

Employees who retire directly from the Water Authority at a minimum age of 55 with a minimum of five years of CalPERS service are eligible to continue medical coverage as a participant with active employees at a blended premium rate until eligible for Medicare at age 65 as an implied subsidy. A separate financial report is not prepared for the HC Plan.

**Employees Covered.** As of the June 30, 2019 actuarial valuation, the following current and former employees were covered by the benefit terms under the HC Plan:

<b>HC Plan</b>	
Active employees	242
Inactive employees or beneficiaries currently receiving benefits	61
Inactive employees entitled to, but not yet receiving benefits	-
<b>Total</b>	<b>303</b>

**Contributions.** The HC Plan and its contribution requirements are established by a Memoranda of Understanding with the applicable employee bargaining units and may be amended by agreements between the Water Authority and the bargaining units. The annual contribution is based on projected pay-as-you-go financing requirements. For the Fiscal Year ended June 30, 2020, the Water Authority's cash contributions were \$198,941 in current premiums and the estimated implied subsidy was \$301,944 resulting in total payments of \$500,885.

**Actuarial Methods and Assumptions Used to Determine Total OPEB liability (asset).** The June 30, 2019 valuation was used to determine the June 30, 2019 total OPEB liability (asset), based on the following actuarial methods and assumptions:

<b>Actuarial Cost Method:</b>	Entry Age Normal
<b>Actuarial Assumptions:</b>	-
Discount Rate	7.00%
Inflation	2.75%
Salary Increases	3.00% per annum, in aggregate
Investment Rate of Return	7.00%, assuming actuarially determined contributions funded into CERBT
	Investment Strategy <sup>(1)</sup>
Mortality Rate <sup>(1)</sup>	Derived using CalPERS Membership Data for all funds
Pre-Retirement Turnover <sup>(2)</sup>	Derived using CalPERS Membership Data for all funds
Healthcare Trend Rate	6.50% HMO/6.50% PPO decreasing to 5.00% HMO/5.00% PPO

Note:

(1) Pre-retirement mortality rates based on the SOA Pub-2010 General Total Dataset Headcount Weighted Mortality Table fully generational using scale MP-2019 for PERS employees. Continuing survivors mortality is based on the SOA Pub-2010 Contingent Survivors Total Dataset Headcount Weighted Mortality Table fully generational using MP-2019.

(2) The pre-retirement turnover information was developed based on CalPERS' specific data. For more details, please refer to the 2017 Experience Study Report. The Experience Study Report may be accessed on the CalPERS website [www.calpers.ca.gov](http://www.calpers.ca.gov) under Forms and Publications.

**Discount Rate.** The discount rate used to measure the total OPEB liability (asset) was 7.00 percent. The projection of cash flows used to determine the discount rate assumed that Water Authority contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the OPEB plan's fiduciary net position was projected to be available to make all projected OPEB payments for current active and inactive employees and beneficiaries. Therefore, the long-term expected rate of return on OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability (asset).

The long-term expected rate of return on OPEB plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of OPEB plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	STRATEGY 1*	
	Target Allocation	Long-term Expected Real Rate of Return
Global Equities	59.0%	5.50%
Global Fixed Income	25.0%	2.35%
REITs	8.0%	3.65%
Inflation Assets	5.0%	1.50%
Commodities	3.0%	1.75%
Total	100%	

\*Long-term expected rate of return is 7.00%.

**Net OPEB Liability (asset).** The Water Authority's net OPEB liability (asset) for the HC Plan is measured as the total OPEB liability (asset), less the OPEB plan's fiduciary net position. The net OPEB liability (asset) of the HC Plan is measured as of June 30, 2019, using an annual actuarial valuation as of June 30, 2019.

**Changes in OPEB Liability (asset).** The changes in the net OPEB liability (asset) for the HC Plan are as follows:

	Total OPEB Liability (a)	Plan Fiduciary Net Position (b)	Net OPEB Liability/ (Asset) (c) = (a) - (b)
<b>Balance at June 30, 2019</b>	<b>\$4,021,416</b>	<b>\$5,253,149</b>	<b>(\$1,231,733)</b>
<i>(Measurement date June 30, 2018)</i>			
Service Cost	150,577	-	150,577
Interest	278,543	-	278,543
Changes of benefit terms	-	-	-
Changes of assumptions	(534,801)	-	(534,801)
Differences between expected and actual experience	935,272	-	935,272
Contributions-employer	-	385,620	(385,620)
Net Investment Income	-	324,345	(324,345)
Benefit payments	(385,620)	(385,620)	-
Administrative expense	-	(1,126)	1,126
<b>Net Changes</b>	<b>443,971</b>	<b>323,219</b>	<b>120,752</b>
<b>Balance at June 30, 2020</b>	<b>\$4,465,387</b>	<b>\$5,576,368</b>	<b>(\$1,110,981)</b>
<i>(Measurement date June 30, 2018)</i>			

**Sensitivity of the Net OPEB liability (asset) to Changes in the Discount Rate.** The following presents the net OPEB liability (asset) of the Water Authority if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the current rate, for measurement period ending June 30, 2019:

	1% Decrease 6.00%	Current Discount Rate 7.00%	1% Increase 8.00%
Net OPEB Liability (Asset)	(\$842,103)	(\$1,110,981)	(\$1,358,967)

**Sensitivity of the Net OPEB liability (asset) to Changes in Health Care Costs.** The following presents the net OPEB liability (asset) of the Water Authority if it were calculated using health care cost trend rates that are one percentage point lower or one percentage point higher than the current rate, for measurement period ending June 30, 2019:

	1% Decrease (5.50% HMO/5.50% PPO decreasing to 4.00% HMO/4.00% PPO)	Current Healthcare Cost Trend Rates (6.50% HMO/6.50% PPO decreasing to 5.00% HMO/5.00% PPO)	1% Increase (7.50% HMO/7.50% PPO decreasing to 6.00% HMO/6.00% PPO)
Net OPEB Liability (Asset)	(\$1,342,632)	(\$1,110,981)	(\$846,508)

**OPEB Plan Fiduciary Net Position.** The HC Plan assets are held by the CERBT where they are audited annually and a copy of the financial statements may be obtained by contacting CalPERS's CERBT program at [www.calpers.ca.gov](http://www.calpers.ca.gov). Additional, information about the HC Plan is available in the separately issued Nyhart Actuary and Employee Benefits GASB 75 Actuarial Valuation report for the Water Authority.

**OPEB Expenses and Deferred Outflows/Inflows of Resources Related to OPEB.** For the Fiscal Year ended June 30, 2020, the Water Authority recognized OPEB expense of \$5,790 and reported deferred outflows and inflows of resources related to OPEB from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
OPEB contributions subsequent to measurement date	\$500,885	-
Change of assumptions	27,095	(712,060)
Differences between expected and actual experiences	818,363	(176,417)
Net difference between projected and actual earnings on OPEB plan investments	-	(4,578)
<b>Total</b>	<b>\$1,346,343</b>	<b>(\$893,055)</b>

The \$500,885 reported as deferred outflows of resources related to contributions subsequent to the June 30, 2019 measurement date will be recognized as a reduction of the net OPEB liability (asset) during the Fiscal Year ended June 30, 2021. Other amounts reported as deferred outflows and inflows of resources related to OPEB will be recognized as OPEB expense as follows:

FY Ended June 30	Deferred Outflows/ (Inflows) of Resources
2021	(\$56,777)
2022	(108,831)
2023	(90,892)
2024	58,727
2025	50,059
Thereafter	100,117

**Deferred Compensation Plan and Defined Contribution Plan.** The Water Authority Board of Directors has adopted a deferred compensation plan and defined contribution plan (the Plans) in accordance with Sections 457(b) and 401(a), respectively, of the Internal Revenue Code. The Water Authority Board has discretion to amend the Plans. These plans permit all eligible employees to defer, either pre-tax or post-tax, a portion of their salary until future years. The plan recordkeeper for the Water Authority at June 30, 2020 was TIAA-CREF.

Participation in the 457(b) plan is not required and employee contributions may be modified from time to time at the employee's direction. Employees eligible for the 401(a) plan must contribute an irrevocable mandatory minimum of three percent up to a maximum of 20 percent of salary to the plan. The Water Authority makes an annual contribution to the 401(a) plan on behalf of Senior and Executive Managers as specified in the compensation plans. Contributions to the Plans and in-terest earnings are 100 percent vested immediately. Benefits depend solely on the amounts contributed to the Plans plus investment earnings.

Plan contributions and earnings are not available to employees until termination, retirement, death, disability, or an unforeseeable emergency. All assets and income of the Plans are held in trust for the exclusive benefit of plan participants and their beneficiaries. The Plans are not considered part of the Water Authority's financial reporting entity. For Fiscal Year 2020, the employee and employer contributions to the 457(b) plan were \$1,656,693 and \$7,863, respectively, and for the 401(a) plan the employee and employer contributions were \$456,348 and \$51,900, respectively.



**SAN DIEGO COUNTY WATER AUTHORITY****Annual Statement of Investment Policy****Calendar Year 2021****INTRODUCTION**

The purpose of this document is to identify various policies and procedures that enhance opportunities for a prudent and systematic investment policy and to organize and formalize investment related activities. The ultimate goal is to enhance the economic status of the Water Authority while protecting its funds.

The Board of Directors and, upon formal delegation, the Treasurer for the San Diego County Water Authority, duly authorized to invest Water Authority monies by California Government Code, are trustees of Water Authority funds and therefore fiduciaries subject to the prudent investor standard.

**SCOPE**

It is intended that this policy cover all funds and investment activities under the direct authority of the San Diego County Water Authority, except for the employee's retirement and deferred compensation funds. For investment purposes, the Water Authority manages the Operating Fund, Rate Stabilization Fund, Pay-As-You-Go Fund, Equipment Replacement Fund and Stored Water Fund together as the Pooled Operating Fund. The funds under the direct authority of the San Diego County Water Authority are accounted for in the Comprehensive Annual Financial Report and include:

Operating Fund – Holds the Water Authority's working capital and emergency operating reserve.

Rate Stabilization Fund – Established to mitigate future water rate increases.

Pay-As-You-Go Fund (PAYGO) – Funds are dedicated for construction outlays and debt service.

Equipment Replacement Fund – Used to purchase minor capital equipment such as computer systems, vehicles, etc.

Stored Water Fund – Used to purchase water to fill Water Authority reservoirs.

Construction (CIP) Fund – Holds the proceeds of long-term debt and commercial paper to be expended for construction.

Debt Service Reserve Fund – Holds the required legal reserve for Water Authority debt issues.

## OBJECTIVES

The investment policies and practices of the Board of Directors and the Treasurer for the San Diego County Water Authority are based upon limitations placed on it by governing legislative bodies. These policies have three primary goals:

1. To assure compliance with all Federal, State and Local laws governing the investment of monies under the control of the Treasurer.
2. To protect the principal monies entrusted to this organization.
3. To generate the maximum amount of investment income within the parameters of this Annual Statement of Investment Policy.

These goals are enhanced by the following objectives in order of importance.

- A. Safety: It is the primary duty and responsibility of the Treasurer to protect, preserve and maintain cash and investments placed in his/her trust. Each investment transaction shall seek to ensure that capital losses are avoided, whether from institution default, broker-dealer default, or erosion of market value of securities. The Treasurer shall evaluate or cause to have evaluated each potential investment, seeking both quality in issuer and in underlying security or collateral. Diversification of the portfolio will be used in order to reduce exposure to principal loss.
- B. Liquidity: An adequate percentage of the portfolio will be maintained in liquid short-term securities which can be converted to cash if necessary to meet disbursement requirements. Since all cash requirements cannot be anticipated, investment in securities with active secondary markets will be utilized. These securities will have a low sensitivity to market risk.
- C. Return on Investments: The investment portfolio will be designed with the objective of attaining a market rate of return throughout budgetary and economic cycles, taking into account the investment risk constraints for safety and liquidity needs.
- D. Public Trust: All participants in the investment process shall act as custodians of the public trust. Investment officials shall recognize that the investment portfolio is subject to public review and evaluation. The overall program shall be designed and managed with a degree of professionalism that is worthy of the public trust. In a diversified portfolio it must be recognized that occasional measured losses are inevitable, and must be considered within the context of the overall portfolio's investment return, provided that adequate diversification has been implemented.

## PRUDENT INVESTOR STANDARD

The Board of Directors and Treasurer adhere to the guidance provided by the “prudent investor standard”, California Government Code (Section 53600.3), which obligates a fiduciary to insure that “When investing, reinvesting, purchasing, acquiring, exchanging, selling, or managing public funds, a trustee shall act with care, skill, prudence, and diligence under the circumstances then prevailing, including, but not limited to, the general economic conditions and the anticipated needs of

the agency, that a prudent person acting in a like capacity and familiarity with those matters would use in the conduct of funds of a like character and with like aims, to safeguard the principal and maintain the liquidity needs of the agency. Within the limitations of this section and considering individual investments as part of an overall strategy, investments may be acquired as authorized by law.”

### **DELEGATION OF AUTHORITY**

The investment, per this policy, of Water Authority idle monies is annually delegated to the Treasurer by the Board of Directors who shall thereafter assume full responsibility for those transactions until the delegation of authority is revoked or expires. The Treasurer may delegate the day-to-day operations of investing to his/her designee(s), but not the responsibility for the overall investment program. A memorandum will be forwarded to the General Manager indicating the individual who is acting on the behalf of the Treasurer which details the period of time the designee will be responsible for the investment function. All transactions will be reviewed by the Treasurer on a regular basis to assure compliance with this Annual Statement of Investment Policy.

The Water Authority may engage the services of one or more external investment advisers, who are registered under the Investment Advisers Act of 1940, to assist in the management of the Water Authority’s investment portfolio in a manner consistent with the objectives. External investment advisers may be granted discretion to purchase and sell investment securities in accordance with this investment policy.

### **ETHICS AND CONFLICT OF INTEREST**

Officers and employees involved in the investment process shall refrain from personal business activity that could conflict with proper execution of the investment program, or which could impair their ability to make impartial investment decisions. Employees and investment officers shall disclose any material financial interest in financial institutions that conduct business with this jurisdiction, and they shall further disclose any large personal financial/investment positions that could be related to the performance of the Water Authority’s portfolio. Employees and officers shall subordinate their personal investment transactions to those of the Water Authority, particularly with regard to the timing of purchases and sales, and shall avoid transactions that might impair public confidence. All officers and employees involved in the investment of public funds are required to comply with the Water Authority’s Conflict of Interest Code.

### **AUTHORIZED INVESTMENT INSTRUMENTS - POOLED OPERATING FUND**

The Water Authority is governed by the California Government Code, Sections 53600 et seq. Within the context of these limitations, the following investments are authorized:

Local Agency Investment Fund (LAIF): The Water Authority may invest in the Local Agency Investment Fund established by the State Treasurer for the benefit of local agencies (Government Code Section 16429.1(b)). In order to ensure that LAIF is purchasing securities that comply with the Government Code, the monthly LAIF report shall be reviewed by the Treasurer. The maximum permitted investment will be governed by State Law.

Bankers’ Acceptances: The Water Authority may invest in Banker’s Acceptances, provided that they are issued by institutions which have short-term debt obligations rated “A-1” or its equivalent or better by at least one NRSRO. No more than 40 percent of the portfolio may be invested

in Banker's Acceptances, and no more than 5 percent of the portfolio may be invested in any single issuer. The maximum maturity shall not exceed 180 days.

Treasury Securities: The Water Authority may invest in United States Treasury notes, bonds, bills, or certificates of indebtedness, or those for which the faith and credit of the United States are pledged for the payment of principal and interest (Government Code Section 53601(b)). The purchase of zero-coupon, or strips, is not permitted. Because these investments are the safest possible, there is no maximum portfolio limit.

Repurchase Agreements: The Water Authority may invest (Government Code Section 53601(j)) in overnight and term repurchase agreements with primary dealers of the Federal Reserve Bank of New York and have long-term debt obligations which are rated in a rating category of "A" or its equivalent or better by at least one NRSRO with which the Water Authority has entered into a master repurchase agreement. This agreement will be modeled after the Securities Industry and Financial Markets Association (SIFMA)'s master repurchase agreement.

All collateral used to secure this type of transaction is to be delivered to a third party prior to release of funds. The third party will have an account in the name of the San Diego County Water Authority. The market value of securities used as collateral for repurchase agreements shall be monitored on a daily basis by the Treasurer and will not be permitted to fall below 102 percent of the value of the repurchase agreement. Collateral shall not include strips, zero-coupon instruments or instruments with maturities in excess of five years. The right of substitution will be granted, provided that permissible collateral is maintained.

In order to conform with provisions of the Federal Bankruptcy Code which provides for the liquidation of securities held as collateral for repurchase agreements, the only securities acceptable as collateral shall be securities that are direct obligations of and guaranteed by the U.S. Government and Agency securities as permitted under this policy. The Water Authority will maintain a first perfected security interest in the securities subject to the repurchase agreement and shall have a contractual right to liquidation of purchased securities upon the bankruptcy, insolvency or other default of the counterparty. Maximum portfolio exposure will be limited to 20 percent and maturities that do not exceed one year.

Certificates of Deposit: The Water Authority may invest in Time Deposits (Non-Negotiable Certificates of Deposit). They may invest in Federally Insured Time Deposits in state or federally chartered banks, savings and loans, or credit unions, provided that the amount per institution is limited to the maximum covered under federal insurance, no more than 20 percent of the portfolio will be invested in a combination of federally insured and collateralized time deposits, and the maximum maturity does not exceed five (5) years. The Water Authority may invest in Collateralized Time Deposits in state or federally chartered bank, savings and loans, or credit unions in excess of insured amounts which are fully collateralized with the securities in accordance with California law, provided that no more than 20 percent of the portfolio will be invested in a combination of federally insured and collateralized time deposits, and the maximum maturity does not exceed five (5) years. The maximum portfolio exposure, combined with placement services and Negotiable CDs, is limited to 30 percent and no more than 5 percent of the portfolio may be invested in any single issuer.

Placement Service Deposits: The Water Authority may invest in deposits placed with a private sector entity that assists in the placement of deposits with eligible financial institutions located in the United States (Government Code Section 53601.8). The full amount of the principal and the interest

that may be accrued during the maximum term of each deposit shall at all times be insured by federal deposit insurance. The combined maximum portfolio exposure to deposits placed pursuant to this section, Certificates of Deposits, and Negotiable Certificates of Deposit is limited to 30 percent. Maximum investment maturity will be restricted to five years.

Negotiable Certificates of Deposit: The Water Authority may invest in negotiable certificates of deposit issued by a nationally or state-chartered bank, a savings association or federal association, a state or federal credit union, or by a federally licensed or state licensed branch of a foreign bank, provided that no more than 30 percent of the total portfolio is invested in NCDs (in combination with CDs and Placement Services), and no more than 5 percent may be invested in a single issuer, and the maximum maturity shall not exceed five (5) years. The amount of the NCD insured up to the FDIC limit does not require any credit ratings, and any amount above the FDIC insured limit must be issued by institutions which have short term debt obligations rated “A-1” or its equivalent or better by at least one NRSRO; or long term obligations rated in a rating category of “A” or its equivalent or better by at least one NRSRO.

Commercial Paper: The Water Authority may invest in the highest grade of commercial paper (Government Code Section 53601(h)), rated “A-1” or its equivalent or better by at least one NRSRO, issued by general corporations that are organized and operating within the United States and having total assets in excess of \$500 million. If the issuer has long term ratings, they must have long-term obligations rated in a rating category of “A” or its equivalent or better by at least one NRSRO. The Water Authority may also invest in commercial paper issued by issuers organized within the United States as a special purpose corporation, trust, or limited liability company, provided the securities have program-wide credit enhancements including, but not limited to, overcollateralization, letters of credit, or a surety bond and the securities are rated “A-1” or the equivalent or better by at least one NRSRO. Purchases shall not exceed ten percent of the outstanding paper of the issuing general corporation. Maximum investment maturity will be restricted to 270 days. Maximum portfolio exposure is limited to 30 percent and single-issuer holdings to no more than 5 percent per issuer.

Medium-Term Notes: The Water Authority may invest in corporate and depository institution debt securities provided that the issuer is a corporation organized and operating within the United States or by depository institutions licensed by the United States or any state and operating within the United States. Securities must have long-term obligations rated in a rating category of “A” or its equivalent or better by at least one NRSRO. Permissible types of notes include fixed rate and variable rate. Maximum investment maturity is restricted to five years. Maximum portfolio exposure is limited to 30 percent and single-issuer holdings to no more than 5 percent per issuer.

Municipal Securities: The Water Authority may invest in: (i) Registered treasury notes or bonds issued by any of the 50 United States, including bonds payable solely out of the revenues from a revenue-producing property owned, controlled, or operated by a state or by a department, board, agency, or authority of any state (Government Code Section 53601(c)(d)); and (ii) Bonds, notes, warrants, or other evidence of debt issued by a local agency or municipality located within California, including bonds payable solely out of the revenues from a revenue-producing property owned, controlled, or operated by the local agency, or by a department, board, agency, or authority of the local agency (Government Code Section 53601(a)(e)). Securities must have long-term obligations rated in a rating category of “A” or its equivalent or better by at least one NRSRO. Maximum portfolio exposure is limited to 30 percent and single-issuer holdings to no more than 5 percent per issuer.

Agencies: The Water Authority may invest in federal agency or United States government-sponsored enterprise obligations, participations, or other instruments, including those issued by or fully guaranteed as to principal and interest by federal agencies or United States government-sponsored enterprises (Government Code Section 53601(f)). Agency callable securities are limited to a maximum allocation of 20 percent of the portfolio.

Supranationals: The Water Authority may invest in United States dollar denominated senior unsecured unsubordinated obligations issued or unconditionally guaranteed by the International Bank for Reconstruction and Development, International Finance Corporation, or Inter-American Development Bank. Securities must be eligible for purchase and sale within the United States and have a minimum rating of “AA” as rated by Moody’s Investors Service, Standard and Poor’s, or Fitch Ratings. Maximum maturity is limited to 5 years. Maximum portfolio exposure is limited to 15 percent and single-issuer holdings to no more than 5 percent per issuer.

Asset-Backed, Mortgage-Backed, Mortgage Pass-Through Securities, and Collateralized Mortgage Obligations from issuers not defined in the Treasury and Agencies section of the Authorized Investment Instruments section of this policy: The Water Authority may invest in these securities, given that the securities are rated in a rating category of “AA” or its equivalent or better by a NRSRO. No more than 20 percent of the total portfolio may be invested in these securities, and no more than 5 percent of the portfolio may be invested in any single Asset-backed or mortgage security issuer. The maximum legal final maturity does not exceed five (5) years.

Mutual Funds and Money Market Mutual Funds: Must be registered with the Securities and Exchange Commission under the Investment Company Act of 1940, provided that:

- a. Mutual Funds: invest in the securities and obligations as authorized under California Government Code, Section 53601 (a) to (k) and (m) to (q) inclusive and that meet either of the following criteria:
  1. Attained the highest ranking or the highest letter and numerical rating provided by not less than two (2) NRSROs; or
  2. Have retained an investment adviser registered or exempt from registration with the Securities and Exchange Commission with not less than five years’ experience investing in the securities and obligations authorized by California Government Code, Section 53601 and with assets under management in excess of \$500 million.
  3. No more than 10 percent of the total portfolio may be invested in shares of any one mutual fund.
- b. Money Market Mutual Funds: registered with the Securities and Exchange Commission under the Investment Company Act of 1940 and issued by diversified management companies and meet either of the following criteria:
  1. Have attained the highest ranking or the highest letter and numerical rating provided by not less than two (2) NRSROs; or
  2. Have retained an investment adviser registered or exempt from registration with the Securities and Exchange Commission with not less than five years’ experience managing money market mutual funds with assets under management in excess of \$500 million.
  3. No more than 20 percent of the total portfolio may be invested in shares of any one Money Market Mutual Fund.
- c. No more than 20 percent of the total portfolio may be invested in these securities.



Local Government Investment Pools: The Water Authority may invest in local government investment pools created by a joint powers authority authorized under Government Code Section 53601(p). Pools must have the highest rating by at least one of the three largest NRSROs. Maximum portfolio exposure is limited to 25 percent.

Authorized Investments Summary				
Investment Type	Maximum Maturity	Maximum % of Portfolio	% Issuer	Minimum Rating Category
Local Agency Investment Fund	Maximum permitted by program			
Banker's Acceptances	180 days	40%	5%	A-1, A by one NRSRO
US Treasury	None	None	None	None
Repurchase Agreement	1 year	20%	None	A by one NRSRO
Non-Negotiable CD	5 years	30% all CDs	None	Limited to insured amount
CDARS	5 years	30% all CDs	N/A	
Negotiable CD	5 years	30% all CDs	5%	A-1, A by one NRSRO
Commercial Paper	270 days	30%	5%	A-1, A by one NRSRO if any long-term rating
Corporate Medium Term Notes	5 years	30%	5%	A by one NRSRO
Municipal Bonds	None	30%	5%	A by one NRSRO
Federal Agency Obligations	None	None	None	None
Supranationals	5 years	15%	5%	AA by one NRSRO
ABS, MBS, & CMO (Non-UST/non-agency)	5 years	20%	5%	AA by one NRSRO
Mutual Funds	N/A	20%	10%	Highest by 2 NRSROs
Money Market Mutual Funds	N/A	20%	20%	Highest by 2 NRSROs
LGIP	N/A	25%	25%	AAA or higher by one NRSRO

#### **AUTHORIZED INVESTMENT INSTRUMENTS - BOND PROCEEDS, DEBT SERVICE AND OTHER AFFILIATED ENTITIES**

All investment types listed above are authorized investments for bond proceeds, debt service, and other affiliated entities with the addition of the following:

Collateralized Guaranteed Investment Contracts (GICs)/Full Flex Repurchase Agreements: Investment of funds in GICs is permitted, as per Section 5922 of the Government Code, when collateralized by U.S. Government guaranteed and direct obligation securities. Collateral must be held



by a third party institution, and must be marked to market on a weekly basis to a minimum of the value of the outstanding balance of the contract. The maximum maturity date on a GIC is limited to the final maturity date of the bonds being issued.

Initially Uncollateralized Guaranteed Investment Contracts (GICs): Investment of funds in GICs which are not initially collateralized is permitted, as per Section 5922 of the Government Code, only if (a) the term of the GIC does not exceed three (3) years, (b) the counterparty to the GIC is rated in the highest long-term rating category by both Moody's Investors Service and Standard & Poor's (or whose payment obligations under such GIC are insured or guaranteed by an entity the unsecured obligations of which are so rated), and (c) the GIC requires that it be collateralized as described above in the event the counterparty's rating is downgraded below the highest long-term rating category by either Moody's Investors Service or Standard & Poor's.

Local Agency Investment Fund (LAIF): The Water Authority may also invest bond proceeds in the Local Agency Investment Fund (Government Code Section 16429.1(d)). There is a \$175M limit on the amount of bond proceeds that may be deposited into the fund. Liquidity for bond proceeds, per fund regulations, is thirty calendar day increments from the date of the initial deposit. Bond proceeds deposited in LAIF should be managed to include a 90-day review by the Treasurer to insure safety, as well as probable income.

In the event that a conflict arises between the bond covenants and this Annual Statement of Investment Policy, the following will guide the (re)investment of bond proceeds: when the Annual Statement of Investment Policy is more conservative than the bond covenants, the Annual Statement of Investment Policy will prevail; if the bond covenants are more conservative than the Annual Statement of Investment Policy, the bond covenants will prevail. All future debt transaction reinvestment guidelines will incorporate the current Annual Statement of Investment Policy into the bond covenants.

The Board of Directors has granted the Treasurer the authority to invest debt service reserve funds in U.S. Treasury, federal agency, and municipal securities with maturities exceeding 5 years if it is considered to be in the best interest of the Water Authority and if the maturity of such investments does not exceed the expected use of funds.

## PORTFOLIO LIMITATIONS

The total dollar amount of bond proceeds and debt service reserve funds invested are to be excluded from the total used to calculate percentages for investment types.

Percentage limitations, where listed, are applicable at the date of purchase. In the event that the percentage limits attributable to a security type is exceeded due to a temporary imbalance in the portfolio, the Treasurer will make a determination as to the appropriate course of action. The appropriate course of action may be to liquidate securities to rebalance the portfolio or to hold the securities to maturity in order to avoid a market loss. Portfolio percentages are in place to ensure diversification of the investment portfolio and, as such, a small temporary imbalance would not violate this basic tenet. When a portfolio percentage is exceeded, the Treasurer will report the occurrence in the Treasurer's Report at the next regularly scheduled Administrative and Finance Committee meeting of the Board, with detail of the strategy determined to address the imbalance, for Board ratification.

Credit requirements listed in this policy indicate the minimum credit rating (or its equivalent) required at the time of purchase without regard to modifiers (e.g., +/- or 1, 2, 3). In the event that an investment originally purchased within policy guidelines is downgraded to a credit level making the

security ineligible for future purchases, the investment manager may take action related to the downgrade. Any action taken related to the downgrade by the investment manager will be communicated to the Treasurer in a timely manner.

## INELIGIBLE INVESTMENTS

State law notwithstanding, any investments not specifically described herein are prohibited, including, but not limited to futures and options.

In accordance with Government Code, Section 53601.6, investment in inverse floaters, range notes, or mortgage derived interest-only strips is prohibited.

Investment in any security that could result in a zero interest accrual if held to maturity is prohibited, with the exception of securities issued or backed by the US government.

Trading securities for the sole purpose of speculating on the future direction of interest rates is prohibited.

Purchasing or selling securities on margin is prohibited.

The use of reverse repurchase agreements, securities lending or any other form of borrowing or leverage is prohibited.

The purchase of foreign currency denominated securities is prohibited.

## INTERNAL CONTROLS

A system of internal controls has been established and documented in writing in the Water Authority's Financial Services Policies and Procedures Manual. The controls shall be designed to prevent losses of public funds arising from fraud, employee error, and misrepresentation of third parties, unanticipated changes in financial markets or imprudent action by employees and officers of the Water Authority. Controls deemed most important include: control of collusion, separation of duties and administrative controls, separating transaction authority from accounting and record keeping, custodial safekeeping, clear delegation of authority, management review and approval of investment transactions, specific limitations regarding securities losses and remedial action, written confirmation of telephone transactions, minimizing the number of authorized Investment Officials, documentation of transactions and strategies, and code of ethics standards. The Treasurer has established an annual process of independent review by an external audit firm. This review provides assurance of strong internal controls by reviewing compliance with previously established policies and procedures.

## REPORTING

### Monthly Reports

Monthly transaction reports will be submitted by the Treasurer to the Governing Body within 30 days of the end of the reporting period in accordance with California Government Code Section 53607.

### Quarterly Reports

At a minimum frequency of quarterly, the Water Authority will submit an investment report to the Governing Body which provides full disclosure of the Water Authority's investment activities within 30 days after the end of the period. These reports will disclose, at a minimum, the following information about the Water Authority's portfolio:

1. An asset listing showing par value, cost and independent third-party fair market value of each security as of the date of the report, the source of the valuation, type of investment, issuer, maturity date, and interest rate.

2. Transactions for the period.
3. A description of the funds, investments and programs (including lending programs) managed by contracted parties (i.e. LAIF; investment pools, outside money managers and securities lending agents)
4. A one-page summary report that shows:
  - a. Average maturity of the portfolio and modified duration of the portfolio;
  - b. Maturity distribution of the portfolio;
  - c. Percentage of the portfolio represented by each investment category;
  - d. Average portfolio credit quality; and,
  - e. Time-weighted total rate of return for the portfolio for the prior one month, three months, twelve months and since inception compared to the Water Authority's market benchmark returns for the same periods;
5. A statement of compliance with investment policy, including a schedule of any transactions or holdings which do not comply with this policy or with the California Government Code, including a justification for their presence in the portfolio and a timetable for resolution.
6. A statement that the Water Authority has adequate funds to meet its cash flow requirements for the next six months.

## QUALIFIED BANKS AND SECURITIES DEALERS

A competitive bid process, when practical, will be used to place all investment purchases and sales transactions. For any investment transaction not conducted directly with the issuer, the Water Authority shall conduct business only with banks, savings and loans, and registered investment securities dealers. The Water Authority's staff will investigate all institutions that wish to conduct business with the Water Authority. All institutions must sign the appropriate Information Request Form, and agree to abide by the conditions set forth in the Water Authority's Annual Statement of Investment Policy. A list will be maintained by the cash management staff of approved institutions and securities broker/dealers. This will be done annually by having the financial institutions complete and return the Broker Dealer Information Request Form and an audited financial statement within 90 days of the institution's fiscal year-end. Previous Board approved substitute certification language may be offered to primary dealers of the Federal Reserve at the discretion of the Treasurer. In the event the substitute language is not accepted by the primary dealer, the Treasurer may return to the Water Authority's Board for approval of alternative language proposed by the primary dealer. If the Water Authority is utilizing the services of an investment advisor, the investment advisor may use their own list of approved issuers and financial institutions for executing transactions.

## RISK MANAGEMENT AND DIVERSIFICATION

The Water Authority recognizes that investment risks can result from issuer defaults, market price changes or various technical complications leading to temporary illiquidity. Portfolio diversification is employed as a way to control risk. The Treasurer is expected to display prudence in the selection of securities, as a way to minimize default risk. No individual investment transaction shall be undertaken which jeopardizes the total capital position of the overall portfolio. The Treasurer shall periodically establish guidelines and strategies to control risks of default, market price changes and illiquidity.

### Mitigating Credit Risk in the Portfolio

Credit risk is the risk that a security or a portfolio will lose some or all of its value due to a real or perceived change in the ability of the issuer to repay its debt. The Water Authority will mitigate credit risk by adopting the following strategies:

The diversification requirements included in the “Authorized Investments” section of this policy are designed to mitigate credit risk in the portfolio.

No more than 5 percent of the total portfolio may be deposited with or invested in securities issued by any single issuer unless otherwise specified in this policy.

The Water Authority may elect to sell a security prior to its maturity and record a capital gain or loss in order to manage the quality, liquidity or yield of the portfolio in response to market conditions or Agency’s risk preferences.

#### **Mitigating Market Risk in the Portfolio:**

Market risk is the risk that the portfolio value will fluctuate due to changes in the general level of interest rates. The Water Authority recognizes that, over time, longer-term portfolios have the potential to achieve higher returns. On the other hand, longer-term portfolios have higher volatility of return. The Water Authority will mitigate market risk by providing adequate liquidity for short-term cash needs, and by making longer-term investments only with funds that are not needed for current cash flow purposes.

The Water Authority further recognizes that certain types of securities, including variable rate securities, securities with principal paydowns prior to maturity, and securities with embedded options, will affect the market risk profile of the portfolio differently in different interest rate environments. The Water Authority, therefore, adopts the following strategies to control and mitigate its exposure to market risk:

The maximum stated final maturity of individual securities in the portfolio will be five (5) years, except for US Treasuries, Agencies and Municipals, or unless otherwise stated in this policy.

The duration of the portfolio will generally be approximately equal to the duration (typically, plus or minus 20 percent) of a Market Benchmark, an index selected by the Water Authority based on the Water Authority’s investment objectives, constraints and risk tolerances.

#### **PERFORMANCE BENCHMARK**

Controlling and managing risk is the foremost portfolio management objective. The Water Authority strives to maintain an efficient portfolio by providing for the lowest level of risk for a given level of return. The Water Authority shall monitor and evaluate the portfolio’s performance relative to the chosen market benchmark(s), which will be included in the quarterly report. The Water Authority shall select an appropriate, readily available index to use as a market benchmark.

## SAFEKEEPING AND CUSTODY

To protect against potential losses caused by the collapse of security dealer(s), all book-entry securities owned by the Water Authority, including repurchase agreement collateral, shall be kept in safekeeping with “perfected interest” by a third party bank trust department, acting as agent for the Water Authority under the terms of a custody agreement executed by the bank and by the Water Authority. All securities will be received and delivered using standard delivery-versus-payment procedures. The only exception to the foregoing shall be certificates of deposit and investments in: (i) LAIF; (ii) local government investment pools; and (iii) money market funds, since the purchased securities are not deliverable. A record of these investments shall be held by the Treasurer.

## STATEMENT OF INVESTMENT POLICY

This Annual Statement of Investment Policy shall be reviewed and submitted annually to the Board of Directors in order to incorporate any changes necessary to ensure consistency and its relevance to current law, and financial and economic trends. This Annual Statement of Investment Policy shall be reviewed at a public meeting and voted on prior to the start of each calendar year.

### Glossary of Investment Terms

**AGENCIES.** Shorthand market terminology for any obligation issued by a *government-sponsored entity (GSE)*, or a *federally related institution*. Most obligations of GSEs are not guaranteed by the full faith and credit of the US government. Examples are:

**FFCB.** The Federal Farm Credit Bank System provides credit and liquidity in the agricultural industry. FFCB issues discount notes and bonds.

**FHLB.** The Federal Home Loan Bank provides credit and liquidity in the housing market. FHLB issues discount notes and bonds.

**FHLMC.** Like FHLB, the Federal Home Loan Mortgage Corporation provides credit and liquidity in the housing market. FHLMC, also called “FreddieMac” issues discount notes, bonds and mortgage pass-through securities.

**FNMA.** Like FHLB and FreddieMac, the Federal National Mortgage Association was established to provide credit and liquidity in the housing market. FNMA, also known as “FannieMae,” issues discount notes, bonds and mortgage pass-through securities.

**GNMA.** The Government National Mortgage Association, known as “GinnieMae,” issues mortgage pass-through securities, which are guaranteed by the full faith and credit of the US Government.

**PEFCO.** The Private Export Funding Corporation assists exporters. Obligations of PEFCO are not guaranteed by the full faith and credit of the US government.

**TVA.** The Tennessee Valley Authority provides flood control and power and promotes development in portions of the Tennessee, Ohio, and Mississippi River valleys. TVA currently issues discount notes and bonds.

**ASKED.** The price at which a seller offers to sell a security.

**ASSET BACKED SECURITIES.** Securities supported by pools of installment loans or leases or by pools of revolving lines of credit.

**AVERAGE LIFE.** In mortgage-related investments, including CMOs, the average time to expected receipt of principal payments, weighted by the amount of principal expected.

**BANKER’S ACCEPTANCE.** A money market instrument created to facilitate international trade

transactions. It is highly liquid and safe because the risk of the trade transaction is transferred to the bank which “accepts” the obligation to pay the investor.

**BENCHMARK.** A comparison security or portfolio. A performance benchmark is a partial market index, which reflects the mix of securities allowed under a specific investment policy.

**BID.** The price at which a buyer offers to buy a security.

**BROKER.** A broker brings buyers and sellers together for a transaction for which the broker receives a commission. A broker does not sell securities from his own position.

**CALLABLE.** A callable security gives the issuer the option to call it from the investor prior to its maturity. The main cause of a call is a decline in interest rates. If interest rates decline since an issuer issues securities, it will likely call its current securities and reissue them at a lower rate of interest. Callable securities have reinvestment risk as the investor may receive its principal back when interest rates are lower than when the investment was initially made.

**CERTIFICATE OF DEPOSIT (CD).** A time deposit with a specific maturity evidenced by a certificate. Large denomination CDs may be marketable.

**CERTIFICATE OF DEPOSIT ACCOUNT REGISTRY SYSTEM (CDARS).** A private placement service that allows local agencies to purchase more than \$250,000 in CDs from a single financial institution (must be a participating institution of CDARS) while still maintaining FDIC insurance coverage. CDARS is currently the only entity providing this service. CDARS facilitates the trading of deposits between the California institution and other participating institutions in amounts that are less than \$250,000 each, so that FDIC coverage is maintained.

**COLLATERAL.** Securities or cash pledged by a borrower to secure repayment of a loan or repurchase agreement. Also, securities pledged by a financial institution to secure deposits of public monies.

**COLLATERALIZED MORTGAGE OBLIGATIONS (CMO).** Classes of bonds that redistribute the cash flows of mortgage securities (and whole loans) to create securities that have different levels of prepayment risk, as compared to the underlying mortgage securities.

**COMMERCIAL PAPER.** The short-term unsecured debt of corporations.

**COST YIELD.** The annual income from an investment divided by the purchase cost. Because it does not give effect to premiums and discounts which may have been included in the purchase cost, it is an incomplete measure of return.

**COUPON.** The rate of return at which interest is paid on a bond.

**CREDIT RISK.** The risk that principal and/or interest on an investment will not be paid in a timely manner due to changes in the condition of the issuer.

**CURRENT YIELD.** The annual income from an investment divided by the current market value. Since the mathematical calculation relies on the current market value rather than the investor’s cost, current yield is unrelated to the actual return the investor will earn if the security is held to maturity.

**DEALER.** A dealer acts as a principal in security transactions, selling securities from and buying securities for his own position.

**DEBENTURE.** A bond secured only by the general credit of the issuer.

**DELIVERY VS. PAYMENT (DVP).** A securities industry procedure whereby payment for a security must be made at the time the security is delivered to the purchaser’s agent.

**DERIVATIVE.** Any security that has principal and/or interest payments which are subject to uncertainty (but not for reasons of default or credit risk) as to timing and/or amount, or any security which represents a component of another security which has been separated from other components (“Stripped” coupons and principal). A derivative is also defined as a financial instrument the value of which is totally or partially derived from the value of another instrument, interest rate, or index.

**DISCOUNT.** The difference between the par value of a bond and the cost of the bond, when the cost is



below par. Some short-term securities, such as T-bills and banker's acceptances, are known as discount securities. They sell at a discount from par, and return the par value to the investor at maturity without additional interest. Other securities, which have fixed coupons, trade at a discount when the coupon rate is lower than the current market rate for securities of that maturity and/or quality.

**DIVERSIFICATION.** Dividing investment funds among a variety of investments to avoid excessive exposure to any one source of risk.

**DURATION.** The weighted average time to maturity of a bond where the weights are the present values of the future cash flows. Duration measures the price sensitivity of a bond to changes in interest rates. (See modified duration).

**FEDERAL FUNDS RATE.** The rate of interest charged by banks for short-term loans to other banks. The Federal Reserve Bank through open-market operations establishes it.

**FEDERAL OPEN MARKET COMMITTEE.** A committee of the Federal Reserve Board that establishes monetary policy and executes it through temporary and permanent changes to the supply of bank reserves.

**LEVERAGE.** Borrowing funds in order to invest in securities that have the potential to pay earnings at a rate higher than the cost of borrowing.

**LIQUIDITY.** The speed and ease with which an asset can be converted to cash.

**LOCAL AGENCY INVESTMENT FUND (LAIF).** A voluntary investment fund open to government entities and certain non-profit organizations in California that is managed by the State Treasurer's Office.

**LOCAL GOVERNMENT INVESTMENT POOL.** Investment pools that range from the State Treasurer's Office Local Agency Investment Fund (LAIF) to county pools, to Joint Powers Authorities (JPAs). These funds are not subject to the same SEC rules applicable to money market mutual funds.

**MAKE WHOLE CALL.** A type of call provision on a bond that allows the issuer to pay off the remaining debt early. Unlike a call option, with a make whole call provision, the issuer makes a lump sum payment that equals the net present value (NPV) of future coupon payments that will not be paid because of the call. With this type of call, an investor is compensated, or "made whole."

**MARGIN.** The difference between the market value of a security and the loan a broker makes using that security as collateral.

**MARKET RISK.** The risk that the value of securities will fluctuate with changes in overall market conditions or interest rates.

**MARKET VALUE.** The price at which a security can be traded.

**MARKING TO MARKET.** The process of posting current market values for securities in a portfolio.

**MATURITY.** The final date upon which the principal of a security becomes due and payable.

**MEDIUM TERM NOTES.** Unsecured, investment-grade senior debt securities of major corporations which are sold in relatively small amounts on either a continuous or an intermittent basis. MTNs are highly flexible debt instruments that can be structured to respond to market opportunities or to investor preferences.

**MODIFIED DURATION.** The percent change in price for a 100 basis point change in yields. Modified duration is the best single measure of a portfolio's or security's exposure to market risk.

**MONEY MARKET.** The market in which short-term debt instruments (T-bills, discount notes, commercial paper, and banker's acceptances) are issued and traded.

**MORTGAGE PASS-THROUGH SECURITIES.** A securitized participation in the interest and principal cash flows from a specified pool of mortgages. Principal and interest payments made on the mortgages are passed through to the holder of the security.

**MUNICIPAL SECURITIES.** Securities issued by state and local agencies to finance capital and operating expenses.



**MUTUAL FUND.** An entity which pools the funds of investors and invests those funds in a set of securities which is specifically defined in the fund's prospectus. Mutual funds can be invested in various types of domestic and/or international stocks, bonds, and money market instruments, as set forth in the individual fund's prospectus. For most large, institutional investors, the costs associated with investing in mutual funds are higher than the investor can obtain through an individually managed portfolio.

**NATIONALLY RECOGNIZED STATISTICAL RATING ORGANIZATION (NRSRO).**

A credit rating agency that the Securities and Exchange Commission in the United States uses for regulatory purposes. Credit rating agencies provide assessments of an investment's risk.

The issuers of investments, especially debt securities, pay credit rating agencies to provide them with ratings. The three most prominent NRSROs are Fitch, S&P, and Moody's.

**NEGOTIABLE CD.** A short-term debt instrument that pays interest and is issued by a bank, savings or federal association, state or federal credit union, or state-licensed branch of a foreign bank. Negotiable CDs are traded in a secondary market.

**PREMIUM.** The difference between the par value of a bond and the cost of the bond, when the cost is above par.

**PREPAYMENT SPEED.** A measure of how quickly principal is repaid to investors in mortgage securities.

**PREPAYMENT WINDOW.** The time period over which principal repayments will be received on mortgage securities at a specified prepayment speed.

**PRIMARY DEALER.** A financial institution (1) that is a trading counterparty with the Federal Reserve in its execution of market operations to carry out U.S. monetary policy, and (2) that participates for statistical reporting purposes in compiling data on activity in the U.S. Government securities market.

**PRUDENT PERSON (PRUDENT INVESTOR) RULE.** A standard of responsibility which applies to fiduciaries. In California, the rule is stated as "Investments shall be managed with the care, skill, prudence and diligence, under the circumstances then prevailing, that a prudent person, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of like character and with like aims to accomplish similar purposes."

**REALIZED YIELD.** The change in value of the portfolio due to interest received and interest earned and realized gains and losses. It does not give effect to changes in market value on securities, which have not been sold from the portfolio.

**REGIONAL DEALER.** A financial intermediary that buys and sells securities for the benefit of its customers without maintaining substantial inventories of securities and that is not a primary dealer.

**REPURCHASE AGREEMENT.** Short-term purchases of securities with a simultaneous agreement to sell the securities back at a higher price. From the seller's point of view, the same transaction is a reverse repurchase agreement.

**SAFEKEEPING.** A service to bank customers whereby securities are held by the bank in the customer's name.

**STRUCTURED NOTE.** A complex, fixed income instrument, which pays interest, based on a formula tied to other interest rates, commodities or indices. Examples include inverse floating rate notes which have coupons that increase when other interest rates are falling, and which fall when other interest rates are rising, and "dual index floaters," which pay interest based on the relationship between two other interest rates - for example, the yield on the ten-year Treasury note minus the Libor rate. Issuers of such notes lock in a reduced cost of borrowing by purchasing interest rate swap agreements.

**SUPRANATIONAL.** A Supranational is a multi-national organization whereby member states transcend national boundaries or interests to share in the decision making to promote economic development in the member countries.

**TOTAL RATE OF RETURN.** A measure of a portfolio's performance over time. It is the internal rate of return, which equates the beginning value of the portfolio with the ending value; it includes interest earnings, realized and unrealized gains, and losses in the portfolio.

**U.S. TREASURY OBLIGATIONS.** Securities issued by the U.S. Treasury and backed by the full faith and credit of the United States. Treasuries are considered to have no credit risk, and are the benchmark for interest rates on all other securities in the US and overseas. The Treasury issues both discounted securities and fixed coupon notes and bonds.

**TREASURY BILLS.** All securities issued with initial maturities of one year or less are issued as discounted instruments, and are called Treasury bills. The Treasury currently issues three- and six-month T-bills at regular weekly auctions. It also issues "cash management" bills as needed to smooth out cash flows.

**TREASURY NOTES.** All securities issued with initial maturities of two to ten years are called Treasury notes, and pay interest semi-annually.

**TREASURY BONDS.** All securities issued with initial maturities greater than ten years are called Treasury bonds. Like Treasury notes, they pay interest semi-annually.

**VOLATILITY.** The rate at which security prices change with changes in general economic conditions or the general level of interest rates.

**YIELD TO MATURITY.** The annualized internal rate of return on an investment which equates the expected cash flows from the investment to its cost.

ATTACHMENT 2



## Statement of Debt Management and Disclosure Policy



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## *SAN DIEGO COUNTY WATER AUTHORITY*

### **Statement of Debt Management and Disclosure Policy**

#### **Section I. Debt Management**

##### *A. Purpose and Overview*

California Government Code Section 8855 requires local governmental issuers of debt to establish and maintain a debt policy incorporating certain provisions. In addition, in its publication entitled *Best Practice Debt Management Policy*, the Government Finance Officers Association (**GFOA**) states that “Debt management policies are written guidelines, allowances, and restrictions that guide the debt issuance practices of state or local governments, including the issuance process, management of a debt portfolio, and adherence to various laws and regulations. A debt management policy should improve the quality of decisions, articulate policy goals, provide guidelines for the structure of debt issuance, and demonstrate a commitment to long-term capital and financial planning.”<sup>1</sup> GFOA recommends as a best management practice that state and local governments adopt comprehensive written debt management policies.

The San Diego County Water Authority (**Water Authority**) has adopted this Statement of Debt Management and Disclosure Policy (**Debt and Disclosure Policy**) as set forth herein in order to provide a set of comprehensive guidelines for the issuance and management of the Water Authority’s debt portfolio. The Debt and Disclosure Policy provides the tools for the Water Authority to manage its debt portfolio to minimize its financing costs, evaluate the risks and benefits of various debt instruments, ensure it maintains robust and timely disclosures of its activities to the financial markets, and provide for appropriate participation in the municipal securities market by the Water Authority.

Certain capitalized terms used in this Debt and Disclosure Policy and not defined in the body of the document have the meanings set forth in the Glossary attached at the end of this Debt and Disclosure Policy.

##### *B. Roles and Responsibilities*

**Director of Finance** – The primary responsibility for debt management rests with the Water Authority’s Director of Finance (**Director of Finance**). The Director of Finance, in accordance with this Debt and Disclosure Policy, shall:

- Issue Securities and enter into other debt obligations to finance or refinance capital projects and equipment, balancing the lowest costs of funds, useful lives of the capital projects, risk and a diversified debt portfolio;
- Determine the available debt capacity of the Water Authority;

<sup>1</sup> See <http://www.gfoa.org/debt-management-policy>



- Recommend to the Water Authority’s Board of Directors (**Board**) the method and manner of sale of Securities and other debt obligations;
- Monitor opportunities to refund debt or refinance Securities and other debt obligations and recommend such refunding as appropriate to reduce costs or to achieve other objectives consistent with this Debt and Disclosure Policy;
- Comply with all applicable IRS, MSRB, and SEC rules and regulations governing the issuance of debt;
- Maintain a current database with all outstanding Securities and other debt obligations;
- Provide for the timely payment of principal and interest on all Securities and other debt obligations;
- Comply with all terms and conditions, and disclosure obligations required by applicable securities law and the legal documents governing the Securities and other debt obligations;
- Submit to the Board all recommendations to issue debt in accordance with the County Water Authority Act and Resolution No. 89-21 (the **General Resolution**);
- Distribute to appropriate repositories information regarding the Water Authority’s financial condition and affairs at such times and in the form required by law, regulation and general practice;
- Provide for the frequent distribution of pertinent information to the rating agencies selected by the Director of Finance;
- Provide for the ongoing management of an Investor Relations Program; and
- Apply and promote prudent fiscal practices.

### ***C. Purpose for Borrowing***

The Water Authority shall issue Securities and enter into other debt obligations for the purpose of financing the cost of design, acquisition, and/or construction of water system improvements, in furtherance of the Water Authority’s Capital Improvement Program (**CIP**). Additionally, the Water Authority can fund from debt proceeds such other costs as needed including, but not limited, to costs of issuance reserve funds, capitalized interest or other related costs as determined by the Director of Finance. In the issuance and management of Securities and other debt obligations, the Water Authority must comply with all legal constraints and conditions imposed by federal, State and local law. Appendix A attached hereto highlights the key governing documents and certain debt limitations, and Appendix B attached hereto contains a copy of the County Water Authority Act, California Statutes 1943, Chapter 45, as amended.

### ***D. Ethical Standards Governing Conduct***

Members of the Water Authority, the Board and its consultants, service providers, and underwriters shall adhere to standards of conduct as stipulated by the San Diego County Water Authority Local Conflict of Interest Code or the California Political Reform Act, as applicable. All financing participants shall maintain the highest standards of professional conduct at all times and shall make cooperation with the Water Authority staff their highest priority. Additionally, financing team members should:





- Municipal Advisors (as defined below) and Underwriter shall adhere to applicable SEC and MSRB rules, including MSRB Rule G-37;
- Financing participants will assist the Water Authority staff in achieving its goals and objectives as defined in this Debt and Disclosure Policy;
- The Director of Finance will ensure receipt of and review any G-17 notices received from the Water Authority's broker-dealers, and determine whether further investigation is needed based on such notice received, and consult with legal counsel as needed.

## Section II. Integration of Capital Planning and Debt Activities

### A. Policy Goals Guiding Capital Improvement Program Spending

The Water Authority shall develop and maintain a capital finance model to evaluate the impact of capital program spending, operations and maintenance costs, and debt service on its financial condition including its credit ratings. As discussed in the Water Authority's Long-Range Financing Plan (LRFP), the Water Authority's overarching financial management objectives are, maximize cost efficiency (minimize costs/rates), provide predictable (smooth) rates and charges to member agencies and maintain intergenerational equity for system users over time (see a copy of the full LRFP on the Water Authority's website located at <http://www.sdcwa.org/mission-vision-values-strategies>). These management objectives will be factored into decisions relating to the type and timing of Securities issuances and in entering into other debt obligations. To that end, the Director of Finance shall oversee the ongoing maintenance of quantitative modeling that includes, but is not limited to, the following:

- Historic and projected cash flows;
- Historic and projected capital expenditures;
- Historic and projected operating costs;
- Historic and projected fund balances, including the Operating Fund, the Rate Stabilization Fund (RSF), Pay-As-You-Go Fund (PAYGO), Debt Proceeds Fund, Stored Water Fund and Debt Service Reserve Fund
- Historic and projected debt service coverage;
- The most efficient mix of funding sources (long-term debt; short-term debt, and cash);
- Projected revenue requirements; and
- Projected rates and charges.

### B. Debt Service Coverage Policies

1. **Debt Service Coverage** - The Debt Service Coverage Ratio (DSCR) measures the availability of current financial resources to pay for debt service. It is the ratio of annual revenues (net of operating expenses) to total annual debt service. For example, a DSCR of 1.00 means that after paying all operating expenses, an issuer only has exactly enough funds to pay its debt service obligations.



The DSCR is one of the primary metrics used by credit rating agencies and investors to assess the creditworthiness of an issuer. In this way it is similar to the income to debt ratio used in qualifying for home mortgage. All other things being equal, a higher DSCR means less borrowing or higher revenues, better credit ratings, and a lower cost of debt. Conversely, a lower DSCR means more borrowing, lower credit ratings, and more expensive debt.

Generally, the Water Authority's General Resolution is the document governing outstanding debt issues. In this document, the Water Authority contractually commits to set rates so as to maintain a minimum DSCR of 1.20 times on senior lien debt. The Water Authority also covenants to maintain net revenues of at least 1.00 times on all outstanding obligations. A copy of the General Resolution can be found in Appendix G.

2. **Board Adopted Debt Service Coverage Ratio Target**– Highly-rated issuers generally have DSCRs that exceed the covenanted levels. In August 2006, along with the RSF funding policies, the Board adopted a DSCR policy target of 1.50 times. This DSCR target provided levels more appropriate to preserve the long-term financial integrity of an 'AA' and higher rated agency in the midst of a large capital program. In addition to this 1.50 times policy target, the Board also adopted another policy target of 1.00 times on senior lien debt net of capacity charge revenues.

### Section III. Procurement and Evaluation of Professional Services

The Water Authority shall procure professional services as required to execute financing transactions and to advise on non-transaction related work. Professional services include Consultants (Municipal Advisor, Bond Counsel, Disclosure Counsel and Tax); Service Providers (Trustee, Paying Agent, Dissemination Agent, Arbitrage Consultant, Escrow Verification Agent (as defined below), Bidding Agent for escrow investments, Printer, Letter of Credit); and an Underwriting Team (Senior Manager, Co-Manager, Selling Group).

#### A. *Selection Process*

The selection of financial and legal professionals to assist the Water Authority in carrying out financing programs shall be made through a selection process consistent with the Water Authority's procurement policies and procedures. All consultants, service providers and underwriting team members shall provide the Water Authority with objective advice and analysis, shall, except as instructed by the Water Authority in accordance with applicable securities laws, maintain the confidentiality of Water Authority financial plans, and shall be free from any conflict of interest pursuant to applicable law. The Water Authority's Local Conflict of Interest Code, and procurement policies and procedures, can be found in the Water Authority's Standard Professional Service Contract, a copy of which is attached as [Appendix C](#), and in the Water Authority's Administrative Code (see chapters 1.04 and 4.04 therein) a copy of which is attached as [Appendix](#)



## H.

### ***B. Appointment of Municipal Advisor***

The Water Authority will select a Municipal Advisor or advisors to assist in the issuance and administration of debt (**Municipal Advisor**) through the Request for Proposals (**RFP**) process.

The criteria to be used in evaluating and selecting a Municipal Advisor should include:

- Experience in providing formal financial advisory services to major utility issuers;
- Experience with diverse financial structuring requirements of major utility issuers;
- Experience and reputation of assigned personnel; and
- Fees and expenses.

A Municipal Advisor under contract with the Water Authority shall not purchase or sell any Water Authority Securities and other debt obligations. The Director of Finance shall submit to the Board a recommendation for the appointment of a Municipal Advisor. The recommendation shall be accompanied by an evaluation of options and a justification for the recommended course of action. The Director of Finance shall monitor the services rendered by the Municipal Advisor.

Assistance to be provided by a Municipal Advisor will include, but not be limited to:

#### 1. Ongoing Services/Long-Term Forecasting

(i) Review and update as needed the existing model and the LRFP; provide analysis of funding methods and options including analysis of the structure of the LRFP; discussion of issues or difficulties which may be encountered in implementing the LRFP and the strategies to address such issues; prepare and deliver presentations regarding various financial issues to Water Authority staff and the Board as requested.

(ii) Assist the Water Authority in interfacing with rating agencies with the objective of developing a strategy and plan to maintain the highest level of credit ratings possible for the Water Authority's senior lien and subordinate lien ratings in accordance with the Water Authority's overall policy objectives.

(iii) Provide timely information, judgments, and forecasts regarding general economic and capital market conditions.

(iv) Assist the Water Authority in updating its financial strategies and policies when requested. This includes analyzing short, intermediate and long-term financing options.

(v) Advise the Water Authority on the timing, method and structure of its sale of Securities and entering into other debt obligations.



(vi) Update, modify, evaluate, and improve as necessary the revenue program and rate model which is used to help determine the Water Authority's ability to meet funding requirements for the CIP.

(vii) Be available at reasonable times for consultation to render advice regarding the financial aspects of the Water Authority's program as may be requested by the Board, the General Manager, or the Director of Finance.

(viii) Serve as an IRMA to the Water Authority in accordance with the SEC Municipal Advisor Rule.

(ix) Be available to attend meetings related to MWD LRFP and other related rate issues.

## 2. Debt Issuance

(i) Prepare financing schedule, monitor progress of financing team participants, facilitate and coordinate completion of tasks and responsibilities in accordance with schedule and revise schedule as necessary.

(ii) Assist in and coordinate the preparation of legal and disclosure documents related to Securities issuance and entering into other debt obligations.

(iii) Develop a rating agency strategy, prepare rating agency presentation material, schedule meetings with rating agencies, organize and coordinate Board and staff rehearsals and presentations, and coordinate itinerary for rating agency visits as required.

(iv) Prepare and distribute RFP's for underwriters, printers, and other team participants as directed by the Water Authority. Assist in evaluation of proposals, assist in conducting interviews as necessary, and provide recommendation as to firms selected.

(v) Develop and take a primary responsibility for quantitative analysis of structuring alternatives for debt issues including sizing, structure, and term of issue; provide computer modeling and comparison of alternatives analysis; make recommendations and provide rationale for preferred alternatives and ensure that selected alternative provides the best solution as part of the LRFP.

(vi) Assist and coordinate discussions and prepare presentation materials for identified key institutional investors. Coordinate itinerary as necessary for visits to institutional investors or meeting sites.

(vii) Analyze and participate in decision as to timing of sale and consult as to advisability or necessity for rescheduling sale depending on market



conditions.

(viii) Prepare analytical discussion of market conditions and projected pricing results prior to sale. Provide independent pre-pricing analysis to Water Authority prior to sale including market activity, projected results, market supply and demand characteristics, and comparable sale analysis.

(ix) Coordinate and monitor marketing programs initiated by underwriter to develop pre-sale market interest. Prepare and coordinate placement of notices and advertisements in periodical publications (e.g. the Bond Buyer) to stimulate market interest.

(x) Assist in development of and recommendation with respect to pre-sale interest rate scale and structure for pre-marketing purposes. Provide recommendation with respect to underwriter retention and syndicate sales prior to sale.

(xi) Analyze market conditions with respect to underwriters' compensation; provide comparable transaction comparisons and recommendation with respect to underwriting spread and components thereof. Negotiate with underwriters' representatives with respect to underwriters' compensation, including liquidity agreement terms and conditions.

(xii) Participate in pricing process, monitor order flow to all managers, analyze volume and type of orders, and provide recommendation as to acceptance of offer to underwrite at conclusion of pricing period.

(xiii) Provide pricing analysis and comparisons following sale; document pricing results and provide written report to Water Authority with respect to final pricing and underwriter compensation level; and deliver quantitative schedules showing results of final pricing.

(xiv) Provide escrow bidding agent services and/or subscribe for SLGs if requested by the Water Authority.

(xv) Assist and coordinate administrative matters related to transaction closing, including preparation and distribution of final Official Statements, and participate in closing procedures.

### 3. Miscellaneous

(i) Upon request, assist in reviewing and analyzing legislation that may have a financial impact on the Water Authority.

(ii) Assist, when requested, by conducting surveys of the financial



activities of other major operating utilities.

(iii) Attend Board meetings and make presentations to the Board, its committees and staff when requested.

(iv) Prepare graphs, charts, etc. for staff presentations, as needed.

(v) Upon request, assist in reviewing and analyzing MWD and State Water issues as they relate to the Water Authority and provide advice, as needed.

### ***C. Appointment of Legal Counsel***

All Securities issued by the Water Authority and other debt obligations entered into by the Water Authority shall include a written opinion by legal counsel affirming that the Water Authority is authorized to issue the proposed Securities or enter into the other debt obligations, that the Water Authority has met all federal, state, and local legal requirements necessary for issuance and a determination of the proposed Securities' federal income tax status. This approving opinion and other documents relating to the issuance of Securities or entering into other debt obligations shall be prepared by a nationally recognized legal firm with extensive experience in public finance and tax issues. The General Counsel of the Water Authority shall appoint the legal counsel.

For any negotiated sale of Securities or entering into other debt obligations in which legal counsel is required to represent the underwriter, the lead underwriter shall make the appointment. Unless otherwise justified, the appointment shall be made from among nationally recognized law firms with significant ownership or operations in California.

### ***D. Appointment of Trustee and Paying Agent***

The Director of Finance shall appoint a fiscal agent to provide for the payment of all Securities issued by the Water Authority or other debt obligations entered into by the Water Authority. The selection of a fiscal agent shall be based upon a competitive evaluation of proposals submitted in response to an RFP.

The Director of Finance shall submit to the Board a recommendation for the appointment of a fiscal agent. The recommendation shall be accompanied by an evaluation of options and a justification for the recommended course of action. The Director of Finance shall monitor the services rendered by the fiscal agent to ensure prompt and efficient service to bondholders.

### ***E. Appointment of Printer***

The Director of Finance shall select a printer or electronic dissemination provider as required in conjunction with a proposed sale of bonds, for the purpose of printing and mailing Preliminary Official Statements and final Official Statements to potential investors and members of the finance team. The selection of a printer shall be based on a competitive evaluation of proposals.



#### *F. Appointment of Letter of Credit or Liquidity Facility Provider*

In order to comply with the requirements of the bond documents and to ensure the liquidity and marketability of the Water Authority's variable rate debt (including, but not limited to, variable rate bonds and a tax-exempt commercial paper program), the Director of Finance shall take such actions as necessary to procure a letter of credit or line of credit in support of such variable rate debt. The selection of a letter of credit/liquidity bank shall be based on a competitive evaluation of proposals submitted in response to an RFP.

The Director of Finance shall submit to the Board a recommendation for the appointment of a Letter of Credit/Liquidity Facility provider. The recommendation shall be accompanied by an evaluation of options and a justification for the recommended course of action. The Director of Finance shall monitor the trading value and credit ratings of the provider to ensure that the Water Authority's variable rate debt is remarketed at the lowest possible cost, given the legal and policy considerations governing the selection of the bank.

#### *G. Appointment of Remarketing Agents*

The Director of Finance shall, in conjunction with selecting a letter of credit provider, solicit proposals from and select commercial paper remarketers/dealers.

#### *H. Appointment of Verification Agent*

In conjunction with the sale of refunding bonds, if required, the Director of Finance shall procure the services of a verification agent (**Verification Agent**). The purpose of the Verification Agent is to confirm that sufficient proceeds are invested in permitted federal securities and to ensure the timely repayment of principal and interest on the bonds being refunded. The Verification Agent must be a nationally recognized provider of verification services. The selection of a Verification Agent shall be based upon a competitive evaluation of proposals submitted in response to an RFP.

#### *I. Appointment of Underwriters*

To provide for the negotiated issuance of Securities, the Director of Finance shall maintain an Underwriter Pool (**Pool**). The appointment to the Water Authority's Pool shall be based upon a competitive evaluation of proposals submitted in response to a Request for Qualifications. The Director of Finance shall submit to the Board a recommendation for the appointment of underwriters to the Pool to serve a three-year term. The size and composition of the Pool shall be based upon the projected financing needs of the Water Authority. Criteria used in the appointment of qualified underwriters to the Pool shall include:

- Demonstrated ability serving on complex financial transactions;
- Demonstrated ability with major water issuer financings;
- Demonstrated ability to structure a debt issue efficiently and effectively;
- Demonstrated ability to sell Water Authority debt to institutional and retail investors;
- Demonstrated ability to put capital at risk;





- Quality and applicability of financing ideas;
- Experience and reputation of assigned personnel; and
- Indicative fees and expenses.

Prior to any negotiated transactions, an RFP will be issued to the Pool and a financing team recommended to the Board for selection. The composition of the team will be dependent on the size of the sale and the need to achieve a broad distribution of Water Authority debt among both retail and institutional investors. The recommendation shall be accompanied by an evaluation of options and a justification for the recommended course of action.

In connection with the approval of the underwriting team, the Board shall appoint a lead underwriter. The lead underwriter shall have demonstrated ability to manage a number of firms in a complex financial transaction.

#### *J. Appointment of Other Service Providers*

The Director of Finance will solicit proposals for the following services as needed:

- Continuing Disclosure Agent – Service provider that ensures disclosure documents are disseminated to regulators and investors in compliance with regulations and Disclosure Agreements.
- Arbitrage Consultant – Service provider that calculates the arbitrage accrued to transactions for the purpose of IRS filings.
- Open Market Securities Agent – Service provider that solicits prices for escrow fund investments and executes the purchase of selected investments.

### **Section IV. Transaction-Specific Policies**

#### *A. Method of Sale*

1. **Competitive Bid Method** - The Director of Finance evaluates whether the Water Authority will in general sell Securities or enter into other debt obligations by competitive bid or determine that a negotiated debt would be more advantageous due to volatile market conditions, unique structure or call provisions, investor interest or such other factors that could impact the competitive bid as further described in Section 2. Such bid may take the form of hand-delivered or electronically transmitted offers to purchase the bonds. Any competitive sale of Securities or entering into other debt obligations will require approval of the Board. The Securities issued or other debt obligations entered into on a competitive bid basis will be sold to the bidder proposing the lowest true interest cost to the Water Authority provided the bid conforms to the terms and conditions in the official notice of sale.
2. **Negotiated Bid Method** – When necessary, as determined by the Director



ATTACHMENT 2

of Finance, to minimize the costs and risks of Water Authority borrowing, the Director of Finance will submit to the Board a request to sell Securities or enter into other debt obligations on a negotiated basis. A negotiated bond issue will provide for the sale of Securities or entering into other debt obligations by negotiating the terms and conditions of the sale, including yields, coupons and call provisions, credit facilities, underwriter or remarketing fees, and commissions. Examples of such sales include:

- Variable rate demand obligations;
- An issue of Securities so large that the number of potential bidders would be too limited to provide the Water Authority with truly competitive bids;
- An issue requiring the ability to react quickly to sudden changes in interest rates (e.g. refunding bonds);
- An issue requiring intensive marketing efforts to establish investor acceptance;
- An issue of Securities or other debt obligations with specialized distribution requirements;
- Desire to place the Securities or other debt obligations with retail investors; and
- An issue of Securities sold or other obligations entered into during a period of extreme market disruption or volatility.

If Securities are sold or other obligations entered into on a negotiated basis, the negotiations of terms and conditions shall include, but not be limited to, yields, interest rates, and call provisions, underwriting or remarketing fees, and commissions. The Water Authority, with the assistance of its Municipal Advisor, shall evaluate the terms offered by the underwriting team. Guidelines with respect to yields, coupon, call provisions, fees, and commissions shall be based on prevailing terms and conditions in the marketplace for comparable issuers.

If more than one underwriter is included in the negotiated sale of Securities or other obligations entered into, the Water Authority shall establish appropriate levels of liability, participation and priority of orders. Such levels shall be based upon Water Authority policy with regards to the underwriting responsibility among the team members, the desired allocation of total fees, and the desired distribution of Securities or other debt obligations. Guidelines for establishing liability, participation, and priority of orders shall be based on prevailing terms and conditions in the marketplace for comparable issuers.

The Water Authority shall, with the assistance of its Municipal Advisor, oversee the bond allocation process. The bond allocation process shall be managed by the lead underwriter, with the following requirements:

- The bonds are allocated fairly among members of the underwriting team, consistent with the previously negotiated terms and conditions;
- The allocation process complies with all MSRB regulations governing order priorities and allocations;
- The lead underwriter shall submit to the Director of Finance a complete and timely



account of all orders, allocations, and underwriting activities with the investor names identified as appropriate.

The Director of Finance shall require a post-sale analysis and reporting for each negotiated Securities sale or other debt negotiation. The Municipal Advisor or the lead underwriter may perform such analysis. A post-sale analysis will include, but not be limited to:

- Summary of the pricing, including copies of the actual pricing wires;
- Results of comparable bond sales in the market at the time of the Water Authority's pricing;
- Detailed information on orders and allocation of bonds, by underwriting firm;
- Detailed information on final designations earned by each underwriter; and
- Summary of total compensation received by each underwriter.

#### **B. Structural Elements**

1. **Pledge of Revenues** – The Water Authority's pledge of revenues shall be determined for each debt issue depending upon the debt instrument:

- *Senior Obligations* are payable from Net Water Revenues (as defined in the General Resolution) on parity with all other Contracts and Bonds (as those terms are defined in the General Resolution).
- *Subordinate Obligations* are payable from Net Water Revenues, from the Subordinate Obligation Payment Fund, subject and subordinate to Bond Payments and Installment Payments.
- *Other Long Term Obligations* include the payments due pursuant to the Pipeline Installment Sale Agreement dated December 24, 2012, as amended, which are payable from Net Water Revenues, subject and subordinate to the Subordinate Obligations.
- *Certificates of Participation* of the Water Authority shall be repaid from net revenues, as defined in the General Resolution.
- *Revenue Bonds* of the Water Authority shall be repaid from net revenues, as defined in the General Resolution.

The Water Authority may also issue:

- *General Obligation Bonds* of the Water Authority shall be repaid from voter-approved property taxes on property within the jurisdiction of the Water Authority.
- *Assessment Bonds* of the Water Authority shall be repaid from levies or charges collected within an assessment district formed by the Water Authority pursuant to the Municipal Improvement Act of 1913.

2. **Maturity** – The Water Authority shall issue Securities or enter into other



debt obligations with an average life less than or equal to the average life of the assets being financed. The final maturity of the Security or other debt obligation should be no longer than 40 years. Factors to be considered when determining the final maturity of debt include: the average life of the assets being financed, relative level of interest rates, and the year-to-year differential in interest rates.

3. **Maturity Structure** – The Water Authority’s long-term Securities or other debt obligation may include serial and term bonds. Other maturity structures may also be considered if they are consistent with the objectives of the Debt and Disclosure Policy.
4. **Coupon Structure** – Debt may include par, discount and premium coupon structures. Factors to be considered when determining the coupon structures for a specified maturity should include, but not be limited to, overall level of interest rates and current investor demand. For variable rate debt, the variable rate may be based on one of a number of commonly used interest rate indices and the index will be determined at the time of pricing.
5. **Debt Service Structure** – Debt service will be structured primarily on an approximate level (combined annual principal and interest) basis. Certain individual bond issues, such as refunding bonds, may have debt service that is not level. However, on an aggregate basis, debt service should be structured primarily on a level or declining basis.
6. **Redemption Features** – In order to preserve flexibility and refinancing opportunities, Water Authority debt will generally be issued with call provisions. The Water Authority may consider calls that are shorter than traditional and/or non-call debt when warranted by market conditions and opportunities. For each transaction, the Water Authority will evaluate the efficiency of call provision alternatives and their fit within the Water Authority’s overall debt profile.
7. **Credit Enhancement** – The Water Authority shall competitively procure credit enhancement for a sale of bonds if the Director of Finance, in consultation with the Municipal Advisor and the underwriters, determines that it is cost effective to do so.
8. **Senior/Subordinate Lien** – The Water Authority shall utilize both a senior and a subordinate lien structure. The choice of lien will be determined based on such factors as overall cost of debt, impact on debt service, impact on water rates, and marketing considerations.
9. **Debt Service Reserve Funds** – The Water Authority shall provide for debt service reserve funds to secure Water Authority debt when necessary to



enhance the ratings or in response to investor demand if it is determined the reserve will lower the overall cost of the financing. The debt service reserve fund will be established pursuant to the legal documents governing the transaction.

## Section V. Refunding Policies

The Water Authority shall strive to refinance debt to maximize savings and minimize the cost of funds as market opportunities arise. A present value analysis will be prepared that identifies the economic effects of any refunding to be proposed to the Board. Upon the advice of the Director of Finance, with the assistance of the Municipal Advisor and Bond Counsel, the Water Authority will consider undertaking refundings for other than economic purposes, such as to restructure debt, change the type of debt instruments being used, or to retire a bond issue and indenture in order to remove undesirable covenants.

On December 22, 2017, the Tax Cuts and Jobs Act (H.R. 1) was signed into law. The Tax Cuts and Jobs Act eliminates the ability to issue tax-exempt advance refunding bonds after December 31, 2017. An advance refunding bond is generally defined as any refunding bond issued more than 90 days before the redemption of the refunded bond. While the use of tax-exempt advance refunding bonds is no longer available, the Water Authority may still use taxable debt to advance refund bonds and may use tax-exempt bonds when the refunding bonds are issued within 90 days of the call date (i.e., a current refunding). The Water Authority may also consider other alternative refunding options to the extent they fall within the guidelines established in this Debt and Disclosure Policy, or utilize any taxable or tax-exempt advance refunding options that may be provided by any future changes to federal laws and regulations.

### A. Savings Thresholds

Minimum savings thresholds have been established to help guide the economic analysis of refunding bonds. The minimum savings guidelines are applicable on a maturity-by-maturity basis and are expressed as a percentage of refunded bond par calculated by dividing the expected net present value savings generated by the proposed refunding by the par amount of the refunded bonds. Except as described above with respect to refundings undertaken for other than economic purposes, the Water Authority shall only refund bonds to generate debt service savings if the specified minimum savings set forth in the following matrix can be achieved.

To determine if a potential refunding candidate meets the applicable minimum savings threshold specified in the matrix, the Water Authority shall:



		Years to Call		
		0-1	2-7	8 +
Years from Call to Maturity	0-2	1%	2%	2%
	3-7	3%	3%	4%
	8-15	4%	4%	4%
	16 +	4%	5%	5%

**Step 1.** Identify which specific savings threshold applies to the potential refunding candidate by determining (a) how many years there are between the expected refunding date and the first call date and (b) how many years there are from the first call date to the final maturity of the refunding candidate, as shown in the examples below:

Expected Refunding Date	Refunding Candidate First Call Date	Refunding Candidate Final Maturity Date	Minimum Threshold Savings
12-1-2021	12-1-2024 (3 years to call date)	12-1-2035 (11 years call to maturity)	4%
12-1-2021	12-1-2023 (2 years to call date)	12-1-2031 (7 years call to maturity)	3%

**Step 2.** Determine the expected net present value savings for the potential refunding candidates on a maturity-specific basis. Net present value savings are the expected net present value savings resulting from the potential refunding of the specific-maturity refunded bond. Net present value debt service savings are calculated by discounting the relevant cash flows to the expected refunding bond closing date at a rate equal to the True Interest Cost of the associated, maturity-specific refunding bond, and taking into account all costs of issuance, including underwriters’ discount.

**Step 3.** Divide the net present value savings for the specified maturity calculated as described above by the par amount of the refunded bonds. If the percentage savings calculated is equal to or greater than the specified minimum savings threshold, the potential refunding candidate is deemed to meet the minimum savings threshold. If the percentage savings is less than the specified minimum savings threshold the refunding candidate does not meet the threshold.

As noted previously, the Director of Finance shall have discretion in making the final determination to include individual refunding candidates that are above or below the target in order to optimize policy and/or financial objectives. Factors that may be considered by the Director of Finance include, but are not limited to:



1. **Escrow Investment Yields (Negative Arbitrage)** – For advance refundings, the Director of Finance may take into consideration the available escrow yields relative to the refunding bond yields. If the available escrow yields are lower than the refunding bond yields (negative arbitrage), it will reduce the net present value savings otherwise available from the refunding. The Director of Finance may take negative arbitrage into account in assessing the appropriateness of a potential refunding, especially if the present value cost of such negative arbitrage is significant relative to the overall net present values savings expected to be achieved by the refunding.
2. **Coupon on Refunded Bond** – The Director of Finance may take into consideration whether the coupon on the refunded bond is significantly higher or lower than the most common outstanding bond coupons of approximately five percent.
3. **Opportunity Cost Index** – The Director of Finance may consider the amount of savings under current market conditions versus the potential savings on a theoretical future refunding on the call date.
4. **Break-even Analysis** – The Director of Finance may consider a breakeven analysis which measures the amount of basis points the market would need to move in order for the issue to realize more savings today versus a deal executed in the current call window. The lower the break-even rate, the more favorable the transaction is at the time of execution.
5. **General Interest Rate Environment** – The Director of Finance may take into consideration whether the available refunding bond interest rates are generally high or generally low relative to long-term averages of historical rates.
6. **General Interest Rate Outlook** – The Director of Finance may take into consideration the general outlook for future interest rates, as derived from economic forecasts, market forecasts, implied forward rates, or other sources.
7. **Debt Management Considerations** – The Director of Finance may take into consideration debt management issues such as cost and staff efficiencies associated with combining multiple refunding bond issues or combining refunding and new money bond issues.

## Section VI. Reinvestment of Proceeds and Internal Controls on Use of Funds

### A. *Compliance with Laws and Other Legal Documents Governing Reinvestment of Proceeds*





1. **General** – The Water Authority shall comply with all applicable Federal, State, and contractual restrictions regarding the use and investment of bond proceeds. This includes compliance with restrictions on the types of investment securities allowed, restrictions on the allowable yield of some invested funds, as well as restrictions on the time period during over which some bond proceeds may be invested. To the extent that a bond issue is credit enhanced, the Water Authority shall adhere to the investment guidelines of the credit enhancement provider.
2. **Requirements of Resolution** – The Water Authority will comply with all terms and conditions of the General Resolution. Such limitations shall include, but not be limited to Section 5.06 of the resolution.
3. **Investment Policies** – The Water Authority’s Annual Statement of Investment Policy defines the permitted investments for proceeds from debt issuances. The permitted investments comply with the California State Code. The investment of bond proceeds shall be made in accordance with the Water Authority’s Annual Statement of Investment Policy. For the current Annual Statement of Investment Policy, see the Water Authority’s website located at <http://www.sdcwa.org/policies-resolutions-ordinances>.

#### ***B. Internal Controls for Use of Proceeds***

The Treasurer’s Investment Manual outlines the internal controls relating to the investment and management of debt proceeds. The Director of Finance manages the investment of proceeds in accordance with the investment policy. Key elements of the internal controls include dual verification of payments made by wire and department approval of construction invoices remitted by contractors. As discussed below, debt funds are also managed in separate accounts to eliminate the possible use of funds for operating expenditures.

Items eligible for debt proceeds are limited to those described in this Debt and Disclosure Policy (See Section I.C above). Debt proceeds funding projects should be restricted to capital projects with no private activity, unless otherwise approved by the Director of Finance. Projects eligible for the CIP are determined by the Finance Department and validated by the independent financial auditor.

### **Section VII. Creation and Maintenance of Funds**

The Water Authority maintains a number of different funds integral to the LRF process. Each of these funds is held for a specific purpose and can generally be categorized as either an operating, capital or debt reserve fund. Operating funds provide the Water Authority with monies for emergencies, working capital and water rate management and consist of the Operating Fund and the RSF. Capital funds, currently the largest component of Water Authority funds, are held strictly for capital expenditures and consist of the PAYGO Fund and Debt Proceeds Fund (which includes both long-term and short-term debt proceeds). Debt reserve funds are held in trust for the benefit



of investors in the Water Authority's long-term debt.

#### **A. Operating Fund**

The Operating Fund holds the Water Authority's working capital, emergency operating reserve and Equipment Replacement Fund. As previously indicated, the Water Authority's Administrative Code sets the target ending balance of the Operating Fund at 45 days of average annual operating expenditures provided that \$5 million of such calculated amount to be designated and held available for emergency repairs to the Water Authority's system due to unforeseen events. Working capital ensures that even with a cash receipts and disbursements mismatch, the Water Authority will have at least 30 days of Operating Funds on hand at all times. Given the short-term nature of this fund, liquidity of investments is critical and is ensured by investing the Operating Fund on a monthly basis to cover water purchases and ongoing cash disbursements. The Operating Fund, together with water sales revenue and other revenue sources, provide ample liquidity for working capital.

#### **B. Stored Water Fund**

The Stored Water Fund provides the working capital necessary to optimize the Water Authority's local storage assets. Specifically, the Stored Water Fund is designed to ensure that funds are available to maintain the target level of local storage at 70,000 acre-feet in the San Vicente Reservoir and to track revenues from the sale of emergency waters necessary to replenish the water drawn down. Excess monies in the Stored Water Fund may be used to pay for capital projects or to reduce debt costs. For further information on the Stored Water Fund, see the Board's Policy Guidelines for Managing Carryover Storage Supplies and Revisions to the Stored Water Fund Policy dated November 30, 2016.

#### **C. Equipment Replacement Fund**

This fund is used to purchase minor capital equipment such as computer systems, vehicles and parts of the Supervisory Control and Data Acquisition (SCADA) system. It is funded by transfers from the Operating Fund per depreciation schedule.

#### **D. Rate Stabilization Fund**

The RSF was created in Fiscal Year 1989-1990 for the purpose of collecting amounts of water revenues greater than expenditures in years of strong water sales. Funds can then be used to avoid fluctuations in water rates, manage debt service coverage, or smooth out water rate increases. The RSF is a critical short-term water rate management tool that provides the necessary funds to maintain a smooth water rate pattern over a long period of time. The RSF is expected to have an increasingly important role in managing hydrology risk and stabilizing annual revenue needs with the melded supply rate and the expansion of the Water Authority's functional areas with treatment and desalination.

Board policy sets a target funding level for the RSF equal to the financial loss resulting from 2.5



years of above average rainfall, calculated at a 95% exceedance level. Additionally, it establishes a maximum funding level equal to the financial loss resulting from 3.5 years of above average rainfall. Defining the target and maximum funding levels of the RSF in terms of the financial impact of above average rainfall matches the size of the fund to the primary risk it is designed to mitigate and provides additional capacity for rate smoothing.

As a general rule, the Water Authority will transfer portions of its net water revenues not required to meet either its debt service coverage ratio requirement or operating fund requirement into the RSF. The Board may choose to budget for RSF deposits resulting in balances in excess of the target level but not in excess of the maximum level for the purposes of rate smoothing. Balances below the target level are to be replenished within three years. Interest earnings accrue to the RSF unless the maximum balance is achieved, at which point they will be deposited into the Operating Fund. Transfers from the RSF are used solely to pay Maintenance and Operation Costs (as defined in the General Resolution) of the Water Authority. The RSF is managed so that any funds above the maximum balance will be transferred to the Operating Fund—Operating Fund balances above the existing 45-day policy are subject to discretionary use by the Board. For further information on the RSF, see Sections 2.01 and 2.03 of the General Resolution.

#### ***E. Pay-As-You-Go Fund***

The PAYGO Fund was established in Fiscal Year 1990 to serve as a mechanism to collect Capacity Charges and Standby Charges to be used to pay for the cash portion of the CIP. The PAYGO Fund is a “capital fund”, as opposed to a “reserve fund,” meaning that the monies in the fund will be spent directly on capital expenditures, not held in reserve for some other purpose. The PAYGO Fund is projected to be spent over the next eleven years in conjunction with cash generated by operations to fund the pay-as-you-go portion of the CIP. Typically, the annual expenditure of PAYGO funds corresponds to a percentage of the annual CIP expenditure for a particular year, as dictated by the optimal funding mix derived through the long-range computer modeling process.

#### ***F. Debt Proceeds Fund***

Similar to the PAYGO Fund, the Debt Proceeds Fund also holds capital funds for eventual expenditure towards the Water Authority’s CIP. Monies deposited into the Debt Proceeds Fund are produced by the Water Authority’s sale of securities in the form of long-term and short-term debt. Upon the sale of any single issue of debt, federal tax law currently dictates that the Water Authority must reasonably expect to spend the proceeds of the issue within three years. As a result, the Debt Proceeds Fund will typically fluctuate over two-to-three year periods as funds are raised through debt issuance every two-to-three years and then largely spent prior to the next issuance.

#### ***G. Debt Service Reserve Fund***

Debt Service Reserve Funds maybe be required under legal documents governing the issuance of the Water Authority’s long-term debt. They are funded as either a percentage of the par amount of long-term debt issued or as one year of debt service on the issue and are held in trust for the benefit of investors in the debt issued. The funds may be used for debt service on an issue, if for



any reason the Water Authority is unable to make a scheduled payment. In lieu of holding a cash-funded reserve fund, the Water Authority may substitute a surety bond or other credit facility in its place. The decision to cash-fund a reserve fund versus using a credit facility is dependent upon the cost of the credit facility and the investment opportunities and restrictions on a cash-funded reserve fund.

## **Section VIII. Compliance**

### ***A. Arbitrage Liability Management***

The Water Authority shall maximize interest earnings and minimize the cost of arbitrage rebate and yield restrictions while strictly complying with tax law. Because of the complexity of arbitrage rebate regulations and the severity of non-compliance penalties, the Water Authority shall solicit the advice of bond counsel and other qualified experts about arbitrage rebate calculations.

The Water Authority must assure payment of the required rebate amounts, if any, no later than 60 days after each 5-year anniversary of the issue date of the bonds, and no later than 60 days after the last bond of each issue is redeemed. Five year anniversary payments require 90% payment of the required rebate amount within 60 days after each 5-year anniversary of the issue date, while redemption payments require 100% payment due within 60 days after the final redemption or maturity date of the bond issue. The Water Authority shall contract with a qualified third-party for preparation of the arbitrage rebate calculation and determination of any required rebate amount.

The Water Authority shall maintain an internal system for tracking expenditure of bond proceeds and investment earnings to meet the arbitrage rebate compliance requirements, including causing arbitrage to be reviewed approximately one year following the issuance of each series of Securities. The expenditure of bond proceeds shall be tracked in the financial accounting system by issue. Investment may be pooled for financial accounting purposes and for investment purposes. When investment of bond proceeds are co-mingled with other investments, the Water Authority shall adhere to IRS rules on accounting allocations.

### ***B. Post-Issuance Tax Compliance***

The Water Authority has adopted Written Procedures to Ensure Compliance with Requirements for Tax-Exempt Bonds found in Appendix D and Written Procedures for Issuance of Direct Pay Build America Bonds found in Appendix E. The Water Authority shall comply with such procedures to maintain the tax-exempt status of Water Authority debt obligations or to maintain eligibility for direct pay subsidy payments, as applicable.

### ***C. Continuing Disclosure***

The Water Authority shall comply with the requirements of each Disclosure Agreement entered into at the time of a sale of bonds and in accordance with this Debt and Disclosure Policy as set forth in Section IX below. Annual information provided by the Water Authority generally should be consistent with information contained in any contemporaneous Water Authority Official



Statement that is being utilized in a primary offering. In addition to annual disclosure, the Water Authority shall provide ongoing information about certain enumerated events, as defined by regulation and as set forth in the Water Authority's Disclosure Agreement, to the MSRB.

#### ***D. Legal Covenants***

The Water Authority shall comply with all covenants and conditions contained in governing law and any legal documents entered into at the time of a bond offering.

### **Section IX. Communication and Disclosure Policies**

#### ***A. Rating Agencies***

The Water Authority shall maintain its strong ratings with rating agencies selected by the Director of Finance through prudent fiscal management and consistent communications with the rating analysts. The Director of Finance shall manage relationships with the rating analysts assigned to the Water Authority's credit, using both informal and formal methods to disseminate information. Communication with the rating agencies selected by the Director of Finance may include:

- Disclosure on an annual basis of the financial condition of the Water Authority;
- A formal presentation, at least biennially or as becomes necessary to the rating agencies, covering economic, financial, operational, and other issues that impact the Water Authority's credit;
- Timely disclosure of major financial events that impact the Water Authority's credit;
- Timely dissemination of the Comprehensive Annual Financial Report, following its acceptance by the Board;
- Timely distribution of any documents pertaining to the sale of Securities; and
- Periodic tours of the water system operations, as appropriate.

#### ***B. Bond Insurers***

The Director of Finance shall manage relationships with the analysts and the bond insurers assigned to the Water Authority's credit, using both informal and formal methods to disseminate information. Communication with the bond insurers shall be undertaken when the Director of Finance, with the assistance of the Water Authority's Municipal Advisor, determines that credit enhancement is cost effective for a proposed Security issue.

#### ***C. Public Statements Made by the Water Authority.***

In connection with the marketing of its Securities or other debt obligations, Water Authority management will make formal presentations to the rating agencies engaged to rate the Securities or other debt obligations as stated above and may make presentations to investors. These presentations are governed by, and the Water Authority is required to comply with, the same rules described in this Debt and Disclosure Policy.



Statements which may be considered information expected to reach investors and thus possibly subject to the rules described in this Debt and Disclosure Policy include public addresses, statements and speeches; press releases; information posted anywhere on the Water Authority's website; press conferences; and Board proceedings, all of which may be monitored by rating agencies, investor analysts and other market participants. Accordingly, Water Authority officials should not make statements that are misleading about Water Authority finances and operations, and any such statements should be accurate and complete.

#### ***D. Initial or Primary Market Disclosure***

The Water Authority must comply with the securities laws when it initially issues Securities or enters into other debt obligations and has a continuing obligation to comply with securities laws while its Securities or other debt obligations are outstanding. In order to inform potential investors of what they need to know in order to decide whether or not to transact in the Securities or other debt obligations, its initial or primary market disclosure (generally in the form of an Official Statement or Offering Memorandum) should include information that describes (i) the Securities or other debt obligation, (ii) the Water Authority, (iii) the projects to be financed or refinanced, and (iv) the security and sources of repayment of the Securities, and (v) risk factors. The Water Authority's initial or primary market disclosure will be used by the underwriters in the marketing of its Securities or other debt obligations and should contain a description of risks associated with investment in the Securities or other debt obligations. A well prepared Official Statement may also function as the Water Authority's primary defense against claims that the Water Authority violated the antifraud rules in connection with offerings of its Securities or other debt obligations.

#### ***E. Continuing or Secondary Market Disclosure***

The Rule requires underwriters of many Securities or other debt obligations to obtain a written agreement that the issuer will provide to investors certain ongoing, or "continuing", disclosure. Continuing disclosure information is intended to reflect the financial or operating condition of the Water Authority as it changes over time, as well as specific events occurring after issuance, that can have an impact on both the ability to pay amounts owed and the market value of the Securities or other debt obligations if bought or sold prior to maturity. Each applicable publicly-issued Security or other debt obligation has its own continuing disclosure requirements, and not all types of continuing disclosure may apply.

In furtherance of its continuing disclosure undertakings and to promote compliance with applicable law, the Water Authority has adopted and maintains disclosure policies and procedures that are reasonably designed to (a) result in accurate, timely and complete public disclosures; (b) identify the persons involved in the disclosure process; (c) evaluate other public disclosures that the Water Authority has made, including financial information and other statements, prior to public dissemination; and (d) assure that responsible individuals receive adequate training about their obligations under the Federal securities laws.

The Water Authority's Continuing Disclosure Procedures are set forth in Appendix F attached hereto. Those procedures provide that the Director of Finance, or his or her designee, serves as



Disclosure Coordinator for the Water Authority.

## **Section X. Debt Database Management**

The Water Authority shall maintain complete information on its outstanding debt portfolio, in a spreadsheet or database program format. The information in the database shall include, but not be limited to, the following:

- Issue Name
- Initial Issue Par Amount
- Dated Date of the Issue
- Principal Maturity Amounts
- Coupon Rate by Maturity
- Amount Outstanding
- Call Provisions
- Purpose of the Issue
- Credit Enhancer, if any
- Competitive or Negotiated Sale
- Names of Underwriting Team Members
- Other information as applicable

The Water Authority shall use the debt database for the following purposes:

- Generate reports
- Gross annual debt service
- Net annual debt service
- Refunding Analyses
- Output to Fund Accounting System





## GLOSSARY

For purposes of this Debt and Disclosure Policy:

“**Annual Debt Transparency Report**” means the annual debt transparency report required to be filed with CDIAC pursuant to Govt. Code Section 8855.

“**Annual Filing**” means annual financial information and operating data to be filed with the MSRB pursuant to Disclosure Agreements.

“**Bond Counsel**” means the Bond Counsel to the Water Authority.

“**CDIAC**” means California Debt and Investment Advisory Commission.

“**DAC**” means Digital Assurance Certification, LLC, an accounting firm that provides post-issuance securities and tax compliance services to municipal securities market participants.

“**Disclosure Agreement**” means the provisions of each continuing disclosure agreement, ordinance, order, resolution, letter of credit reimbursement agreement, commercial paper dealer agreement, indenture, bond insurance commitment or other agreement of the Water Authority by which the Water Authority undertakes to provide financial and operating data periodically, and timely notices of certain events or other reporting requirements, to the MSRB or others, whether expressly or as the only nationally recognized municipal securities information repository under the Rule.

“**Debt and Disclosure Policy**” means the Statement of Debt Management and Disclosure Policy adopted by the Water Authority on January 25, 2018.

“**Disclosure Coordinator**” means the officers or employees of the Water Authority charged with exercising the responsibilities of a Disclosure Coordinator under this Debt and Disclosure Policy as described in Appendix F.

“**Disclosure Counsel**” means counsel engaged from time to time by the Water Authority with the approval of the General Counsel to give advice to the Water Authority in accordance with this Debt and Disclosure Policy.

“**Disclosure Working Group**” means the officers or employees of the Water Authority charged with exercising the responsibilities of the Disclosure Working Group in preparing or reviewing any Public Statements under this Debt and Disclosure Policy.

“**EMMA**” refers to MSRB’s Electronic Municipal Market Access reporting system.

“**Event Notice**” refers to notice of a Listed Event required to be delivered by the Water Authority to the MSRB pursuant to the Disclosure Agreements and the Rule.



“**Exchange Act**” means the Securities Exchange Act of 1934, as amended.

“**Financial Professionals**” means financial professionals performing services for the Water Authority’s debt programs, such as financial advisors, accountants, consultants and underwriters.

“**General Counsel**” means the General Counsel to the Water Authority.

“**Govt. Code Section 8855**” means Section 8855 of the Government Code of the State of California.

“**Investor Inquiry Coordinator**” means the Director of Finance/Treasurer or the officers or employees of the Water Authority charged with exercising the responsibilities of an Investor Inquiry Coordinator under this Debt and Disclosure Policy.

“**IRMA**” means Independent Registered Municipal Advisor.

“**IRS**” means the Internal Revenue Service.

“**Listed Events**” a list of any list of events required to be disclosed under any Disclosure Agreements.

“**Material**”, “**Materiality**” or “**Materially**” when used with respect to a fact included in a Disclosure Document means, generally, that a reasonable investor likely would attach significance to it in making a decision to buy, hold or sell Securities of the Water Authority. When questions of Materiality arise, the General Counsel and/or Disclosure Counsel should be consulted, however ultimately it is the issuer’s responsibility. When determining Materiality, some items that auditors consider include, for example, whenever the item (i) has a material impact on the financial statements (e.g. a critical accounting estimate or significant unusual transaction), (ii) may become a matter of public interest or exposure, (iii) applies to a new accounting standard or policy or (iv) relates to changes in internal control over financial reporting.

“**Member Agency**” means the 24 member agencies are comprised of 6 cities, 5 water districts, 3 irrigation districts, 8 municipal water districts, 1 public utility district, and 1 federal military base.

“**MSRB**” means the Municipal Securities Rulemaking Board.

“**MWD**” means the Metropolitan Water District of Southern California.

“**Offering Documents**” means preliminary and final Official Statements, commercial paper offering memoranda and other documents by which Securities or other debt obligations are offered to the public by the Water Authority as well as solicitation statements by which the Water Authority offers to purchase its Securities or requests consents or waivers regarding Securities or other debt obligations.



“**Official Statements**” means any preliminary and final official statements, together with any supplements issued in primary offerings of Securities or other debt obligations.

“**Presentations/Releases**” means press releases, publications, media interviews, presentations (including investor presentations), speeches, and other statements of the Water Authority or its officials and employees that could reasonably be Material to investors in Securities or other debt obligations.

“**Public Information Officer**” means the Director of Public Outreach and Conservation of the Water Authority or the officers or employees of the Water Authority charged with exercising the responsibilities of a Public Information Officer under this Debt and Disclosure Policy.

“**Public Statement**” means any statement or other communication that is intended (or reasonably can be expected) to be accessible to and reasonably relied upon by investors in Securities, including, as applicable: (i) Offering Documents; (ii) information filed with the MSRB through the EMMA, including Annual Filings and Event Notices; (iii) information uploaded or linked or posted to the website of the Water Authority; or (iv) statements made by the Water Authority or any of its officials and employees that could reasonably be Material to investors in Securities, including Presentations/Releases.

“**Report of Final Sale**” means a report of the final sale no later than 21 days after the sale of any debt issue.

“**Reporting Period**” refers to the reporting period beginning July 1 through June 30.

“**Rule**” means Rule 15c2-12 adopted by the SEC under the Exchange Act, as the same may be amended from time to time.

“**Securities**” means bonds, notes, certificates of obligation, certificates of participation and other debt obligations or debt instruments or securities of the Water Authority, or the payment of which the Water Authority is obligated to support by a lease, contract or other arrangement, that are sold to or otherwise held or traded in by investors in each case that are securities.

“**SEC**” means the United States Securities and Exchange Commission.

“**Securities Act**” means the Securities Act of 1933, as amended.

“**Transcript and File**” means the form of an electronic or paper file for each Public Statement that the Water Authority completes.

“**Water Authority**” means the San Diego County Water Authority.

“**Web Manager**” means Director of Finance or their delegated person, who reports to the Director of Administrative Services and is the employee of the Water Authority charged with operating,



updating, and maintaining the Water Authority’s website and exercising the responsibilities of the Web Manager under this Debt and Disclosure Policy.

## Appendix A Legal Governing Principles

### A. *Governing Law*

**County Water Authority Act** – The Water Authority is a public agency created in 1944 under the County Water Authority Act (the **Act**), California Statutes 1943, Chapter 45, as amended. The Act establishes the Water Authority’s legal authority to issue debt and the limitations therein. A copy of the Act can be found in Appendix B. The Water Authority shall comply with all constraints of the Act.

**Federal Tax Law** – The Water Authority shall issue and manage debt in accordance with the limitations and constraints imposed by federal tax law, to maximize its ability to sell tax-exempt debt. Such constraints include, but are not limited to, private activity tests, review of eligible projects, spend-down tests, and arbitrage rebate limitations.

**Securities Law** – The Water Authority shall comply with the requirements of federal and state securities laws in offering Water Authority debt and the Water Authority shall comply with securities law requirements in providing ongoing disclosure to the securities markets.

### B. *Governing Legal Documents*

**General Resolution** – The Water Authority’s debt issuance is further governed by Resolution No. 89-21, adopted May 11, 1989, Resolution No. 97-52, adopted December 11, 1997, and Resolution No. 09-23, adopted on December 17, 2009, all of which together constitute the **General Resolution**. The General Resolution establishes the basic security structure of debt issued by the Water Authority that is secured by Net Water Revenues. Key terms and conditions include, but are not limited to, the definition of pledged revenues, the rate covenant and the additional bonds test. A copy of the General Resolution can be found in Appendix G. The Water Authority shall comply with all limitations imposed under the General Resolution.

### C. *Permitted Debt by Type*

The Water Authority may legally issue both short-term and long-term debt, using the instruments described below. The Director of Finance, in consultation with the Water Authority’s General Counsel and Bond Counsel, shall determine the most appropriate instrument for a proposed bond sale.

**General Obligation Bonds** – The Water Authority is empowered, under its Act, to levy taxes on all taxable property within its boundaries for the purpose of paying its voter-approved general obligation bonds and, subject to certain limitations in the Act, the California Revenue and Taxation Code and the California Constitution, for other Water Authority purposes. The Water Authority is authorized to sell general obligation bonds under Section 7 of the Act, subject to the approval of a two-thirds majority of those voting in a local election.

**Certificates of Participation** – Certificates of Participation (**COP**) provide financing through a lease, installment sale agreement or contract of indebtedness and typically do not require voter approval. Board action is sufficient to legally authorize a COP issue. The Water Authority is

permitted to use the installment sale form of COPs, based upon its ability to execute installment sale agreements (Section 5 of the Act) and contracts of indebtedness (Section 8 of the Act). The Water Authority's issuance of COPs is facilitated by the San Diego County Water Authority Financing Corporation, a California nonprofit benefit corporation that was created by the Water Authority specifically to serve as party to the installment sale agreements and contracts of indebtedness securing Water Authority COPs. The Water Authority shall pledge net revenues to the repayment of its COPs, under the terms and conditions specified in the General Resolution.

**Joint Powers Agency Revenue Bonds** – As an alternative to COPs, the Water Authority may obtain financing through the issuance of bonds by a joint exercise of powers agency with such bonds payable from amounts paid by the Water Authority under a lease, installment sale agreement, or contract of indebtedness. The San Diego County Water Authority Financing Agency is a joint exercise of powers agency formed for the purpose of facilitating Water Authority financing through the issuance of such revenue bonds.

**Commercial Paper** – Per Section 8.2 of the Act, the Water Authority may issue short-term revenue certificates, including commercial paper and extendable commercial paper. Board action is sufficient to legally authorize a commercial paper issue. The Water Authority's commercial paper is secured by net revenues, but on a subordinate lien basis to the Water Authority's long-term debt (i.e. COPs). Voter approval is not required to issue commercial paper.

**Variable Rate Debt** – The Water Authority is authorized to issue variable rate debt including, but not limited to, public market indexed notes, indexed notes or loans placed directly with financial institutions and other alternative variable rate and market access products as well as traditional variable rate demand obligations backed by bank liquidity facilities. Prior to the issuance of variable rate debt, the savings and other possible advantages compared to a fixed rate borrowing will be evaluated and a comparative analysis presented to the Board as part of the approval process.

**Revenue Bonds** – The Water Authority is authorized to issue revenue bonds (Section 7.5 of the Act), as further described in the Revenue Bond law of 1941 (Chapter 6, commencing with Section 54300, or Part 1 of Division 2 of Title 5 of the Government Code). The Water Authority shall pledge net revenues to the repayment of any revenue bonds under the terms and conditions specified in the General Resolution.

**Refunding Revenue Bonds** – The Water Authority is authorized to issue refunding revenue bonds to refund outstanding Water Authority indebtedness pursuant to the State of California local agency refunding revenue bond law (Articles 10 and 11 of Chapter 3 of Part 1 of Division 2 of Title 5 of the Government Code).

**Assessment Bonds** – The Water Authority is authorized to issue assessment bonds pursuant to the Improvement Bond Act of 1915, subject to requirements imposed by Proposition 218. Such bonds are typically repaid from assessments collected within an assessment district formed pursuant to the Municipal Improvement Act of 1913. Assessments are levies of charges on real property to pay for projects or services that specifically benefit that parcel of property.

***D. Selection of Lien and Limitations on Debt Issuance***

The Director of Finance will determine whether Securities or other debt obligations of the Water Authority are issued as Senior Obligations, Subordinate Obligations, or otherwise. The decision on which lien to issue will be based in part on the type of Security being issued, the impact of the Security or other debt obligation on the Water Authority's ratings and the LRFPP.

**Subordinate Obligations** – The Water Authority may issue Securities or other debt obligations as Subordinate Obligations. The Water Authority's Subordinate Obligations, for which net revenues are pledged, shall be limited to that amount for which current and projected revenues generate overall debt service coverage of at least 100 percent if no subordinate bonds are outstanding, and 105 percent if subordinate bonds are outstanding.

**Senior Obligations** – The Water Authority may issue Securities or other debt obligations as Senior Obligations. The Water Authority's Senior Obligations, for which net revenues are pledged, shall be limited to that amount for which current and projected revenues generate a Senior Obligations debt service coverage of at least 120 percent. The calculation of debt service shall not include general obligation bonds or assessment bonds, to which revenue sources other than pledged revenues, as defined in the General Resolution, are pledged. It should be noted that the Board has adopted a policy that sets the Senior Obligations debt service coverage target of 150 percent in keeping with its prudent financial management.



**Appendix B**  
**County Water Authority Act**

B-1

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**Appendix C**  
**Water Authority's Standard Professional Service Contract**

**Appendix D**  
**Written Procedures to Ensure Compliance with Requirements for Tax-Exempt Bonds**

**Appendix E**  
**Written Procedures for Issuance of Direct Pay Build America Bonds**

## Appendix F Continuing Disclosure Procedures

The Water Authority has adopted this Debt and Disclosure Policy in order to assist the Water Authority in preparing, reviewing and timely filing of, as applicable, Public Statements which includes any statement or other communication that is intended (or reasonably can be expected) to be accessible to and reasonably relied upon by investors in Securities or other debt obligations, including: Offering Documents; Annual Filings and Event Notices; or statements made by the Water Authority or any of its officials and employees that could reasonably be Material to investors in Securities or other debt obligations. This Debt and Disclosure Policy is intended to guide the Water Authority's compliance with its initial and continuing disclosure obligations with respect to the Securities or other debt obligations it issues or that are issued on its behalf, under applicable laws, rules, regulations and contractual obligations.

### A. Key Participants in Continuing Disclosure

1. Disclosure Coordinator. The Director of Finance, or his or her designee, will serve as Disclosure Coordinator for the Water Authority. Should the designated Disclosure Coordinator be unavailable to act as Disclosure Coordinator, the Director of Finance, or the General Manager if the Director of Finance is unavailable, will appoint someone to act in his or her place. The Disclosure Coordinator will:

- (i) Serve as the primary point of contact for the Water Authority personnel and other persons to communicate issues or information that should be or may need to be considered for inclusion in any Public Statement;
- (ii) Monitor and coordinate timely compliance by the Water Authority and the Disclosure Working Group with this Debt and Disclosure Policy and applicable laws;
- (iii) Recommend changes to this Debt and Disclosure Policy to the Disclosure Working Group or the Board as necessary or appropriate;
- (iv) Maintain records documenting the Water Authority's compliance with this Debt and Disclosure Policy and applicable laws; and
- (v) Whenever the Disclosure Coordinator determines that a Public Statement could be Material to investors, consult with Disclosure Counsel and determine whether to (a) cause such Public Statement to be filed with the MSRB through EMMA and/or (b) send a link to such filing to the Web Manager, for inclusion on the Water Authority's investor relations website.

2. Disclosure Working Group. The persons charged with preparing or reviewing any Public Statements under this Debt and Disclosure Policy (the Disclosure Working Group) shall consist of the following and should convene in person, by telephone and/or via other methods of communications if, when and as needed, and at least once prior to the finalization of any preliminary and final Official Statements, commercial paper offering memoranda and other documents by which Securities or other debt obligations are offered to the public by the Water

Authority as well as solicitation statements by which the Water Authority offers to purchase its Securities or other debt obligations or requests consents or waivers regarding Securities or other debt obligations:

- (i) Disclosure Coordinator;
- (ii) General Counsel, or his or her designee;
- (iii) Disclosure Counsel, as designated by the General Counsel;
- (iv) Financial Professionals, if applicable and as designated by the Director of Finance; and
- (v) Such other members of the Disclosure Working Group as the Director of Finance determines to be appropriate, including Department Heads staff level and above.

#### **B. General Disclosure Procedures**

The Disclosure Working Group will implement the procedures set forth in this Debt and Disclosure Policy in preparing, reviewing or disseminating all Public Statements. Procedures that are specific to the monitoring, preparing, reviewing or disseminating of Event Notices, website postings, Investor Inquiries and Presentations/Releases are described herein and are in addition to the procedures described in this section.

1. Establishing Scope and Process. Prior to making any Public Statement, to establish scope and process for such Public Statement, the Disclosure Working Group should:

- (i) determine what information should be contained in the Public Statement;
- (ii) ensure that the information provided in the Public Statement is current and meets the requirements of any Disclosure Agreement or applicable laws with respect to the information required to be included in such Public Statement;
- (iii) assign responsibilities for assembling and verifying the information to be included in the Public Statement; and
- (iv) establish a schedule for producing the information to be contained in the Public Statement that will allocate sufficient time for any final review and approvals required pursuant to this Debt and Disclosure Policy and to meet any deadlines under applicable Disclosure Agreements.

While the information included in a prior Public Statement of the same nature may be used as a starting point for a new Public Statement, the Disclosure Working Group should provide suggestions for improvement to each Public Statement and should not assume that any prior Public Statements contain all of what may be then appropriate to include in the new Public Statement.

2. Assembling Current Information. The Disclosure Coordinator should:

(i) as applicable, solicit information via email from the General Manager, Director of Finance, General Counsel and Disclosure Counsel and others who are likely to know or be able to obtain and verify information required to be included in the Public Statement;

(ii) assign responsibilities to the applicable persons for assembling and verifying the information required to be included in the Public Statement;

(iii) work with the General Manager, Director of Finance, General Counsel and Disclosure Counsel to assure that providers of information required to be included in a Public Statement devote sufficient time and care to produce timely and accurate information, when requested;

(iv) work with providers of information required to be included in a Public Statement to (1) assemble, verify and forward such information to the Disclosure Coordinator and (2) notify the Disclosure Coordinator of any other facts which may be Material to investors or with respect to the information required to be included in the Public Statement;

(v) when questions of Materiality arise, consult with the General Counsel and/or Disclosure Counsel;

(vi) for Annual Filings, compile and maintain (and update after every issuance, redemption or defeasance or other satisfaction of Securities or other debt obligations) a list of all financial information and operating data required to be filed in an Annual Filing;

(vii) with advice from Disclosure Counsel, determine whether information contained in a Public Statement would Materially change the total mix of information about the Water Authority that is available to investors;

(viii) distribute drafts of the Public Statements to the Disclosure Working Group for review together with, if necessary for the Disclosure Working Group's consideration, a description of the process used to compile the Public Statement;

(ix) if necessary, modify or cause to be modified the Public Statements as the Disclosure Coordinator deems advisable on the advice of Disclosure Counsel to respond to comments from members of the Disclosure Working Group;

(x) submit such Public Statements to the Director of Finance and General Counsel for approval; and

(xi) where applicable and appropriate, coordinate with the Water Authority Member Agencies, or the Member Agency employee responsible for preparing information contained in other Member Agency Public Statements, to



align the Water Authority's Public Statement with the contents of such other Member Agency Public Statements.

3. Review for Process, Accuracy and Completeness. The members of the Disclosure Working Group should review the materials provided by the Disclosure Coordinator for accuracy, completeness and compliance with federal and state laws, and should, if applicable, ask questions of the Disclosure Coordinator to determine whether, based on information known or reported to them, (i) this Debt and Disclosure Policy was followed, (ii) the Material facts in the Public Statements are consistent with those known to the members of the Disclosure Working Group and (iii) the Public Statements contain any untrue statement of any Material fact or omit to state a Material fact that is necessary to be included or revised to prevent the Public Statements from being misleading to investors. The Disclosure Coordinator should take such action as may be necessary, based on comments from the Disclosure Working Group, to enable the Disclosure Working Group to conclude that the issues described above can be answered in the affirmative.

4. Final Approval. The Disclosure Working Group or Disclosure Coordinator, as applicable, should approve the final draft of any Public Statement. Approval of the Disclosure Working Group should be obtained for:

- (i) Offering Documents;
- (ii) Annual Filings;
- (iii) investor presentations; and
- (iv) any forward looking Public Statements of the Water Authority.

The Disclosure Coordinator may approve, without formal approval of the Disclosure Working Group:

- (v) Event Notices;
- (vi) Website postings;
- (vii) Press releases;
- (viii) Financial or operational information that has already been disseminated publicly, and
- (ix) Disclosure Documents that contain no discretionary content; unless any of the foregoing information described in this sentence Materially changes information regarding the Water Authority which is already publicly available, in which case approval of the Disclosure Working Group should be obtained.

If the Public Statement is to be disseminated by or through Disclosure Counsel, the Public Statement may be disseminated when the Disclosure Coordinator confirms that (i) the Public Statement has been reviewed and approved by all required persons, (ii) there are no Material errors,

misrepresentations, or omissions of which the Disclosure Coordinator is aware, and (iii) the Water Authority authorizes the Public Statement to be disseminated.

5. Dissemination. After the Public Statement is approved as provided in this Debt and Disclosure Policy, the Disclosure Coordinator should:

(i) authorize and direct Disclosure Counsel, DAC or other contracted dissemination agent, or the underwriters in a negotiated sale of Securities or other debt obligations, to disseminate the Public Statement, as applicable, and in compliance with any applicable Disclosure Agreement and applicable law;

(ii) if applicable, notify the Web Manager (as defined below) of the dissemination of the Public Statement;

(iii) if applicable, provide the Web Manager with a link to the page on which the Public Statement is posted on EMMA;

(iv) if applicable, provide the Web Manager with appropriate text and text edits for the Water Authority website, to accompany the posting of the Public Statement;

(v) if applicable, include the link on the Water Authority's website or otherwise post the Public Statement in the appropriate section of the Water Authority's investor relations website; and

(vi) if applicable and/or required by contract, provide a copy to third parties including service providers in connection with Securities or other debt obligations, Dissemination Agent(s), liquidity provider(s), custodian(s), trustee(s), bond insurer(s) and rating agencies.

6. Documentation and Document Retention. The Disclosure Coordinator will be responsible for retaining records of compliance with this Debt and Disclosure Policy in the Transcript and File. He or she will compile and retain the Transcript and File, which may be in electronic or email form, of the actions taken to prepare, review and approve each Public Statement, including the sources of the information included, the comments and actions of the Disclosure Working Group, the description of the process followed by the Disclosure Coordinator and the approvals required by this Debt and Disclosure Policy. Such Transcript and File should be accessible to other members of the Disclosure Working Group and all electronic records should be backed up regularly. Each Transcript and File should include the following, as applicable:

(i) final versions of the Public Statement;

(ii) the information required to be collected pursuant to this Debt and Disclosure Policy, the certifications described in this Debt and Disclosure Policy, and any other confirmations, opinions or documents related to the Public Statement;

(iii) copies of this Debt and Disclosure Policy;

(iv) copies of any training materials provided to the Disclosure Working Group or the Water Authority staff; and

(v) a record of the dates of any meetings of the Disclosure Working Group, if any.

Each Transcript and File should be maintained on a continuous basis in a central repository for a period of five years from the later of: (x) the date the applicable content of the Transcript and File is published, posted or otherwise made publicly available, as applicable or (y) the date that all of the Securities or other debt obligations described therein are no longer outstanding.

### ***C. Event Notices Procedures***

1. Identification of Reportable Events. The Disclosure Coordinator should maintain a list of any list of events required to be disclosed under any Disclosure Agreements (Listed Events) which may require notice of a Listed Event required to be delivered by the Water Authority to the MSRB pursuant to the Disclosure Agreements and the Rule (an Event Notice). The Disclosure Coordinator should review this list at least once each week to determine whether any Listed Event has occurred that may require the filing of an Event Notice. The Disclosure Coordinator (with the assistance of members of the Disclosure Working Group) should:

(i) identify the officers and employees of the Water Authority who are most likely to first obtain knowledge of the occurrence of any Listed Events;

(ii) on a weekly basis, request in writing that the identified officers and employees notify the Disclosure Coordinator immediately after learning of any Listed Event, regardless of Materiality; and

(iii) on a weekly basis, monitor, or direct the Disclosure Counsel or a contracted vendor to monitor, bond ratings for changes.

The timing of Event Notices, and the specific types of events which are subject to the notices, depend on the specific terms of the applicable Disclosure Agreement. Certain items are required to be reported as soon as within ten (10) business days following their occurrence (and certain of such occurrences, for example, ratings changes, can happen without notice to the Water Authority). Others are required to be reported only if they are deemed to be Material. The General Counsel and Disclosure Counsel should be consulted for specific advice regarding timing and Materiality.

2. Preparation of Event Notice. The Disclosure Coordinator should:

(i) assess whether the Listed Event is reportable under the Disclosure Agreements upon consultation with counsel and, if notice of the Listed Event must be given;

(ii) prepare an Event Notice; and

(iii) comply with the final approval and documentation procedures in this Debt and Disclosure Policy.

3. Review and Approval of Event Notice. The Director of Finance and General Counsel or if so designated by the General Counsel, Disclosure Counsel, should promptly review and approve or comment on the draft Event Notice. The Disclosure Coordinator should incorporate such comments into the Event Notice to be filed with EMMA.

4. Posting. The Disclosure Coordinator should authorize and direct Disclosure Counsel, DAC or other contracted dissemination agent to file the Event Notice with the MSRB through EMMA by the deadline established by the Disclosure Agreements in the format and with the identifying information required by the Disclosure Agreements, including CUSIP numbers for the applicable Securities or other debt obligations.

#### ***D. Website***

1. Review of Website. The Disclosure Coordinator and the employees of the Water Authority charged with operating, updating, and maintaining the Water Authority's website and exercising the responsibilities of the Web Manager should review the investor relations section of the Water Authority's website at least quarterly to assure that (i) information provided by third parties and/or divisions of the Water Authority other than the finance division is not included, linked or referred to without appropriate disclaimers, and is not included unless the Disclosure Coordinator has reason to believe that it is reliable and identifies the source of the information, (ii) dated information is removed from the website or clearly labeled as archived information, as appropriate, (iii) all Material financial and operating data is presented as of a specific date with appropriate disclaimers as to the currency of the data, (iv) no Material forward-looking statements (projections, forecasts, etc.) are included unless they are based on reasonable assumptions and are accompanied by a description of the substantial risks to achieving the forecasted results and (v) the Material information presented is consistent with the knowledge of such persons and not internally inconsistent.

2. Postings. The Web Manager should review each posting of information to the website to assure consistency with this Debt and Disclosure Policy. With respect to each Public Statement it receives from the Disclosure Coordinator, the Web Manager should add a link to the document or post the document in the appropriate section of the website.

3. Documentation of Procedures. The Web Manager should compile and maintain a record of (i) the source of all Material information included on the Water Authority's website, (ii) the scope and results of each review of the website pursuant to this Debt and Disclosure Policy and (iii) the actions taken following each such review.

#### ***E. Investor Relations Program and Inquiries***

The Water Authority shall establish and maintain an Investor Relations Program. The objectives of the program will be to:

- Reduce borrowing costs by improving demand for future bond sales;

- Keep investors continually informed of the issues facing the Water Authority;
- Obtain investor feedback on debt management considerations; and
- Create access to market opportunities such as shorter call provisions or tender programs.

1. Investor Inquiry Coordinator. The Director of Finance, or such person appointed by the Director of Finance to act in his or her place, will serve as the Investor Inquiry Coordinator.

2. Processing of Investor Inquiries. Except for communications that occur in connection with primary offerings of Securities or other debt obligations which are handled by the Director of Finance, all inquiries from investors will be managed by the Investor Inquiry Coordinator. If any other employee of the Water Authority receives an inquiry from a person that identifies himself or herself as an investor or potential investor in the Water Authority Securities or other debt obligations, that employee should refer such inquiry to the Investor Inquiry Coordinator.

3. Responses to Investor Inquiries. With respect to each inquiry from an investor, (i) if information necessary to respond to such inquiry has already been included in a Public Statement, then the Investor Inquiry Coordinator may respond to such inquiry using information contained in the Public Statement and (ii) if information necessary to respond to such inquiry is not obtainable from information included in a Public Statement, then the Investor Inquiry Coordinator will coordinate with the Disclosure Coordinator and General Counsel to develop a response to such inquiry in a manner that assures that it is accurate and available to all investors at the same time. This process may include convening a meeting of the Disclosure Working Group for broader inquiries or ones that require subjective judgment in responding.

4. Documentation. The Investor Inquiry Coordinator will compile and maintain a record of investor inquiries and responses and forward such record to the Disclosure Coordinator for retention in accordance with this Debt and Disclosure Policy. The record of investor inquiries should be retained for a period of five years from the later of: (x) the date of the response to each investor inquiry or (y) the date that all of the Securities or other debt obligations described therein are no longer outstanding.

#### ***F. Presentations/Releases and Other Public Statements***

1. Notification of Disclosure Coordinator. The Public Information Officer and/or the Director of Finance, as applicable, will notify the Disclosure Coordinator of each Presentation/Release proposed to be issued and, whenever possible, provide the Disclosure Coordinator with an opportunity to review and comment before release.

2. Review of Presentations/Releases. The Disclosure Coordinator should review each such Presentation/Release to determine whether it could reasonably be Material to investors in Securities or other debt obligations and, if so, take steps to assure that the factual statements in the Presentation/Release are supported and appropriately qualified. The Disclosure Coordinator will forward his or her comments to the Public Information Officer and/or Director of

Finance, as applicable, who will take such comments into account and obtain legal advice if appropriate, before releasing the Presentation/Release.

### ***G. Training***

1. Personnel to be Trained. Each member of the Disclosure Working Group, the Disclosure Coordinator, the Director of Finance, the Deputy Executive Directors, the General Counsel, the Web Manager, the Investor Inquiry Coordinator, the Public Information Officer and each person identified as a source of data for any Public Statement pursuant to this Debt and Disclosure Policy should undergo periodic training consistent with this Debt and Disclosure Policy.

2. Training Content. The training program and materials will be prepared by or with the assistance of Disclosure Counsel and approved by the General Counsel. The training program will include a description of (i) the requirements of federal and state securities laws, including the Securities Act, the Exchange Act, and Govt. Code Section 8855, and the applicable rules promulgated thereunder; (ii) the roles of the Municipal Securities Rulemaking Board and the CDIAC, (iii) the Disclosure Agreements, (iv) considerations in determining whether an issue is Material and (v) the duties of such persons under this Debt and Disclosure Policy.

3. Training Frequency. Each applicable person should undergo training (i) promptly after being appointed to his or her position and (ii) annually as necessary to address any changes in law or this Debt and Disclosure Policy.

### ***H. Annual CDIAC Reporting Procedures***

1. Govt. Code Section 8855 requires any issuer of public debt to provide to CDIAC a report of the proposed issuance no later than 30 days prior to the sale of any debt issue (Report of Proposed Debt Issuance) and a Report of Final Sale no later than 21 days after the sale of any debt issue. CDIAC provides online forms to submit information to CDIAC in compliance with these requirements. The Disclosure Coordinator should work with the General Counsel or his or her designee to assure timely filing of the required transaction-specific reports.

2. Additionally, pursuant to Govt. Code Section 8855, with respect to Reports of Final Sale filed after January 21, 2017, the Water Authority will have an ongoing obligation to file an annual debt report (the Annual Debt Transparency Report) on or before January 31 for the reporting period beginning July 1 through June 30 (the Reporting Period) of the subsequent year, each year that the subject debt is outstanding or until the proceeds of such debt have been spent, whichever is later. The General Counsel, with the advice of Disclosure Counsel, and the Disclosure Coordinator, will work with the Water Authority to complete the annual debt transparency report and timely file it with CDIAC.

### ***I. Updates to Policies and Procedures***

1. Periodic Review. The Disclosure Policy should be reviewed annually by the Disclosure Coordinator and Disclosure Counsel. In addition, officers and employees of the Water Authority should be encouraged to make recommendations for changes to this Debt and Disclosure Policy at any time.

2. Recommendations for Change. Following receipt of any recommendation for updates to this Debt and Disclosure Policy, the Disclosure Coordinator should give his or her advice regarding the recommendation to the Disclosure Working Group. The Disclosure Working Group should consider the recommendation and advice, determine whether to propose a change to this Debt and Disclosure Policy and submit such proposal to the Director of Finance and the General Counsel.

3. Changes to Disclosure Policy. The General Manager, with advice from the Director of Finance, the General Counsel and Disclosure Counsel, may approve and implement any change to this Debt and Disclosure Policy that advances the goals of this Debt and Disclosure Policy. The Disclosure Coordinator will disseminate any modifications to this Debt and Disclosure Policy after receiving any such modifications.

***J. Miscellaneous***

1. Internal Use Only. This Debt and Disclosure Policy is intended for the internal use of the Water Authority only and is not intended to establish any duties in favor of or rights of any person other than the Water Authority.

2. Waiver of Procedures. The officers and employees charged by this Debt and Disclosure Policy with performing or refraining from any action may deviate from this Debt and Disclosure Policy when they and the Disclosure Coordinator in good faith determine that such deviation is in the best interests of the Water Authority and consistent with the duties of the Water Authority under federal and state securities laws and with approval of the General Counsel.



**Appendix G  
General Resolution**

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**Appendix H**  
**Administrative Code**

H-1

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## Glossary of Financial Terms

ACCRUE - Accumulate or increase.

ADJUSTABLE RATE MORTGAGE (ARM) - A type of mortgage in which the interest rate paid on the outstanding balance varies according to a specific benchmark

AD VALOREM - In proportion to the value.

AGGREGATE - Total, sum.

AMORTIZE - To liquidate a debt (such as a mortgage) by installment or payments, or payment into a sinking fund. To write off an expenditure for by prorating over a certain period.

ARBITRAGE REBATE - The ability to obtain tax-exempt bond proceeds and invest the funds in higher yielding taxable securities resulting in a profit. Generally, tax-exempt bond issues which were issued on or after September 1, 1986 are subject to the arbitrage rebate requirements.

ASSESSED VALUE - The estimated value of real estate that is used for tax purposes. This process is used for determining the value of the residence for taxation purposes.

BOND COVENANT - A contractual provision in a bond indenture. A positive covenant requires certain actions, and a negative covenant limits certain actions.

CALLABLE BOND - A Bond that can be redeemed by the issuer prior to its maturity.

CERTIFICATE OF PARTICIPATION (COPS) - A type of financing where an investor purchases a share of some form of installment payment rather than the bond being secured by a “pledge” of those revenues. This tool is commonly used when bond statutes are archaic, or no such authorizing legislation exists.

COMMERCIAL PAPER (CP) - A short-term debt instrument maturing in 270 days used by corporations and governments as a form of borrowing. When issued by the Water Authority to fund capital investments, it serves effectively as a form of variable-rate debt.

COVENANT - A binding agreement or promise as contained in a contract. The Water Authority's borrowing documents contain many covenants. For example, its rate covenant commits the Water Authority to set rates sufficient to generate a certain amount of revenue.

CREDIT RATING - An assessment of whether a entity will be able to meet its obligations to bond holders and other investors when debt is due.

DEBT FINANCING - When a firm raises money for working capital or capital expenditures by selling bonds, bills, notes or similar instruments to individuals and/or investors. In return for lending the money, the individual or investor becomes creditors and receive a promise to repay principal and interest on the debt.

GENERAL OBLIGATION BOND - A municipal bond backed by the credit and taxing power of the issuing jurisdiction, rather than the revenue from a given project.

HEDGE - A means of protection or defense, especially against a financial loss

ITERATIVE - Characterized by or involving repetition, recurrence or reiteration.

LIABILITIES - An obligation that legally binds an individual or company to settle a debt.

LIQUIDITY - The degree to which an asset or security can be bought or sold in the market without affecting the assets price. Liquidity is catheterized by a high-level of trading activity. The ability to convert an asset to cash quickly. In the context of variable-rate debt, liquidity often refers to a facility by which a bank guarantees to purchase the security from an investor if another investor is not available.

MATURITY - The length of time until the principal amount of a bond must be repaid. The end of the life of a security. The date the borrower has to pay back the amount borrowed through the issue of a bond.

PAR - The nominal dollar amount assigned to a security by the issuer for a debt. security. Par is the amount repaid to the investor when the bond matures.

RATINGS - SEE "CREDIT RATING"

REVENUE BOND - A municipal bond supported by the revenue from a specific project or from an enterprise system such as a utility.

SECURITIES LENDING- A loan of a security from one entity who must eventually return the same security as repayment. The loan is often collateralized. Securities lending allows a broker-dealer, or corporation or a public agency in possession of a particular security to earn enhanced return on the security through finance charges.

SEQUESTRATION - A fiscal policy process that automatically reduces the federal budget across most departments and agencies; a procedure by which "across the board" spending cuts go into effect if Congress fails to agree on a deficit-reducing budget before a specific date.

STAKEHOLDER - A person, group or organization that has interest or concern in an organization.

SURETY - When used in connection with municipal debt, a policy of a bond insurer used to meet the requirement of funding a debt service reserve fund, therefore reducing the size of a bond issue.

YIELD - The rate of return on an investment, paid in dividends or interest and expressed as a percent. Yield is usually calculated by dividing the amount you receive annually in dividends or interest by the amount you spent to buy the investment.

## Acronyms

AB32 - California Global Warming Solution Act of 2006

ACT - County Water Authority Act

AFO - Acoustic Fiber Optic

AGREEMENT - The Water Conservation and Transfer Agreement

AF - Acre-feet

BABs - Build America Bonds Program

BMA - Bond Market Association

BMP - Best Management Practice

CAGR - Compound Annual Growth Rate

CalPERs - California Public Employees' Retirement System

CEQA - California Environmental Quality Act

CERBT - California Employers' Retiree Benefit Trust

CIAC - Contributions in Aid of Construction

CIP - Capital Improvement Plan

COA - Coordinated Operations Agreement

COP - Certificate of Participation

COVID-19 - Novel Coronavirus SARS-CoV-2

CP - Commercial Paper

CPC - Climate Prediction Center

CSP - Carryover Storage Project

DSCR - Debt Service Coverage Ratio

DWR - Department of Water Resources

ECP - Extendable Commercial Paper

EIR - Environmental Impact Report

ESA - Endangered Species Act

ESP - Emergency Storage Project

FGIC - Financial Guaranty Insurance Company

FSTF - Fiscal Sustainability Task Force

FSWG - Financial Strategy Work Group

GFOA - Government Finance Officers Association

GIC - Guaranteed Investment Contract

G.O. Bonds - General Obligation Bonds

IAC - Infrastructure Access Charge

IID - Imperial Irrigation District

JPA - Joint Powers Authority

LAFCO - Local Agency Formation Commission

LAIF - Local Agency Investment Fund

LRFP - Long-Range Financing Plan

LIBOR - London Interbank Offered Rate

M&I - Municipal and Industrial

MAF - Million Acre-Feet

MEU - Meter Equivalent Unit

MSRB - Municipal Securities Rulemaking Board

MWD - Metropolitan Water District of Southern California

NRMID - Nationally Recognized Municipal Information Depositories

OPEB - Other Post-Employment Benefits

PAYGO - Pay-as-you-go

PCCP - Prestressed Concrete Cylinder Pipe

PSAWR - Permanent Special Agricultural Water Rate

QSA - Quantification Settlement Agreement

R&R - Renewal and Rehabilitation

RFP - Request for Proposal

RMWG - Rate Model Working Group

RSF - Rate Stabilization Fund

RTS - Readiness-to-Serve

SANDAG - San Diego Association of Governments

SCADA - Supervisory Control and Data Acquisition

SID - State Information Depository

SIFMA - Securities Industry and Financial Markets Association

SPEIR - Supplemental Program Environmental Impact Report

SRC - Supply Reliability Charge

SWP - State Water Project

SWRCB - State Water Resources Control Board

TECP - Tax-Exempt Commercial Paper

TSAWR - Transitional Special Agricultural Water Rate

USFWS - United States Fish and Wildlife Service

UWMP - Urban Water Management Plan

WATER FIX - Bay-Delta Conservation Plan/California Water Fix

WPA - Water Purchase Agreement

WSCP - Water Shortage Contingency Plan

WSDRP - Water Shortage and Drought Response Plan

WSR - Water Stewardship Rate



## Member Agency Information

### CARLSBAD MWD

5950 El Camino Real, Carlsbad, CA 92008  
760-438-2722  
[www.carlsbadca.gov/water](http://www.carlsbadca.gov/water)  
Directors: Keith Lewinger, Matt Hall

### CITY OF DEL MAR

1050 Camino Del Mar, Del Mar, CA 92014  
858-755-3294  
[www.delmar.ca.us](http://www.delmar.ca.us)  
Director: Mel Katz

### CITY OF ESCONDIDO

201 N. Broadway, Escondido, CA 92025  
760-839-4880  
[www.escondido.org/utilities](http://www.escondido.org/utilities)  
Director: Consuelo Martinez

### FALLBROOK PUBLIC UTILITIES DISTRICT

990 East Mission Road, Fallbrook, CA 92028  
760-728-1125  
[www.fpud.com](http://www.fpud.com)  
Director: Jack Bebee

### HELIX WATER DISTRICT

7811 University Ave, La Mesa, CA 91942  
619-466-0585  
[www.hwd.com](http://www.hwd.com)  
Directors: Dan McMillan, Joel Scalzitti

### LAKESIDE WATER DISTRICT

10375 Vine Street, Lakeside, CA 92040  
619-443-3805  
[www.lakesidewater.org](http://www.lakesidewater.org)  
Director: Frank Hilliker

### CITY OF NATIONAL CITY

Sweetwater Authority  
P.O. Box 2328, Chula Vista, CA 91912  
619-420-1413  
[www.sweetwater.org](http://www.sweetwater.org)  
Director: Mona Rios (Vice Chair)

### CITY OF OCEANSIDE

300 N. Coast Hwy, Oceanside, CA 92054  
760-435-5800  
[www.ci.oceanside.ca.us/gov/water](http://www.ci.oceanside.ca.us/gov/water)  
Director: Brian Boyle

### OLIVENHAIN MWD

1966 Olivenhain Road, Encinitas, CA 92024  
760-753-6466  
[www.olivenhain.com](http://www.olivenhain.com)  
Director: Kimberly A. Thorner

### OTAY WATER DISTRICT

2554 Sweetwater Springs Blvd, Spring Valley, CA 91978  
619-670-2222  
[www.otaywater.gov](http://www.otaywater.gov)  
Director: Gary Croucher (Chair), Tim Smith

### PADRE DAM MWD

PO Box 719003, Santee, CA 92072  
619-448-3111  
[www.padredam.org](http://www.padredam.org)  
Director: Doug Wilson

### CAMP PENDLETON MARINE CORPS BASE

Marine Base, Camp Pendleton, CA 92055  
760-725-1061  
[www.pendleton.marines.mil](http://www.pendleton.marines.mil)  
Director: John Simpson

### CITY OF POWAY

P.O. Box 789, Poway, CA 92074  
858-748-6600  
[www.ci.poway.ca.us](http://www.ci.poway.ca.us)  
Director: Eric Heidemann

### RAINBOW MUNICIPAL WATER DISTRICT

3707 Old Highway 395, Fallbrook, CA 92028  
760-728-1178  
[www.rainbowmwd.com](http://www.rainbowmwd.com)  
Director: Tom Kennedy

**RAMONA MUNICIPAL WATER DISTRICT**

105 Earlham St, Ramona, CA 92065  
760-789-1330  
www.rmwd.org  
Director: Gary Hurst

**RINCON DEL DIABLO MUNICIPAL WATER DISTRICT**

1920 N Iris Lane, Escondido, CA 92027  
760-745-5522  
www.rinconwater.org  
Director: James Murtland

**CITY OF SAN DIEGO**

600 B Street, Suite 1100, San Diego, CA 92101  
619-515-3500  
www.sandiego.gov/water  
Director: Jerry Butkiewicz (Secretary), Chris Cate, Jim Madaffer, Jimmy Ayala, Valentine Macedo Jr., Elsa Saxod, Fern Steiner, Ismahan Abdullahi, Lois Fong-Sakai, Nick Serrano

**SAN DIEGUITO WATER DISTRICT**

160 Calle Magdalena, Encinitas, CA 92024  
760-633-2650  
www.sdwd.org  
Director: Joe Mosca

**SANTA FE IRRIGATION DISTRICT**

P.O. Box 409, Rancho Santa Fe, CA 92067  
858-756-2424  
www.sfidwater.org  
Director: Michael T. Hogan

**SOUTH BAY IRRIGATION DISTRICT**

Sweetwater Authority  
P.O. Box 2328, Chula Vista, CA 91912  
619-420-1413  
www.sweetwater.org  
Director: Jose Preciado

**VALLECITOS WATER DISTRICT**

201 Vallecitos de Oro, San Marcos, CA 92069  
760-744-0460  
www.vwd.org  
Director: Craig Elitharp

**VALLEY CENTER MUNICIPAL WATER DISTRICT**

P.O. Box 67, Valley Center, CA 92082  
760-749-1600  
www.vcmwd.org  
Director: Gary Arant

**VISTA IRRIGATION DISTRICT**

1391 Engineer St, Vista, CA 92081  
760-597-3100  
www.vidwater.org  
Director: Marty Miller

**YUIMA MUNICIPAL WATER DISTRICT**

P.O. Box 177, Pauma Valley, CA 92061  
760-742-3704  
www.yuimamwd.com  
Director: Amy Reeh

### Member Agency Map

