



One  Water

Biennial Budget

Fiscal Years
2022/23 – 2023/24

THE METROPOLITAN WATER DISTRICT
of SOUTHERN CALIFORNIA



GOVERNMENT FINANCE OFFICERS ASSOCIATION

*Distinguished
Budget Presentation
Award*

PRESENTED TO

**Metropolitan Water District of Southern California
California**

For the Fiscal Year Beginning

July 01, 2020

Christopher P. Morill

Executive Director

MWD AT A GLANCE

ORGANIZATION

Authority: The Metropolitan Water District Act (California Statutes 1927).

Incorporated: Dec. 6, 1928.

First Board Meeting: Dec. 29, 1928.

Mission: To provide Metropolitan's service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.

Imported Water Sources: Colorado River and California State Water Project.

Service Area: About 5,200 square miles in Los Angeles, Orange, San Diego, Riverside, San Bernardino and Ventura counties.

Population Served: Approximately 19 million.

Member Agencies: 26.

Founding Cities (December 1928): Anaheim, Beverly Hills, Burbank, Colton*, Glendale, Los Angeles, Pasadena, San Bernardino*, San Marino, Santa Ana and Santa Monica.

* Withdrew in 1931.

Subsequent Member Agency Cities: Cities of Fullerton (joined 1931), Long Beach (1931), Torrance (1931), Compton (1931), and San Fernando (1971).

Municipal Water Districts: West Basin MWD (1948), Inland Empire Utilities Agency (1950), Three Valleys MWD (1950), Eastern MWD (1951), MWD of Orange County (1951), Foothill MWD (1953), Central Basin MWD (1954), Western MWD (1954), Calleguas MWD (1960), Las Virgenes MWD (1960), and Upper San Gabriel Valley MWD (1963), **County Water Authority:** San Diego (1946).

GOVERNANCE

Board of Directors: 38. Each member agency is entitled to at least one director; additional directors are based on the agency's assessed valuation. Board meetings are generally held on the second Tuesday of each month. Check www.mwdh2o.com for meeting times and agendas.

FACILITIES

Colorado River Aqueduct: 242 miles from Lake Havasu to Lake Mathews, Riverside.

Construction: Began 1933, completed 1939; CRA and regional distribution system operational 1941.

Capacity: 1.3 million acre-feet[†] annually.

Pumping Plants (east to west): Whitsett Intake (lift 291 ft.); Gene (303 ft.); Iron Mountain (144 ft.); Eagle Mountain (438 ft.); Julian Hinds (441 ft.); Total lift 1,617 feet.

Siphons: 144, totaling 29 miles.

Tunnels: 29, totaling 92 miles.

Canals: 63 miles.

Conduits and Pipeline: 58 miles.

Design Capacity: 1,605 cubic feet per second.

Water Treatment Plants: Joseph Jensen, Granada Hills (capacity 750 million gallons per day); Robert A. Skinner, Winchester (630 mgd); F.E. Weymouth, La Verne (520 mgd); Robert B. Diemer, Yorba Linda (520 mgd); and Henry J. Mills, Riverside (220 mgd)

Reservoirs: Diamond Valley Lake, Hemet, capacity 810,000 AF; Lake Mathews, Riverside, 182,000 AF; Lake Skinner, Winchester, 44,000 AF; Copper Basin, Gene, 24,200 AF; Gene Wash, Gene, 6,300 AF; Live Oak, La Verne, 2,500 AF; Garvey, Monterey Park, 1,600 AF; Palos Verdes, Rolling Hills, 1,100 AF; and Orange County, Brea, 212 AF.

Total Reservoir Storage Capacity: 1,072,000 AF

Distribution System: 830 miles of pipelines and tunnels; about 400 connections to member agencies.

Hydroelectric Plants: 16; nameplate capacity 131 megawatts.

State Water Project: Metropolitan participates in the State Water Project, with rights to use the facilities and an allocation for water.

SUPPLY, DELIVERIES AND WATER TRANSACTIONS

Average Daily Delivery: 4,100 AF (5-year avg. calendar years 2017 to 2021)

Record Daily Delivery: 9,872 AF on June 28, 1994.

Record Annual Water Transactions: 2.5 million AF in 1990.

Unit Price (full service): Effective Jan. 1, 2022, rates are \$1,143 per AF for treated water, and \$799 per AF for untreated water. Effective Jan. 1, 2023, rates are \$1,209 per AF (treated) and \$855 per AF (untreated), and effective Jan. 1, 2024, rates are \$1,256 per AF (treated) and \$903 per AF (untreated).

Budgeted Water Transactions Assumption: 1.59 MAF for CY 2022/23 and 1.54 MAF in CY 2023/24.

FINANCE AND ADMINISTRATION

Water Revenue Bond Ratings: Standard & Poor's AAA; Moody's Aa1; Fitch AA+.

Budget: July 1, 2022 – June 30, 2023: \$2,140 billion
July 1, 2023 – June 30, 2024: \$2,254 billion

Capital Projects: \$250 million (FY 2022/23)
\$250 million (FY 2023/24)

Employees: 1,929 budgeted regular employees FY 2022/23 (full-time equivalent positions); 1,929 employees (FTEs) FY 2023/24

Fund Sources: Water rates and charges, 71%; fund withdrawals, 9%; taxes, 7%; hydroelectric sales and miscellaneous income, 3%; other, 10% (Biennial Budget FY 2022/23, FY 2023/24).

Uses of Funds: State Water project payments, 29%; operations & maintenance, 25%; debt service, 12%; construction, 15%; fund deposits, 9%; demand management programs, 2%; supply programs, 3%; and Colorado River power, 4%; other, 1% (Biennial Budget FY 2022/23, FY 2023/24).

[†]Acre-foot=325,851.4 gallons

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GENERAL MANAGER'S TRANSMITTAL LETTER

July 2022

Metropolitan is pleased to present the adopted fiscal year (FY) 2022/23 and FY 2023/24 Biennial Budget and associated Ten-Year Financial Forecast.

The presentation of this budget comes at a challenging time for Metropolitan and its member agencies as we face a drought emergency due to a historically low State Water Project (SWP) allocation, emerge from a worldwide pandemic, and confront high inflation. Considering these circumstances, the adopted budget strikes a balance between investing in reliable water supplies for Southern California while managing rates to address rising operational costs and reduced revenues due to lower water transactions and severe drought. Nevertheless, the Biennial Budget invests in the future of our region so that we are more resilient to climate change and drought. We recognize that this is a transitional time with significant planning processes underway that will shape Metropolitan's investments, business model, and long-term resiliency.

The Board, Finance and Insurance (F&I) Committee, and member agencies have participated in a lengthy and transparent public process to evaluate and provide comment on Metropolitan's Biennial Budget and the rates and charges necessary to support the expenditures. The F&I Committee held budget workshops on February 7, 2022, February 22, 2022, March 7, 2022, and March 22, 2022, allowing sufficient time to have extensive budget and revenue discussions and affording staff the opportunity to respond to board member requests for additional information. Public testimony was provided and considered at the public workshops, the public hearing on March 8, 2022, the F&I Committee meeting on April 11, 2022, as well as the board meeting on April 12, 2022.

In bringing forward the final budget and rates proposal, staff carefully reviewed all means available that would allow Metropolitan to fulfill its mission to the highest degree while also limiting overall rate increases to the member agencies, recognizing that they too are contending with drought, system investment needs, and affordability concerns. Metropolitan has and will continue to be persistent in its search for new revenue sources, which potentially include state and federal grant opportunities, beneficial water exchanges, and partnerships that leverage investments in Metropolitan's system. We continue to work with the Governor's office and the Legislature to advocate for funding for Metropolitan's emergency drought projects and the Regional Recycled Water Program (RRWP). Additionally, Metropolitan is exploring low-interest loans through the State Revolving Funds and researching federal project financing options. Metropolitan's existing assets, such as real estate, may also pose opportunities to serve their strategic function for Metropolitan while at the same time generating revenue. Finally, an organizational assessment has been initiated to evaluate opportunities to improve operations and become more efficient in the delivery of Metropolitan's services. Altogether, Metropolitan is taking action on all fronts to mitigate rate impacts on its member agencies.

Detailed information, including the proposed budget, rates and charges, cost of service analysis, and cost of service report, was made available to the public on our website during the process and was considered by the Board, the F&I Committee and member agencies. In addition, Metropolitan received written communications from numerous individuals and organizations, as well as public comments at its meetings and workshops.

BIENNIAL BUDGET

Based on Board discussions and deliberations over several months, the Biennial Budget for FY 2022/23 and FY 2023/24 meets the fixed charge coverage target but not the revenue bond target, provides funding from revenues for the Capital Investment Plan (CIP), and promotes long-term fiscal sustainability goals as reflected in the Ten-Year Financial Forecast. The approved budget will fund priority operations and maintenance (O&M) projects as well as important drought-proofing local supply projects. It includes nearly 450 capital projects, including planning activities for Metropolitan's Regional Recycled Water Program that, if approved in the future, would deliver enough water for member agencies to serve roughly 500,000 Southern California households. It also provides continued support for conservation, development of local resource projects and planning for dry years.

Metropolitan continues to diversify its portfolio of water supplies, which have been augmented by additional programs approved by the Board over the last several years, and Metropolitan has made substantial investments in storage and supply programs to store water for drought years. Metropolitan continues to be prepared to meet the challenges of reliably providing water to its service area throughout a variety of hydrologic conditions. However, hydrologic variability can cause Metropolitan's water transactions to vary widely. Unlike a retail water provider, Metropolitan is a voluntary cooperative providing wholesale water service to its member agencies and demand by those agencies varies with their needs and with hydrological factors. Demands on retail water providers, on the other hand, generally remain more leveled as their customers rely solely on them and their usage characteristics do not vary as widely from year-to-year. Like a retail water provider, however, Metropolitan remains ready to provide water services to its member agencies. Accordingly, Metropolitan determines its biennial budget and rate-setting processes on average conditions and relies on water storage and cash reserves to buffer changes in water demand, revenue, and cost volatility.

The impacts of climate change mean that current hydrologic conditions are less cyclical, more volatile and predicting current trends has become more challenging, as seen in the current drought situation. To accurately reflect the current conditions and projected future trends, water transactions (a term that includes sales, exchanges, and wheeling) are projected to be 1.59 million acre-feet (MAF) for 2022/23 and 1.54 MAF for 2023/24. No wheeling transactions are projected in that period. Southern California is entering the third year of a severe drought, and the FYs 2022/23 and 2023/24 projections for water transactions reflect the expectation that demands will trend lower in the near term due to consumer response to conservation initiatives. The projection also incorporates the continued operation and implementation of approved local resource projects.

The Board approved the FY 2022/23 and FY 2023/24 Biennial Budget and water rates and charges on April 12, 2022 and authorized the following actions as summarized in Table 1:

- Appropriate \$3,085.10 million for Metropolitan O&M and operating equipment, power costs on the Colorado River Aqueduct (CRA), State Water Contract (SWC) operations, maintenance, power and replacement costs and SWC capital charges, demand management programs including the local resources and conservation program, and costs associated with supply programs, for FYs 2022/23 and 2023/24;
- Appropriate as a continuing appropriation, \$589.0 million for (FY 2022/23 and FY 2023/24) debt service on Metropolitan general obligation and revenue bonds;
- Bond financing \$84.4 million for the AVEK High Desert Program over the biennium and \$36.0 million of the budgeted Conservation Program over the biennium;
- Authorize the use of \$270 million in operating revenues to fund the Capital Investment Plan for FY 2022/23 and FY 2023/24; the appropriation of \$600 million to fund the CIP for FY 2022/23 and FY 2023/24 was approved by the Board on April 12, 2022; and,

- Adopt an overall rate increase of 5.0 percent effective January 1, 2023, and an additional 5.0 percent increase effective January 1, 2024.

Table 1: FY 2022/23 and FY 2023/24 Operating and Capital Appropriations, \$ millions

Adopted Budget	FY 2022/23	FY 2023/24	Total Biennium
Operating Budget	\$1,495.7	\$1,589.4	\$3,085.1
Debt Service	288.0	301.0	589.0
Capital Investments*	356.4	364.0	720.4
Grand Total	\$2,140.1	\$2,254.4	\$4,394.5

*Capital Investments include bond financed Supply and Conservation Program.

The FY 2022/23 and FY 2023/24 Biennial Budget reflects the Board's determination that it is essential to Metropolitan's fiscal integrity to maintain an ad valorem tax rate in excess of the limitation in Section 124.5 of the Metropolitan Water District Act (MWD Act), as the Board has done since the FY 2013/14 tax levy. Maintaining the ad valorem tax rate at the current level of 0.0035 percent of assessed value for both fiscal years is projected to generate ad valorem tax revenues of \$163.1 million in FY 2022/23 and \$168.3 million in FY 2023/24. Maintaining the ad valorem tax rate at the current level is essential to the fiscal integrity of the District as it will provide revenues that can be used to pay for growing SWC costs, help to maintain a balance between fixed and variable revenues, and reduce the impact of future water rate increases that would otherwise result from SWC costs that the voters intended to be paid from property taxes.

The Board approved a Section 124.5 determination for the next four fiscal years, the first two of which cover the biennial budget period. During the four-year period, Metropolitan will be completing the 2020 Integrated Resources Plan, continuing with a rate review process, undertaking a long-term financial plan, and addressing Metropolitan's role as it approaches 100 years. Accordingly, the four-year determination provides certainty with regards to property tax revenue assumptions and better aligns with the inherent volatility of Metropolitan's water revenues under its current rate structure, which spans more than a two-year biennial budget period. The Board held a public hearing on March 8, 2022, regarding the applicability of the MWD Act Section 124.5 ad valorem property tax limitation for FYs 2022/23 through 2025/26.

The adopted budget continues to fund the Board's key priorities, including:

- \$600 million in Capital Investment Plan (CIP) planned spending for the biennial period, of which \$270 million will be funded from revenues (PAYGO). The CIP reflects the focus on addressing aging infrastructure, drought response, and compliance with regulatory requirements. The capital expenditures for the RRWP are not included in the biennium but are included in the projections starting in FY 2024/25 as part of the Ten-Year Financial Forecast. Detailed information about the CIP can be found in the CIP Appendix.
- Continues to support demand management programs, including an increase in funding for the Conservation Program to \$86M over the biennium, \$36M of which is anticipated to be bond-financed. The Board, however, authorized staff to bond finance the entire \$86M of Conservation Program costs to provide flexibility in case of revenue shortfalls.
- \$1,185 million in O&M appropriations for the biennial period, including labor and benefits, water treatment chemicals, solids handling, professional services, and operating equipment purchases. The Biennial Budget adds 22 regular full-time employees (FTE) positions to support board initiatives of Sustainability, Resilience & Innovation, Diversity, Equity & Inclusion, and Equal Employment Opportunity Ethics policy & programs, and key operational needs. In addition, a total of 12 district temporary positions will be added over the biennium to accommodate enhanced physical & cyber security efforts, business process and business systems support as well as ongoing succession planning and education efforts.

- \$1,570 million for Colorado River power costs and the SWC over the biennial period to ensure a reliable water supply to southern California.
- \$215 million for Supply Programs in the region, the Central Valley, and the Colorado River system to cover the costs of storing or withdrawing supplies. The Board approved bond financing for the High Desert Water Bank Program (High Desert Program) capital costs using Metropolitan’s revenue bond program over a term not to exceed the maximum term of the agreement or permitted Internal Revenue Service (IRS) limits of asset useful life. By bonding the remainder of the High Desert Program costs, Metropolitan will reduce O&M expenditures for this supply program in the biennium by converting cash expenditures to debt service payments over the term of bonds.
- \$99 million over the biennium for Delta conveyance project planning activities, which will be funded from a combination of rate revenue and the California WaterFix refund of \$34.5 million received in 2019. This contribution follows Board policy that staff work with the State to find solutions to improve Delta conveyance.
- Approximately \$20 million for the Regional Recycled Water Program for preparation of a programmatic environmental impact report. This is the next step before the Board will be fully informed and ready to decide on whether to proceed with further investments in this potential project.
- Debt service costs decrease by \$6 million over the biennial budget period compared to the FY 2021/22 budget primarily as a result of favorable refundings and overall debt reduction.
- Meeting Metropolitan’s fixed charge minimum coverage target of 1.2 times over the biennial period, but not achieving its revenue bond target of 2.0 times during the biennium.
- Draws \$55.1 million from reserves over the biennium.

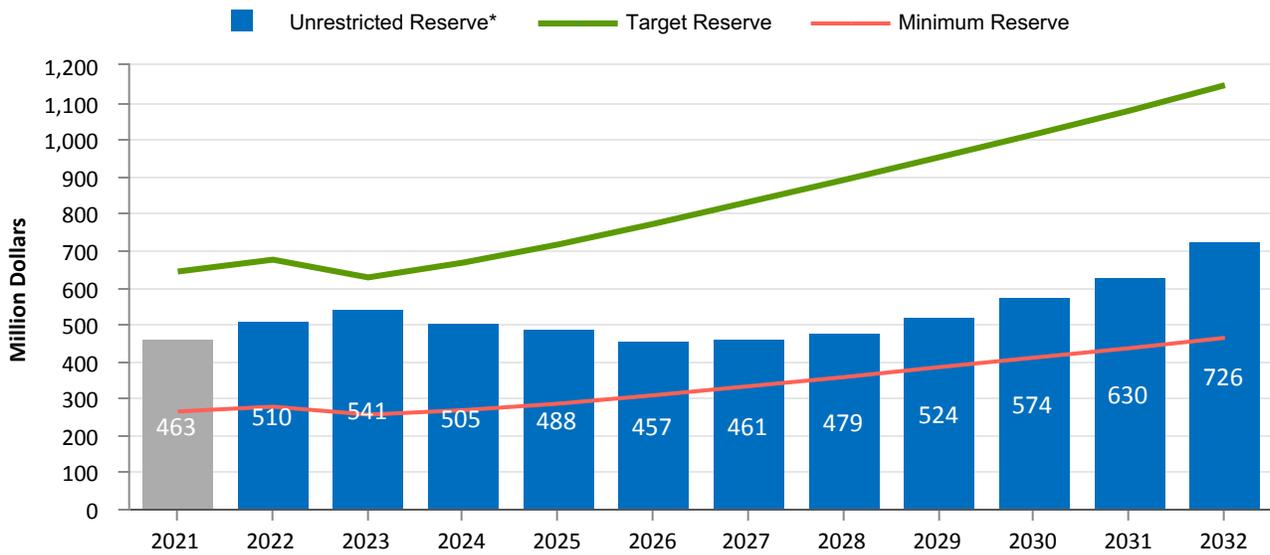
TEN-YEAR FINANCIAL FORECAST

The Biennial Budget establishes the foundation for a ten-year forecast of water transactions, expenditures, revenues, projected rate increases and financial indicators. Incorporating a ten-year forecast within the biennial budget process helps ensure the long-range financial plan is continuously updated every two years to reflect any changes in underlying assumptions and/or financial policies. This approach is well suited to the dynamic operating environment of Metropolitan.

The near-term budget measures taken to reduce overall rate increases in the biennium have pushed rates higher in CYs 2025 through 2029, increasing 7 percent for one year before lowering to 6 percent for an additional four years. These increases reflect the assumption that Metropolitan will begin increasing the level of PAYGO funding in FY 2024/25, as initially planned for FY 2022/23, to improve debt coverage ratios in the long term. Use of operating revenue funding for the CIP will result in lower revenue requirements than would otherwise be needed in later years of the forecast, as the use of operating revenues to fund the CIP will reduce the need for new money bond issues. Starting in CY 2030 annual rate increases are expected to be 5 percent for the remainder of the 10-year forecast period. The increasing PAYGO funding and maintaining the ad valorem tax rate at its current level throughout the ten-year period will mitigate increases in future water rates and charges.

Key financial indicators of the Ten-Year Financial Forecast are summarized in Figure 1.

Figure 1: Projected Rate Increases, Reserves, and Financial Indicators



	Fiscal Year Ending											
Ave Rate Increase	3.0%	4.0%	5.0%	5.0%	7.0%	6.0%	6.0%	6.0%	6.0%	5.0%	5.0%	5.0%
Water Transactions, MAF**	1.52	1.60	1.59	1.54	1.54	1.51	1.53	1.53	1.54	1.55	1.55	1.57
Rev. Bond Cvg	2.0	1.6	1.5	1.4	1.6	1.6	1.7	1.7	1.8	1.8	1.8	1.8
Fixed Chg Cvg	2.0	1.6	1.5	1.4	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7
PAYGO, \$M	110	135	135	135	175	175	175	175	200	200	200	200

* includes member agency water sales and exchanges presented on a Cash Year basis.

** includes water sales, exchanges, and wheeling

The Ten-Year Financial Forecast assumes the following:

- Water transactions are forecasted to decline to 1.51 MAF in Cash Year 2026 from 1.59 MAF in Cash Year 2022/23, before gradually rebounding to 1.57 MAF in Cash Year 2031/32;
- As part of the rate mitigation measures adopted by the Board, the forecast assumes that Metropolitan will generate \$13 million annually from new revenue sources through FY 2031/32: \$10 million in grant funding to offset O&M expenditures; and, \$3 million in miscellaneous revenues.
- 17 to 47 percent of the CIP will be PAYGO funded. Although the level of PAYGO funding increases over the 10-year forecast period, from \$135 million to \$200 million, substantial amounts of new debt for the RRWP will drive the PAYGO percentage down to 17 percent of total CIP spend over time. The total balance of outstanding debt is anticipated to be \$7.2 billion by the end of the ten-year forecast;
- Metropolitan’s investments in storage programs continue, providing regional supply reliability;

- Demand Management Programs continue to be funded to incentivize the development of local water supplies and the conservation of water to reduce the need to transport water into the Metropolitan service area or within Metropolitan’s distribution system, and also help ensure that Metropolitan’s member agencies and their retail water subagencies achieve higher water use efficiency, in compliance with state policy; and
- Annual rate increases range from 5 to 7 percent. Long-term overall rate increases include the RRWP but not the Delta Conveyance Project. This projection is subject to changes based on many factors, including the implementation of the 2020 IRP and updated water transactions.

Additional detail regarding Metropolitan’s ten-year forecast is contained in the Ten-Year Financial Forecast section of this Biennial Budget Document.

RESERVES

Fund balances are budgeted to be \$1.38 billion at June 30, 2023. Of that total, \$840.4 million is restricted by bond covenants, contracts, or board policy, and \$541.4 million is unrestricted. Fund balances are budgeted to be \$1.27 billion at June 30, 2024. Of that total, \$769.0 million is restricted by bond covenants, contracts, or board policy, and \$504.6 million is unrestricted.

On June 30, 2023, the targets for the minimum and target reserve funds are estimated to be \$254.5 million and \$625.8 million, respectively. Based on projected revenues and expenditures, it is estimated that the balance in the Water Rate Stabilization Fund (WRSF) and Revenue Remainder Fund will total about \$541.4 million, about \$286.9 million over the minimum level.

On June 30, 2024, the targets for the minimum and target reserve funds are estimated to be \$266.6 million and \$665.9 million, respectively. Based on projected revenues and expenditures, it is estimated that the balance in the WRSF and Revenue Remainder Fund will total about \$504.6 million, about \$238.0 million over the minimum level.

GENERAL MANAGER’S BUSINESS PLAN

The Biennial Budget covers a period with important strategic planning processes under way, as Metropolitan nears its 100-year anniversary and as Southern California contends with unprecedented and significantly changed environmental and hydrological circumstances.

During the Biennial Budget period, Metropolitan will be completing the 2020 Integrated Resources Plan, continuing a rate review process, undertaking the development of a stand-alone long-term financial plan, and identifying critical adaptations to ensure system resiliency. The Biennial Budget funds the expenditures necessary to transition Metropolitan during these key processes. As the processes are completed, future biennial budgets will reflect the outcomes of the priorities and directions the Board adopts through its various updated strategic planning processes. Currently, the budget strikes a balance between funding Metropolitan’s current strategic priorities, addressing drought conditions, maintaining financial robustness, and moderating rate impacts. To better understand our future needs and be able to prioritize our core business functions, we have started a comprehensive organizational review using outside experts to evaluate the efficiency of our overall operations, processes, practices, and systems. An update on this effort will be presented to the Board later this year.

The adopted budget is aligned with the General Manager's Business Plan for FYs 2022/23 and 2023/24, which sets out Metropolitan's strategic priorities for the biennium. These priorities are explained in more detail in the Departmental Expenditures section of the Biennial Budget document. The five strategic priorities below will shape the General Manager's Business Plan to drive new initiatives toward organizational improvements and overall resilience:

- Empower the Workforce and Promote Diversity, Equity, and Inclusion.
- Sustain Metropolitan's Mission with a Strengthened Business Model.
- Adapt to Changing Climate and Water Resources.
- Protect Public Health, Regional Economy, and Metropolitan's Assets.
- Partner with Interested Parties and the Communities We Serve.

We look forward to working with the Board to prudently manage Metropolitan's financial health to support Metropolitan's mission of delivering reliable, high-quality water now and into the future.



Adel Hagekhalil

General Manager



Katano Kasaine

Chief Financial Officer

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DISTRICT OVERVIEW

District Profile

The Metropolitan Water District of Southern California (Metropolitan) is a metropolitan water district created in 1928 under authority of the Metropolitan Water District Act (California Statutes 1927, Chapter 429, as reenacted in 1969 as Chapter 209, as amended (the Act)). Metropolitan has 26 member public agencies and its primary purpose is to provide its members with a reliable wholesale water supply service for domestic and municipal uses. To do so, Metropolitan imports water from the Colorado River and Northern California. Metropolitan also helps its member agencies develop increased water conservation, recycling, storage and other local resource programs.

Metropolitan is authorized to develop, store, and distribute water for domestic and municipal purposes and other beneficial uses if excess water is available, and may provide, generate, and deliver electric power within or outside the state for the purpose of developing, storing, and distributing water. All powers, privileges and duties vested in or imposed upon Metropolitan are exercised and performed by and through its Board of Directors. Metropolitan is governed by a 38-member Board of Directors representing the 26 member agencies. Metropolitan directors are selected by their respective member agencies and some of those directors also serve on the governing body of their member agency. Board and committee meetings are open to the public and are broadcast on the Internet through Metropolitan's website, www.mwdh2o.com. Although the Board and its committees have met virtually since the start of the COVID-19 pandemic, Metropolitan has made participation, observation, viewing, and listening options available to the public meetings. A schedule of Board and committee meetings, as well as current and archived Board materials, is available at the same website.

Metropolitan was established to obtain an allotment of Colorado River water and to construct and operate the 242-mile Colorado River Aqueduct (CRA), which runs from an intake at Lake Havasu on the California-Arizona border, to an endpoint at Metropolitan's Lake Mathews reservoir in Riverside County. Metropolitan owns and operates an extensive portfolio of capital facilities including the CRA, 16 hydroelectric facilities, nine reservoirs, 830 miles of large-scale pipes, and five water treatment plants.

In 1960, Metropolitan, followed by other public agencies, signed a long-term contract with the state Department of Water Resources (DWR) to participate in the State Water Project (SWP). The SWP is the largest state-built, user-financed water supply and transportation project in the country. Its facilities were constructed with several general types of financing, the repayment of which is made by the 29 agencies and districts that participate in the SWP through long-term contracts (the State Water Contractors). The State Water Contractors also pay for the operations, maintenance, power, and replacement (OMP&R) costs of the SWP, as the State Water Contracts are the basis for all SWP construction and ongoing operations and DWR manages and operates the SWP. As the largest of the now 29 contractors, Metropolitan is entitled to slightly less than half of all SWP supplies. Water supplies from the SWP are conveyed to Metropolitan via the SWP's 444-mile California Aqueduct, which was made possible pursuant to Metropolitan's State Water Contract. The SWP serves urban and agricultural agencies from the San Francisco Bay area to Southern California.

To secure additional supplies, Metropolitan also has groundwater banking partnerships and water transfer arrangements within and outside of its service area. Metropolitan also provides financial incentives to its member agencies for local investments in water management projects and programs. An increasing percentage of Southern California's water supply comes from these local resources, including conservation, water recycling and recovered groundwater.

To pay for its costs, the Act authorizes Metropolitan to: levy property taxes within its service area; establish water rates; collect charges for water standby and service availability; incur general obligation bonded

indebtedness and issue revenue bonds, notes and short-term revenue certificates; execute contracts; and exercise the power of eminent domain for the purpose of acquiring property. In addition, Metropolitan's Board is authorized to establish terms and conditions under which additional areas may be annexed to Metropolitan's service area.

Mission

The mission of Metropolitan is to provide its 5,200-square-mile service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.

Core Values

Metropolitan's core values include the following:

- Integrity
- Stewardship
- Diversity
- Open Communication
- Leadership
- Teamwork

Metropolitan Service Area

Metropolitan's service area comprises approximately 5,200 square miles and includes portions of the six counties of Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura. When Metropolitan began delivering water in 1941, its service area consisted of approximately 625 square miles. Its service area has increased by 4,500 square miles since that time. The expansion was primarily the result of annexation of the service areas of additional member agencies. Historically, Metropolitan has provided between 40 and 60 percent of the water used annually within its service area.

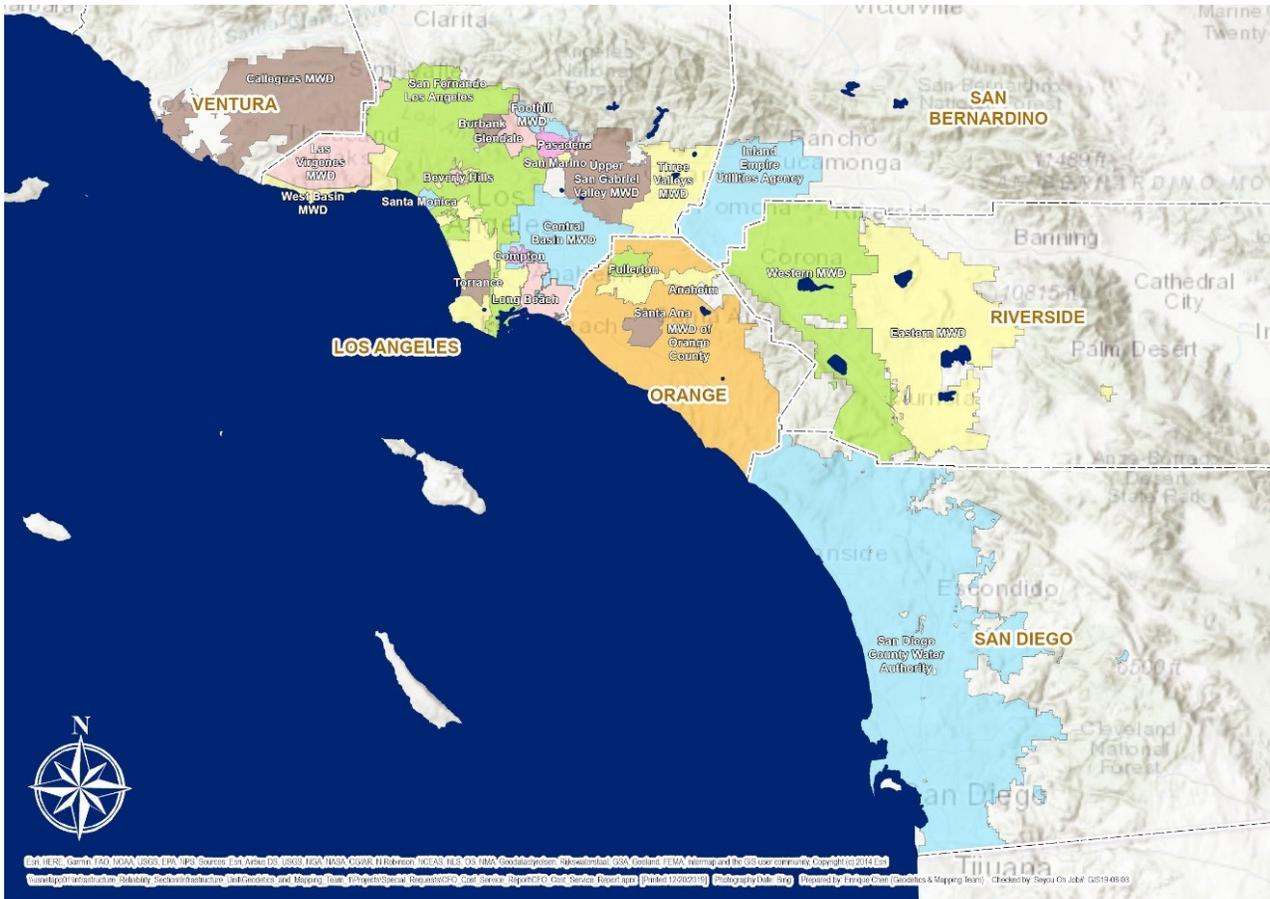
The area served by Metropolitan represents the most densely populated and heavily industrialized portions of Southern California. Metropolitan estimates that approximately 19 million people lived in Metropolitan's service area in 2020, based on official estimates from the California Department of Finance and on population distribution estimates from the Southern California Association of Governments (SCAG) and the San Diego Association of Governments (SANDAG). Recent population projections prepared by SCAG in 2020 and by SANDAG in 2019, which will be used as base data for Metropolitan's 2020 Integrated Water Resources Plan, show expected population growth of approximately 17 percent in Metropolitan's service area between 2010 and 2035, which is slightly lower than the approximately 18 percent population growth rate projected by SCAG in 2012 and SANDAG in 2013 (which projections were used as base data for Metropolitan's prior 2015 Integrated Water Resources Plan update).

The economy of Metropolitan's service area is exceptionally diverse. In 2019, the economy of the Six County Area was larger than all but twelve nations of the world. The Six County Area economy ranked between South Korea (\$1.642 trillion) and Spain (\$1.394 trillion), with an estimated gross domestic product ("GDP") of \$1.596 trillion. The Six County Area's gross domestic product in 2019 was larger than all U.S. states except California, Texas and New York.

The climate in Metropolitan’s service area ranges from moderate temperatures throughout the year in the coastal areas to hot and dry summers in the inland areas. Annual rainfall in an average year has historically been approximately 13 to 15 inches along the coastal area, up to 20 inches in foothill areas and less than 10 inches inland.

Service Area Map

The map below shows the area served by Metropolitan. It includes parts of six of the ten counties that comprise Southern California (Six County Area) consisting of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties. Although these counties comprise Metropolitan's service area, Metropolitan's territory does not encompass all of the area within each of the six counties.



while declining, is forecast to remain above the national rate. The forecast has 4.1% and 3.1% for job growth in California in 2021 and 2022 compared to 3.6% and 2.9% for the nation.

Job growth in the Six County Area after February 2020 was restrained by reopening restrictions that were stricter than throughout the nation and by large job losses in tourism and motion picture production sectors that have a high concentration in the Six County Area. These major causes of slow job growth are related to the coronavirus pandemic and are temporary and will be eliminated over time once the pandemic is under control.

Through March 2021, the Six County Area had recovered 37.3% of the jobs lost between February and April of 2020. This is below the 43.2% recovery for the state the 62.4% job recovery in the nation. The Six County Area economy made substantial recovery gains in February and March 2021 as coronavirus cases, deaths and hospitalizations improved in the region, the number of vaccinations accelerated and activity restrictions were lifted. The Six County Area added 144,100 jobs between January and March 2021. The April and May 2021 data should also show large job gains as many businesses, tourist attractions, such as Disneyland, and sports venues have recently reopened to limited capacity or have announced reopening dates in April and May.

The Six County Area slightly outpaced the nation in nonfarm wage and salary job growth from the beginning of 2013 through the end of 2019. By December 2019 job levels were 934,600 or 10.7% above the pre-recession peak level in July 2007. Job growth for the entire Six County Area in 2019 was 127,600 jobs or a gain of 1.3% compared to a 1.4% increase in jobs for the state and nation for the comparable period. In 2019, unemployment rates ranged from a low of 2.9% in Orange County to a high of 4.4% in Los Angeles County. Unemployment rates declined from 2018 levels in all Six County Area counties.

Over the longer term, international trade has been a leading growth sector in the Six County Area. Container volume rose 79% between 2000 and 2019 despite a 3.3% decline in 2019 as a result of tariff increases. Trade gains support job growth in warehousing, wholesale trade and trucking particularly in the Riverside-San Bernardino county area. In 2019, the Six County Area accounted for \$10.3 billion in new venture capital funding (a record high level) behind the New York metro and ahead of New England. Air passenger travel at the major airports in the Six County Area reached record levels in 2019 up 2.0% over 2018 to 135.5 million trips led by gains at Burbank, Ontario and San Diego airports.

Population growth averaged 115,400 between 2010 and 2020 according to the California Department of Finance (DOF) estimates, and growth slowed in the past five years and declined by 12,500 in 2020. The Six County Area had 22.2 million residents in 2020, approximately 56% of the State's population. Income, taxable sales and assessed valuation in the Six County Area have increased since 2013 along with record levels in foreign trade and film permits. At the end of 2019, gains in income, taxable sales and assessed valuation outpaced the growth in consumer price indices in the Six County Area all of which helped local government revenue growth.

Long-term job growth is driven by the Six County Area's economic base—those sectors that sell most of their goods and services in national and world markets outside of the Six County Area. Recent projections by CCSCE, SCAG and SANDAG report that the Six County Area will see job growth that slightly exceeds the national average during the next 10 to 30 years, led by gains in Professional and Business Services, Wholesale Trade, Information and the tourism component of Leisure and Hospitality.

For more demographic and economic information for Metropolitan's service area or the Six County Area, please refer to the Service Area Economy section, which includes information on:

- Job growth trends
- Construction activity
- Housing trends
- Assessed valuation

- International Trade
- Income & Wages
- Population
- Economic structure and long term prospects

Strategic Plan Summary

The General Manager submits to the Board of Directors a business plan containing the General Manager's key priorities for the coming year for review and approval.

Five strategic priorities support Metropolitan's mission for fiscal years 2022/23 and 2023/24:

Strategic Priority #1: Empower the Workforce and Promote Diversity, Equity and Inclusion

Strategic Priority #2: Sustain Metropolitan's Mission with a Strengthened Business Model

Strategic Priority #3: Adapt to Changing Climate and Water Resources

Strategic Priority #4: Protect Public Health, Regional Economy, and Metropolitan's Assets

Strategic Priority #5: Partner with Stakeholders and the Communities We Serve

For more detail on the GM's strategic priorities, please refer to the General Manager's Transmittal Letter.

The General Counsel, General Auditor and Ethics Officer also submit to the Board of Directors a business plan containing their department's key priorities for the coming year for review and approval.

The groups within the General Manager department submit their business plans to the General Manager annually for review and approval. These business plans include a group mission statement and Objectives and Actions to support the relevant General Manager's strategic priorities.

Performance Indicators

Metropolitan has developed a series of key performance indicators (KPIs) that are used to measure and evaluate mission-critical processes as well as support internal decision making. These KPIs include financial, water quality, human resource, legislative, operational, outreach, and other measures that are closely aligned with Metropolitan's business plans, key priorities and objectives.

Please see the Operating Expenditures section for Metropolitan's performance measures including fiscal year results and targets.

Organization Structure

Member Agencies

The following table lists the 26 member agencies of Metropolitan which include 11 municipal water districts, 14 cities and one county water authority.

Municipal Water Districts	Cities	County Water Authority
Calleguas	Anaheim	San Diego
Central Basin	Beverly Hills	
Eastern	Burbank	
Foothill	Compton	
Inland Empire Utilities Agency	Fullerton	
Upper San Gabriel Valley	Glendale	
Western of Riverside County	Long Beach	
Las Virgenes	Los Angeles	
Orange County	Pasadena	
Three Valleys	San Fernando	
West Basin	San Marino	
	Santa Ana	
	Santa Monica	
	Torrance	

Board of Directors

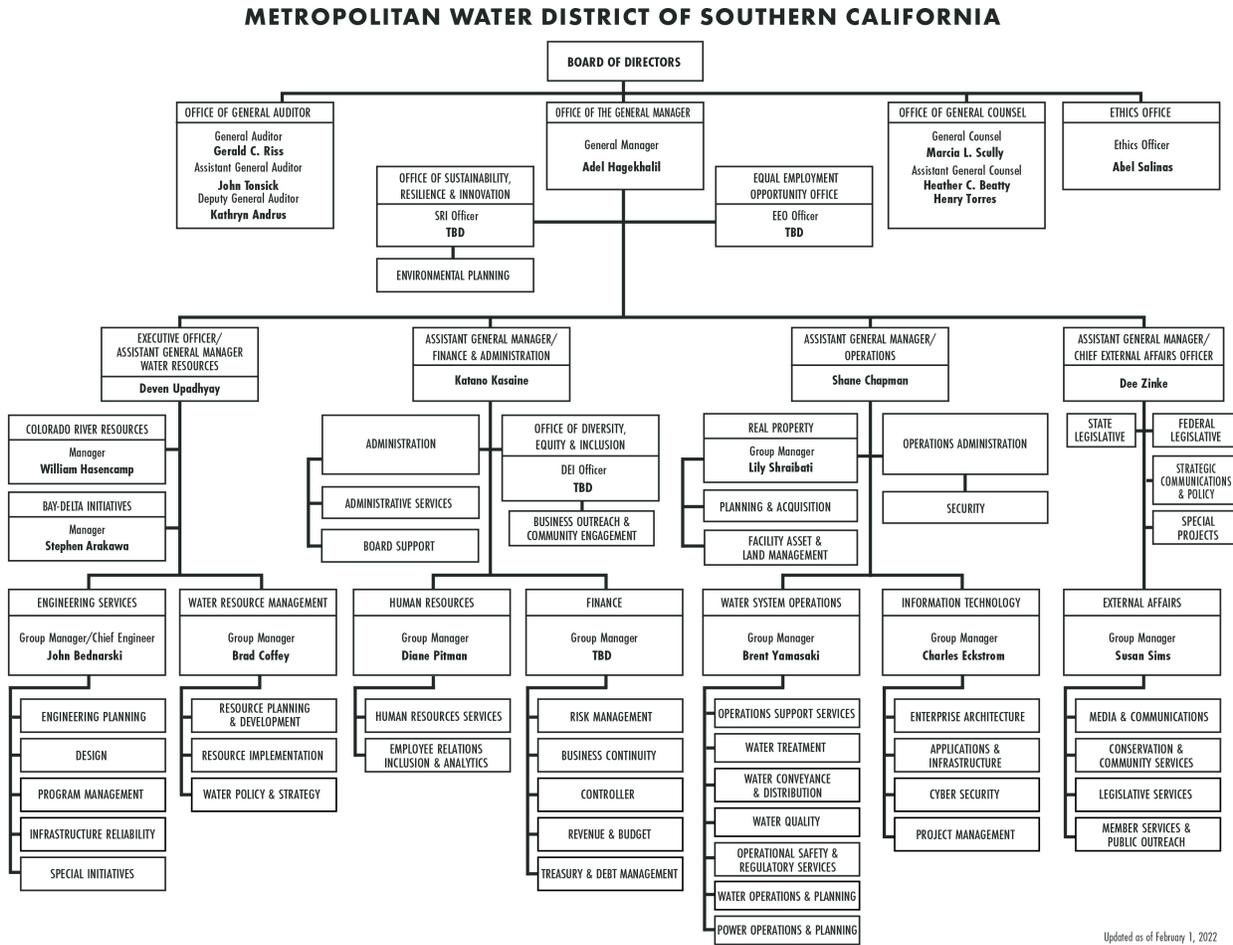
Metropolitan is governed by a 38- member Board of Directors (Board), made up of representatives from all of Metropolitan's member agencies. Each member agency is entitled to have at least one representative on the Board, plus an additional representative for each full five percent of the total assessed valuation of property in Metropolitan's service area that is within the member agency. Accordingly, the Board may, from time to time, have more than 38 directors. There are also limits on reductions in the number of directors. Changes in relative assessed valuation do not terminate any director's term. Additionally, as a result of California Assembly Bill 1220 (Garcia) enacted in 2019, "A member public agency shall not have fewer than the number of representatives the member public agency had as of January 1, 2019."

The Board includes business, professional, and civic leaders. Directors serve on the Board without compensation from Metropolitan. Voting is based on assessed valuation, with each member agency being entitled to cast one vote for each \$10 million or major fractional part of \$10 million of assessed valuation of property within the member agency, as shown by the assessment records of the county in which the member agency is located. The Board administers its policies through the Metropolitan Water District Administrative Code (the Administrative Code), which the Board adopted in 1977. The Board periodically amends the Administrative Code to reflect new policies or changes in existing policies that occur from time to time.

Metropolitan's day-to-day management is under the direction of its General Manager, who serves at the pleasure of the Board, as do Metropolitan's General Counsel, General Auditor, and Ethics Officer.

Organization Chart

A larger version is provided on the inside back cover of the Biennial Budget document.



Updated as of February 1, 2022

Metropolitan Senior Management

Adel Hagekhalil	General Manager
Marcia Scully	General Counsel
Gerald Riss	General Auditor
Abel Salinas	Ethics Officer
Katano Kasaine	Assistant General Manager, Finance and Administration
Deven Upadhyay	Executive Officer/Assistant General Manager, Water Resources
Shane Chapman	Assistant General Manager, Operations
Dee Zinke	Assistant General Manager/Chief External Affairs Officer

Workforce

Metropolitan's budget is for 1,929 regular full-time employees. Most Metropolitan employees are represented by the American Federation of State, County and Municipal Employees (AFSCME), Local 1902; the Management and Professional Employees Association (MAPA), Local 1001; the Supervisors Association; and the Association of Confidential Employees (ACE). The four bargaining units represent approximately 99 percent of Metropolitan's employees. The remaining one percent is unrepresented.

Offices

Metropolitan's headquarters are located at 700 N. Alameda St., Los Angeles, California 90012. Metropolitan has legislative offices in Sacramento and Washington D.C.



Financial Organization

Fund Structure and Descriptions (from Metropolitan's Administrative Code)

To provide for accountability of public moneys in accordance with applicable federal and state law and regulations and Board policies, the following active or prospectively active funds have been established in the Treasury of the District:

- **General Fund** (Fund No. 1001, established 1929).
 - Moneys not specifically allocated or appropriated may be placed in this fund and used for general purposes of the District.
 - Expenditures for reimbursable work and water conservation capital and indirect costs under the contract with Imperial Irrigation District are paid from this fund.
- **Replacement and Refurbishment Fund** (Fund No. 5001, established 1988).
 - Used to finance certain capital program expenditures from current revenues in accordance with Section 5109, subject to the conditions contained in Section 5202(b).
- **State Contract Fund** (Fund No. 5701, established 1960).
 - Used for the payment of capital charges under the State Water Contract, including the capital charges for off-aqueduct power facilities, subject to the conditions contained in Section 5201(e).
- **Special Tax Fund** (Fund No. 5702, established 1951).
 - Annexation fees (cash payments and special tax collections) are deposited in this fund and transferred to the State Contract Fund to pay a portion of State Water Contract capital charges.
- **Water Revenue Fund** (Fund No. 1002, established 1975).
 - Receipts from water sales are deposited in this fund and are transferred to various other funds in accordance with revenue bond covenants and Board resolutions to pay in order of priority:
 1. Operation and maintenance expenditures;
 2. The interest on and bond obligation of Water Revenue Bonds and Parity Obligations issued pursuant to Master Resolution 8329 (the Master Resolution or Senior Debt Resolution) adopted by the Board on July 9, 1991 and any Supplemental Resolutions thereto, and any other obligations on a parity with the Water Revenue Bonds;
 3. All other payments required for compliance with the Master Resolution, and any Supplemental Resolutions;
 4. The interest on and bond obligation of Subordinate Water Revenue Bonds and Parity Obligations issued pursuant to Master Subordinate Resolution 9199 (the Master Subordinate Resolution) adopted by the Board on March 8, 2016 and any supplemental Resolutions thereto, and any other obligations on a parity with the Subordinate Water Revenue Bonds;
 5. All other payments required for compliance with the Master Subordinate Resolution, and any Supplemental Resolutions;

6. Principal of and interest on Commercial Paper Notes and other amounts due a provider of a liquidity facility;
 7. Deposits into the Water Standby Charge Fund in accordance with resolutions imposing such charges; and
 8. Any other obligations which are charges, liens, or encumbrances upon or payable from net operating revenues.
- Moneys remaining at the end of each month, after the foregoing transfers, are transferred to the Revenue Remainder Fund.
- **Operation and Maintenance Fund** (Fund No. 1003, established 1975).
 - Used to pay all operation and maintenance expenditures, including State Water Contract operation, maintenance, power and replacement charges, subject to the conditions contained in Section 5201(g).
 - **Revenue Remainder Fund** (Fund No. 1004, established 1975).
 - Used to maintain working capital and may be used for any lawful purpose by the District, subject to the conditions contained in Section 5202.
 - **Water Rate Stabilization Fund** (Fund No. 5501, established 1987).
 - Used to reduce future water revenue requirements or, as directed by the Board, for other lawful purposes, in accordance with Section 5202.
 - **Water Treatment Surcharge Stabilization Fund** (Fund No. 5502, established 1988).
 - Used to mitigate required increases in the surcharge for water treatment or, as directed by the Board, for other lawful purposes, in accordance with Section 5202.
 - **Revolving Construction Fund** (Fund No. 5003, established 1988).
 - Capital expenditures made from this fund are to be reimbursed from proceeds of security sales to the extent such expenditures are authorized uses of debt proceeds under the Act, subject to the conditions and restrictions contained in Section 5201(h).
 - **Iron Mountain Landfill Postclosure Maintenance/Corrective Action Trust Fund** (Fund No. 6005, established 1990).
 - Used as a trust fund to maintain moneys sufficient to cover the costs of postclosure maintenance and/or corrective action of the District's solid waste landfill facility at Iron Mountain, in accordance with regulations of the California Integrated Waste Management Board, and subject to the conditions contained in Section 5201(m).
 - **Water Standby Charge Fund** (Fund No. 1005, established 1992).
 - Used to separately hold revenues attributable to water standby charges; amounts deposited in this fund are used exclusively for the purpose for which the water standby charge was authorized.

- **Water Transfer Fund** (Fund No. 1007, established 1995).
 - Used for moneys set aside for the purchase of water through transfers or similar arrangements, and for the costs of filling the Eastside Reservoir Project.
- **Self-Insured Retention Fund** (Fund No. 1008, established 1999).
 - Used to separately hold amounts set aside for emergency repairs and claims against the District as provided in Section 5201(p).
- **Lake Matthews Multi Species Reserve Trust Fund** (Fund 6101, established 1997.)
 - Used as set forth in agreement between Metropolitan and the Riverside County Habitat Conservation Agency for the Multi Species Reserve.
- **Other Funds to be established for bond issues, notes or other obligations of the District**
 - There shall be established in the Treasury of the District such funds and accounts as are required pursuant to bond covenants, tax and non-arbitrage certificates, bond counsel letters of instruction and related documents, to provide for accountability of District funds and compliance with applicable federal and state law and regulations. Such funds and accounts shall be established for each issue of bonds, notes or other obligations of the District as required in the respective bond or note resolution and closing documents.
- **Water Stewardship Fund** (Fund No. 1009 established 2005).
 - Used to collect revenue from the Water Stewardship Rate and to pay costs associated with water recycling, seawater desalination, conservation, brackish water desalination, or other demand management programs. These funds can also be used to fund administrative costs associated with these programs. Funds may be used as directed by the Board, for other lawful purposes, in accordance with Section 5201(q) and Section 5202(d).

Financial Reporting

Metropolitan prepares its financial reports in conformity with generally accepted accounting principles (GAAP). The Office of the Chief Financial Officer prepares, at the conclusion of each fiscal year, the Annual Comprehensive Financial Report in compliance with principles and standards for financial reporting set forth by the Governmental Accounting Standards Board (GASB).

Budgetary and Accounting Basis

The budget is prepared and monitored on a cash basis. Cash basis accounting recognizes revenues when received and expenses when paid. Under accrual accounting, revenues are recorded when earned and expenses are recorded at the time liabilities are incurred, regardless of the timing of related cash flows. However, while Metropolitan's budget is on a cash basis, it operates as a utility enterprise and prepares its basic financial statements using accrual accounting.

Financial Planning

In conjunction with the development of the Biennial Budget, Metropolitan prepares a ten-year forecast (Ten-Year Financial Forecast). The Ten-Year Financial Forecast supports long range resource, capital investment and operational planning. It includes a forecast of future costs and the revenues necessary to support operations and investments in infrastructure and resources that are derived from the most recent Integrated Resources Plan and other planning processes.

To support Metropolitan's Biennial Budget, Ten-Year Financial Forecast, and financial planning, revenue requirements are evaluated to determine the level of rate adjustments required for the upcoming budget year. To the extent possible, increases in rates are adjusted to avoid large fluctuations.

Budget Process

The budget process provides an opportunity to align shorter-term objectives and actions in the department and group level business plans to Metropolitan's longer-term Mission, Values, and Strategic Priorities and the needs of our member agencies. Each even numbered year, under the direction of the General Manager, a Biennial Budget is prepared for Metropolitan operations covering the following two fiscal years. Between budget cycles, the Board has the opportunity to amend the budget as it sees fit to changing fiscal and climatic conditions.

The budget is presented to the Board for consideration and adoption in April in order to align it with the adoption of water rates also approved in April. This permits the incorporation of approved O&M budget expenditures into the Revenue Requirements process, which facilitates the setting of water rates. The Board and member agencies conduct extensive reviews of and provide significant input to the budget over three months from January to April. This year's budget review process included board workshops on February 7, 2022, February 22, March 7, March 22, a public hearing on March 8, and several other presentations and caucuses with member agencies. Public testimony was provided and considered at the public workshops, the public hearing, the F&I Committee meeting on April 11, 2022, as well as the board meeting on April 12, 2022, when the Board approved the Biennial Budget.

The O&M budget is presented in an organizational format and is described in terms of its scope of work, personnel requirements, and allocation by expense category. The budget serves to identify the resource requirements for the actions and tasks each group will engage in to support the General Manager's Business Plan. The overall emphasis, consistent with Metropolitan's mission, has been on providing high quality and reliable water supplies at a fair and competitive price and in an environmentally and economically responsible way.

Balanced Budget

Metropolitan considers the budget to be balanced when the sources of funds equals the uses of funds. That is, budgeted operating revenues, and on occasion the use of water rate stabilization funds, are equal to or greater than budgeted operating expenditures including debt service, and ending fund balances meet minimum policy levels. Rates and charges are set to ensure that revenues are sufficient to recover the total cash needs in a given fiscal year.

Budget Calendar

Due Date	Activity
June - November	Identification of major maintenance and capital projects and CIP Evaluation Team review of new and continuing projects.
August – November	Budget instructions issued to all groups. Personnel complements are developed including full-time, part-time, temporary, and overtime estimates. Group managers bring proposed budget presentations to senior management.
November	CIP Evaluation Team completes review of project proposals for the CIP. O&M budgets, CIP estimates, and operating equipment budgets are developed. Senior management reviews and makes final recommendations on group budgets.
December	Group budgets are revised as necessary. Proposed budget is finalized and materials and presentations are developed for presentation to the Board of Directors.
January – April	Proposed budget is presented to the Board of Directors and member agency managers. Proposed group and department budgets are presented to the relevant Board committees. Proposed annual budget workshops are conducted with the full Board and budget estimates are revised as necessary.
April	Finance and Insurance Committee recommends action on the Biennial Budget. Board of Directors takes action on adoption of the Biennial Budget.

Starting in the summer prior to budget adoption, each group identifies any needed major maintenance and new capital projects as well as develops the associated cost estimates. In August, the budget guidelines outlining major budget priorities consistent with the General Manager’s Business Plan, staffing and operational objectives and a calendar of budget process deadlines are issued to group, assistant group, and section managers by Budget and Financial Planning staff.

The development phase begins with overall program formulation and identification of individual projects, staffing, and equipment needs. Personnel budgets, including requests for temporary and part-time help, are then prepared and professional services requirements are identified. All requests for personnel, equipment purchases, and projects must be submitted with formal justifications, which address a standard set of questions developed by Budget and Financial Planning staff. Each organization is required to identify the extent to which its proposed budget supports the General Manager’s strategic priorities as outlined in the Business Plan. This information is later used to update the Business Plan in the late spring in an iterative process.

The procedures for preparation of each element of the budget are outlined below.

Labor and Professional Services Budget

The labor budget consists of regular full-time payroll, overtime, premium pay, and part-time and temporary employees. The professional services budget consists of planned payments to outside consultants for specialized skills. Personnel components reflect the staffing of on-going work with regular employees rather than temporary employees or consultants. In addition, each group provides detailed information on consultant, overtime, and temporary employee usage. Senior management examines this information for the level and types of resources being committed toward the stated business plan and strategic priorities. Through this process, senior management makes appropriate recommendations for the allocation of labor resources.

Adjustments to the proposed budget are made following the review by senior management and the General Manager.

Equipment Budgets

Operating equipment is any equipment, machine, vehicle, tool, or other item that is portable, costs more than \$5,000, and has an anticipated useful life of at least five years. Expensed equipment is similar to operating equipment except that it costs less than \$5,000. All operating equipment is tracked while the tracking of expensed equipment is required for only certain classes of equipment (e.g., workstation/laptop computers, communications equipment, etc.).

The justification for equipment requests includes a description of the item, where it will be used, what it will be used for, and whether or not the item is new or a replacement. If the item is a replacement, the frequency of downtime and cost of repair of the old item versus purchasing a new one must be provided. If the item is required equipment for expanded functions or additional personnel, this must also be explained. A cost/benefit analysis is performed for equipment costing more than \$40,000.

Depending on the nature of the equipment, the requests may be evaluated by several groups. For example, each group manager and the fleet equipment coordinator review vehicle requests.

Finance Department Responsibilities

Treasury and Debt Management

- Recommend procedures for revenue collection, payment of approved demands, reporting and other actions associated with the prudent management of Metropolitan's financial resources.
- Provide for the issuance of debt to fund the capital investment plan.

Controller and Accounting Operations

- Prepare monthly expenditure and revenue reports.
- Prepare periodic reports on the status of expenditures, revenues, investments and actions taken to ensure the financial stability of Metropolitan.
- Prepare and present information on financial trends to facilitate evaluation of Metropolitan's financial position and identify conditions requiring management attention.

Budget and Financial Planning

- Support the development of the Strategic Plan that includes projections of short range and long range financial needs, and recommend methods for meeting those needs.
- Support the development of annual water rates and charges, Metropolitan's biennial operating and capital investment plan and ten-year forecast.
- Prepare Metropolitan's proposed biennial operating budget and budget documents.
- Prepare budget performance reports on a monthly, quarterly, semi-annual and annual basis.
- Develop procedures and controls to monitor and assure compliance with the budget.
- Assist departments throughout the year with their budgets and financial issues.
- Prepare financial projections, schedules of rates and charges, tax rate proposals and other financial materials.

Other Department Responsibilities

Engineering

- Prepare Metropolitan’s capital investment plan and CIP budget document.

General Manager Responsibilities

- Review and present to the Board of Directors long range plans, budgets and revisions, schedules of rates and charges, payments of financial demands and other financial transactions, as necessary.
- Prepare annual business plan containing General Manager’s key priorities for the coming year.
- Implement emergency financial procedures within approved limits, when necessary.

Budgetary Controls

Budget requests are evaluated at several management levels. Managers and staff review budget requests during each phase of the budget process. Each request for a new project, additional personnel, or piece of operating equipment is scrutinized by each group and further reviewed by Budget and Financial Planning staff during the budget process.

All budget submittals are reviewed collectively by the group and section managers. Only those items that are deemed appropriate to support the initiatives of the General Manager’s Business Plan are included in the budget recommendation.

Once the budget is completed, the expenditures for each group are monitored on a monthly basis to ensure that the groups do not exceed the authorized operating budget for the fiscal year or biennial period, unless approved by the General Manager.

Budget Adjustments

The budget may be amended in the mid-cycle biennial review or when overall expenditures are anticipated to significantly exceed estimates. A report outlining the reasons for increasing the budget appropriation is prepared and submitted to the Board of Directors for consideration. The Board of Directors must approve any increases in the overall budget appropriations.

Capital Investment Plan (CIP)

The Capital Investment Plan (CIP) communicates the capital priorities of Metropolitan for the next two fiscal years. Within the Ten Year Financial Forecast, the CIP projects have been carefully reviewed, scored and ranked to support system reliability, water quality, and safety while meeting all regulatory requirements.

Structure

The highest level of the CIP structure is Program. Programs are comprised of one or more Project Groups.

There are 13 capital programs which include:

- Colorado River Aqueduct Reliability
- Cost Efficiency & Productivity
- Dams & Reservoirs Improvements
- Distribution System Reliability
- District Housing & Property Improvements
- Minor Capital Projects
- Prestressed Concrete Cylinder Pipe Rehabilitation
- Regional Recycled Water
- Right-of-Way & Infrastructure Protection
- System Flexibility/Supply Reliability
- System Reliability
- Treatment Plant Reliability
- Water Quality

Definitions of the 13 capital programs can be found in the Capital Investment Plan Section of this budget book.

Preparation

The Capital Investment Plan (CIP) is prepared as part of Metropolitan's biennial budget process. This plan provides information on all capital programs and projects that have been proposed, evaluated and included in the budget forecast to begin or continue during and after the two budget years. Scope, accomplishments, objectives, and financial projections are provided for each capital program. Every project with work planned for the two budget years and beyond is listed under the individual program summaries.

When the need for a project is recognized, a CIP proposal is prepared which provides information regarding scope, justification, alternatives, schedule, impacts of rescheduling work for a later time, impact on operation and maintenance costs, and estimate of total project cost. All projects are reviewed and prioritized on a biennial basis by the CIP Evaluation Committee working closely with project sponsors and management.

Capital projects include new facilities, betterments, and replacements that cost at least \$50,000 and have an anticipated useful life of at least five years. In the case of information technology computer software capital projects, the cost must exceed \$250,000 and the resulting asset must have an anticipated useful life of at least three years.

The projects that comprise the CIP have been identified from many Metropolitan studies of projected water needs as well as ongoing monitoring and inspections, condition assessments, and focused vulnerability studies. Staff continues to study operational demands on aging facilities and has made recommendations for capital projects that will maintain infrastructure reliability and ensure compliance with all applicable water quality regulations, and building, fire, and safety codes. Staff has also studied business and operations processes and projects that will improve efficiency and provide future cost savings. Additionally, several projects have been identified and prioritized to provide flexibility in system operations to address uncertain supply conditions from the Colorado River and the State Water Project.

Capital projects can be further differentiated into two general categories: major capital and minor capital projects. Major capital projects cost at least \$400,000 and are described in the CIP under their respective Programs. Projects described in the CIP are funded and authorized to proceed under the General Manager's authority unless Board approval is otherwise required in accordance with Metropolitan's Administrative Code. Minor capital projects cost between \$50,000 and \$400,000 and are not individually described in the CIP. Minor capital projects are identified throughout each fiscal year and are funded and implemented under the General Manager's authority.

Additional information on project budgeting can be found in the Capital Investment Plan Section of this budget book.

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BIENNIAL BUDGET SUMMARY

APPROPRIATIONS

The FY 2022/23 appropriation of \$2,140.1 million is comprised of \$1,495.7 million or 69.9% percent for operations expense, \$288.0 million or 13.5% percent for debt service expense, and \$356.4 million or 16.7% percent for the Capital Investment Plan expenses (CIP). The FY 2023/24 appropriation of \$2,254.4 million is comprised of \$1,589.4 million or 70.5% percent for operations expense, \$301.0 million or 13.4% percent for debt service expense, and \$364.0 million or 16.1% percent for the CIP expenses. The table below provides a comparison of FY 2022/23 and FY 2023/24 and illustrates the total appropriations for the operating, debt service and CIP expenses.

FY 2022/23 and FY 2023/24 Operating and Capital Appropriations, \$ millions

Adopted Budget	FY 2022/23	FY 2023/24	Total Biennium
Operating Budget	\$1,495.7	\$1,589.4	\$3,085.1
Debt Service	288.0	301.0	589.0
Capital Investments*	356.4	364.0	720.4
Grand Total	\$2,140.1	\$2,254.4	\$4,394.5

*Capital Investments includes Capital Investment Plan plus debt financed Supply Programs and Conservation

The Biennial Budget for FY 2022/23 and FY 2023/24 provides funding for Metropolitan’s strategic priorities while meeting most financial policy guidelines, with overall rate increases of 5.0 percent in CY 2023 and 5.0 percent in CY 2024 of the Biennial Budget. The overall rate increases of 5.0 percent and 5.0 percent are higher than previously forecasted due to higher projected costs, catch-up for the loss of the Water Stewardship Rate (WSR) and lower projected water transactions for the biennial budget period.

The budget is prepared and monitored on a cash basis. Cash basis accounting recognizes revenues when received and expenses when paid. Under accrual accounting, revenues are recorded when earned and expenses are recorded at the time liabilities are incurred, regardless of the timing of related cash flows. However, while Metropolitan’s budget is on a cash basis, it operates as a utility enterprise and prepares its basic financial statements using accrual accounting.

FUND SUMMARY

The following tables show fund balance, and projected revenues and expenditures for Metropolitan for each fiscal year of the Biennial Budget.

FY 2022/23 Fund Summary, \$ millions

Fiscal Year Ending June 30th, 2023

(\$ in Millions)	All Funds	Operating Funds	Debt Service and Construction Funds	Reserve Funds (1)	Other Funds (2)
Beginning of Year Balance	1,294.9	520.8	197.7	510.2	66.3
USES OF FUNDS					
Expenditures					
State Water Contract	681.7	681.7	—	—	—
Supply Programs (cash funded portion)	66.7	66.7	—	—	—
Colorado River Power	105.9	105.9	—	—	—
Debt Service	288.0	2.8	285.2	—	—
Demand Management (cash funded portion)	50.8	50.8	—	—	—
Departmental O&M	542.3	542.3	—	—	—
Treatment Chemicals, Sludge & Power	32.5	32.5	—	—	—
Other O&M	11.4	11.4	—	—	—
Sub-total Expenses	1,779.2	1,494.0	285.2	—	—
Capital Investments (4)	356.4	30.0	326.4	—	—
Fund Deposits					
R&R and General Fund	135.0	30.0	105.0	—	—
Revenue Bond Construction	81.7	—	81.7	—	—
Treatment Surcharge Stabilization Fund	3.5	—	—	—	3.5
Interest for Construction & Trust Funds	0.2	—	0.2	—	—
Increase in Required Reserves	4.8	18.0	8.3	(21.5)	—
Increase in Rate Stabilization Fund	52.7	—	—	52.7	—
Sub-total Fund Deposits	277.8	48.0	195.2	31.2	3.5
TOTAL USES OF FUNDS	2,413.4	1,572.0	806.8	31.2	3.5
SOURCES OF FUNDS					
Revenues					
Taxes	163.1	161.1	2.0	—	—
Interest Income	6.7	2.7	1.2	2.6	0.2
Power Sales	16.7	16.7	—	—	—
Fixed Charges (RTS & Capacity Charge)	185.7	185.7	—	—	—
Water Revenue (3)	1,485.3	1,485.3	—	—	—
Miscellaneous Revenue	61.9	61.9	—	—	—
Bond Proceeds	303.1	—	303.1	—	—
Sub-total Revenues	2,224.4	1,913.3	306.2	2.6	0.2
Fund Withdrawals					
R&R and General Fund	135.0	30.0	105.0	—	—
Water Stewardship Fund	56.1	—	—	—	56.1
Sub-total Fund Withdrawals	191.1	30.0	105.0	—	56.1
TOTAL SOURCES OF FUNDS	2,413.4	1,943.3	411.2	2.6	56.3
Inter-Fund Transfers	—	(371.3)	395.6	28.5	(52.8)
End of Year Balance	1,381.7	538.8	287.8	541.4	13.7

Totals may not foot due to rounding.

(1) includes Water Rate Stabilization Fund and Revenue Remainder Fund.

(2) includes Water Stewardship, Water Treatment Stabilization and Trust Funds.

(3) includes member agency water sales and exchange

(4) includes Capital Investment Plan plus debt financed Supply and Conservation Programs. However, the budget is seeking authorization to issue bonds for up to the full \$43 million per year for the Conservation Program. If this occurs, the total capital investment for FYs 2022/23 and 2023/24 would be \$381.4 million and \$389.0 million, respectively.

FY 2023/24 Fund Summary, \$ millions

Fiscal Year Ending June 30th, 2024

(\$ in Millions)	All Funds	Operating Funds	Debt Service and Construction Funds	Reserve Funds (1)	Other Funds (2)
Beginning of Year Balance	1,381.7	538.8	287.8	541.4	13.7
USES OF FUNDS					
Expenditures					
State Water Contract	761.2	761.2	—	—	—
Supply Programs (cash funded portion)	64.1	64.1	—	—	—
Colorado River Power	85.6	85.6	—	—	—
Debt Service	301.0	2.7	298.3	—	—
Demand Management (cash funded portion)	49.1	49.1	—	—	—
Departmental O&M	553.6	553.6	—	—	—
Treatment Chemicals, Sludge & Power	34.9	34.9	—	—	—
Other O&M	10.8	10.8	—	—	—
Sub-total Expenses	1,860.4	1,562.1	298.3	—	—
Capital Investments (4)	364.0	30.0	334.0	—	—
Fund Deposits					
R&R and General Fund	135.0	30.0	105.0	—	—
Treatment Surcharge Stabilization Fund	3.1	—	—	—	3.1
Interest for Construction & Trust Funds	0.4	—	0.4	—	—
Increase in Required Reserves	7.0	(4.8)	(0.3)	12.1	—
Sub-total Fund Deposits	145.5	25.2	105.1	12.1	3.1
TOTAL USES OF FUNDS	2,369.8	1,617.3	737.4	12.1	3.1
SOURCES OF FUNDS					
Revenues					
Taxes	168.3	166.3	2.0	—	—
Interest Income	10.0	4.0	1.9	3.9	0.1
Power Sales	14.2	14.2	—	—	—
Fixed Charges (RTS & Capacity Charge)	195.7	195.7	—	—	—
Water Revenue (3)	1,522.2	1,522.2	—	—	—
Miscellaneous Revenue	46.6	46.6	—	—	—
Bond Proceeds	159.2	—	159.2	—	—
Sub-total Revenues	2,116.2	1,949.1	163.1	3.9	0.1
Fund Withdrawals					
R&R and General Fund	135.0	30.0	105.0	—	—
Bond Funds for Construction	69.8	—	69.8	—	—
Decrease in Rate Stabilization Fund	48.9	—	—	48.9	—
Sub-total Fund Withdrawals	253.7	30.0	174.8	48.9	—
TOTAL SOURCES OF FUNDS	2,369.8	1,979.1	337.9	52.8	0.1
Inter-Fund Transfers	—	(361.8)	399.5	(40.7)	3.0
End of Year Balance	1,273.4	534.0	218.1	504.6	16.7

Totals may not foot due to rounding.

(1) includes Water Rate Stabilization Fund and Revenue Remainder Fund.

(2) includes Water Stewardship, Water Treatment Stabilization and Trust Funds.

(3) includes member agency water sales and exchange

(4) includes Capital Investment Plan plus debt financed Supply and Conservation Programs. However, the budget is seeking authorization to issue bonds for up to the full \$43 million per year for the Conservation Program. If this occurs, the total capital investment for FYs 2022/23 and 2023/24 would be \$381.4 million and \$389.0 million, respectively.

SOURCES OF FUNDS

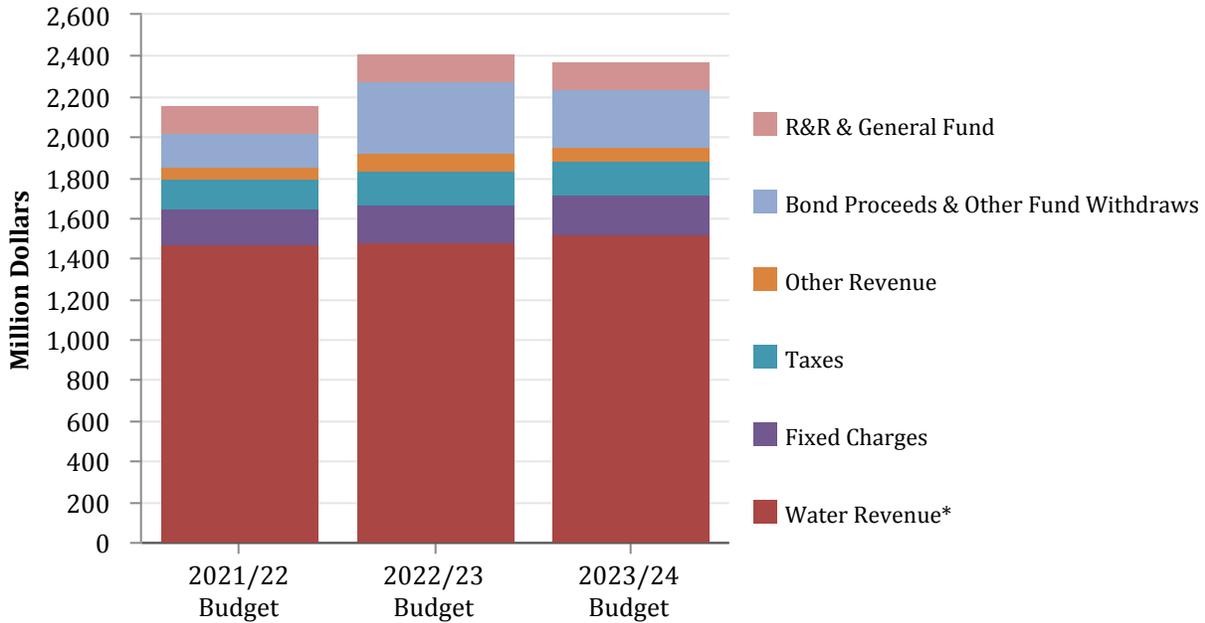
Total Sources of FY 2022/23 and FY 2023/24 Funds, \$ millions

	2021/22 Budget	2022/23 Budget	2023/24 Budget	2021/22 Budget Compared to 2022/23 Budget	2022/23 Budget Compared to 2023/24 Budget
SOURCES OF FUNDS					
Revenues					
Taxes	140.1	163.1	168.3	23.0	5.2
Interest Income	19.3	6.7	10.0	(12.6)	3.3
Power Sales	21.9	16.7	14.2	(5.2)	(2.4)
Fixed Charges (RTS & Capacity Charge)	175.5	185.7	195.7	10.2	10.0
Water Revenues (1)	1,475.9	1,485.3	1,522.2	9.4	36.9
Miscellaneous Revenue	20.5	61.9	46.6	41.5	(15.3)
Bond Proceeds and Reimbursements	89.4	303.1	159.2	213.7	(143.9)
Sub-total Revenues	1,942.5	2,222.4	2,116.2	279.9	(106.2)
Fund Withdrawals					
R&R and General Fund	135.0	135.0	135.0	—	—
Bond Funds for Construction	0.6	—	69.8	(0.6)	69.8
Water Stewardship Fund	75.5	56.1	—	(19.4)	(56.1)
Treatment Surcharge Stabilization Fund	—	—	—	—	—
Decrease in Required Reserves	—	—	—	—	—
Decrease in Water Rate Stabilization Fund	—	—	48.9	—	48.9
Sub-total Fund Withdrawals	211.1	191.1	253.7	(20.1)	62.6
TOTAL SOURCES OF FUNDS	2,153.6	2,413.4	2,369.8	259.8	(43.6)

Totals may not foot due to rounding.

(1) includes member agency water sales and exchange

Sources of Funds FY 2022/23 and FY 2023/24, \$ millions



* includes member agency water sales and exchanges

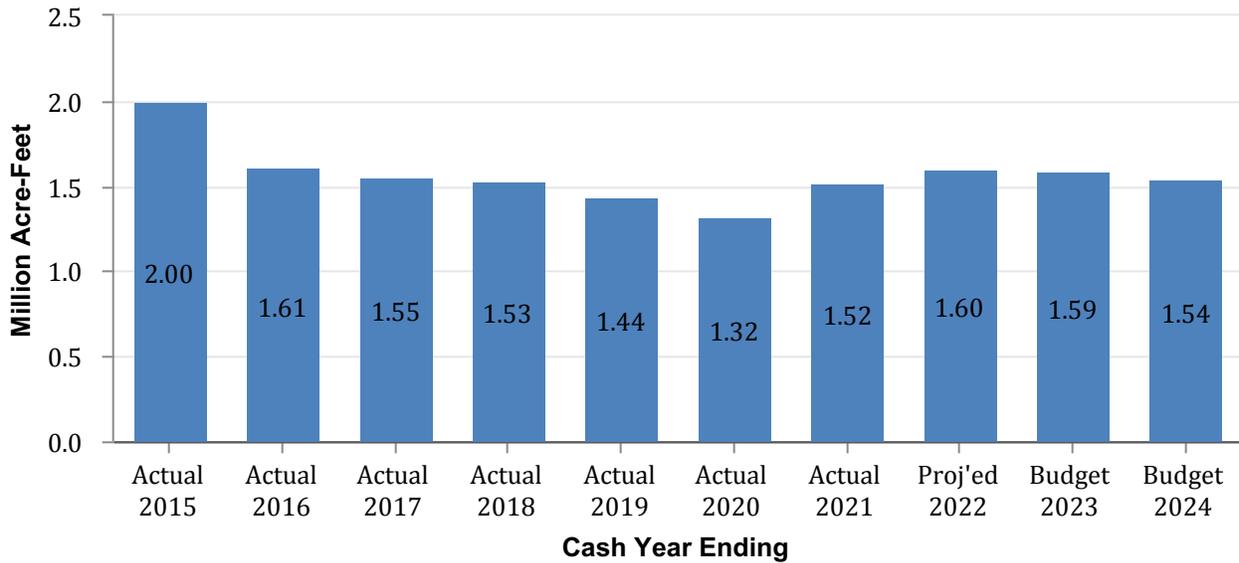
OPERATING REVENUE

Estimated revenues from water rates, fixed charges (Readiness-To-Serve Charge and Capacity Charge), taxes and annexation fees, and other miscellaneous income (interest income, power recovery, etc.) are projected to be \$1.92 billion for FY 2022/23 and \$1.96 billion for FY 2023/24. For FY 2022/23, this is \$66.2 million more than the FY 2021/22 budget, and for FY 2023/24, this is \$37.6 million more than FY 2022/23. The increase in revenues for FY 2022/23 is due to increases in property tax and miscellaneous revenues, in addition to higher water rates and charges in calendar year 2023. For FY 2023/24, the revenue is higher due primarily to higher water rates and charges in calendar year 2023 and calendar year 2024. In addition, the forecast assumes the ad valorem tax rate is maintained at 0.0035 percent of assessed valuations. A description of each revenue source is included in the Glossary of Terms.

Water Revenues

Revenues from water transactions are budgeted at \$1,485.3 million in FY 2022/23 and \$1,522.2 million in FY 2023/24. Water rates and charges are to increase by 5.0 percent overall, effective January 1, 2023 and 5.0 percent overall, effective January 1, 2024. Water transactions are estimated to be 1.59 million acre-feet (MAF) in Cash Year 2022/23 and 1.54 MAF in Cash Year 2023/24, reflecting a decrease of 60 thousand acre-feet (TAF) from the FY 2021/22 budget of 1.6 MAF. Water transactions are forecasted to be lower than the FY 2021/22 budget as expectations are that demands will trend lower due to consumer response to the current drought, continued conservation initiatives, and local supply development.

Water Transactions Trend, MAF



The Cash Year 2022/23 water transactions include 1.31 MAF of full-service sales, of which 770 TAF (or 59 percent) are treated water sales and 541 TAF are untreated water sales, and 279 TAF of exchange water to the San Diego County Water Authority (SDCWA) pursuant to the 2003 Amended and Restated Exchange Agreement (exchange water). The Cash Year 2023/24 water transactions include 1.26 MAF of full-service sales, of which 780 TAF (or 62 percent) are treated water sales and 482 TAF are untreated water sales, and 278 TAF of exchange water. No wheeling transactions are projected in the biennium period. The figure above shows the trend of occur period member agency water transactions.

Property Taxes and Annexation Fees

Revenues from property taxes, which will be used to pay voter-approved debt service on general obligation bonds and a portion of the SWC expenditures, are estimated to be \$163.1 million in FY 2022/23 and \$168.3 million in FY 2023/24.

The ad valorem tax rate is assumed to remain at the current level of 0.0035 percent of assessed value in both fiscal years; assessed valuations are projected to increase by 4.0 percent each fiscal year.

Fixed Charges

Fixed charges include the Capacity Charge and Readiness-to-Serve Charge. In FY 2022/23, these charges are estimated to generate \$38.7 million and \$147.0 million, respectively. In FY 2023/24, these charges are estimated to generate \$35.2 million and 160.5 million, respectively. In total this represents a \$10.2 million increase from the FY 2021/22 to FY 2022/23 budget, and a \$10.0 million increase from the FY 2022/23 to the FY 2023/24 budget.

All Other Revenue

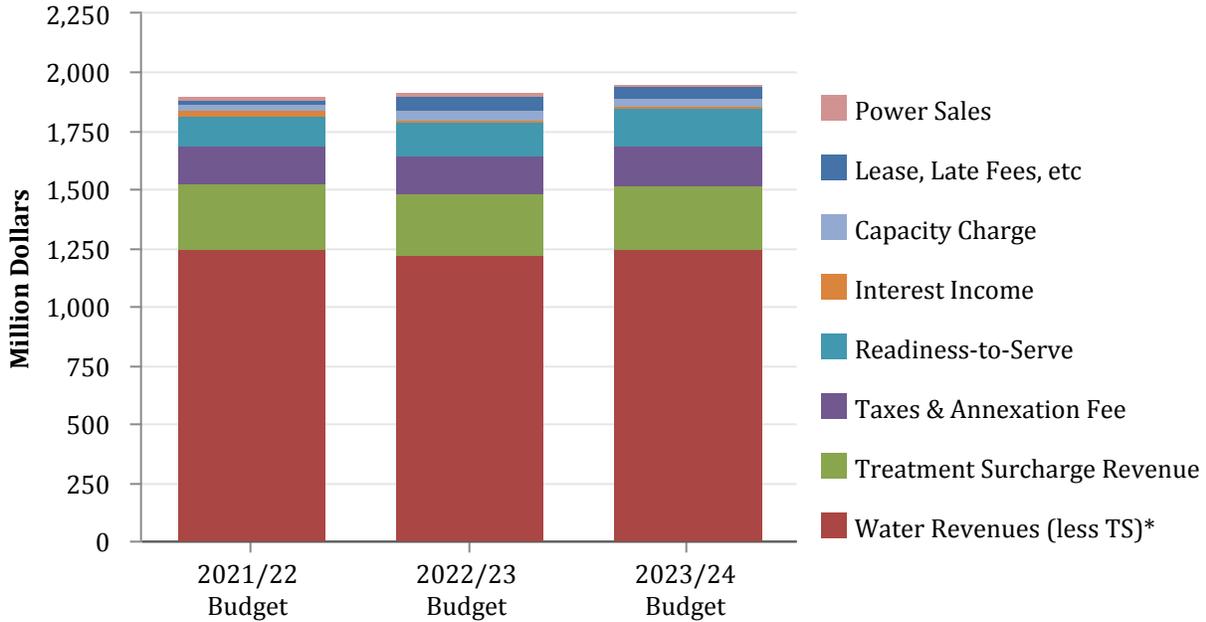
Revenues from hydroelectric and CRA power sales are estimated to be \$16.7 million for FY 2022/23 and \$14.2 million for FY 2023/24. FY 2022/23 is lower than the FY 2021/22 budgeted amount of \$19.1 million due to increased deliveries through the CRA.

Miscellaneous revenues, which include items such as interest income, lease revenues, and water transactions with non-member agencies, are estimated to total \$68.6 million for FY 2022/23 and \$56.6 million for FY

2023/24, higher than the FY 2021/22 budgeted amounts of \$29.6 million, mainly due to increased water transactions with non-member agencies and the addition of agency contributions to the Regional Recycled Water Program (RRWP).

A summary of operating revenues is shown in the graph below.

Operating Revenues, \$ millions



* includes member agency water sales and exchanges

CAPITAL FUNDING

The FY 2022/23 and FY 2023/24 Capital Investment Plan (CIP) will be funded with bond proceeds and current operating revenues (PAYGO). It is anticipated that Metropolitan will issue new revenue bonds of \$330 million over the biennium to fund a portion of the CIP. The remaining CIP expenditures will be funded with revenue funded capital of \$135 million in FY 2022/23 and \$135 million in FY 2023/24.

In FY 2022/23 and FY 2023/24 the Supply Programs include capital expenditures related to the development of the AVEK High Desert Water Bank program. These expenditures will be recorded as participation rights and are to be funded by debt. Remaining project costs total \$97.9 million and would be covered by a single debt issuance during the biennium.

In FY 2022/23 and FY 2023/24 the Conservation Program is to be funded at \$43 million in each budget year. Expenditures in excess of \$25 million will be funded by debt. There will be a single debt issuance of \$36 million during the biennium to cover additional conservation expenditures.

Please refer to the section on debt financing for additional details on debt funding of capital projects.

Capital Funding Source Descriptions

New Bond Issues

Metropolitan has the ability to issue long-term bonds to fund its capital programs. The proceeds of the bond sales can be used to pay for capital expenses over several years. The repayment of the bonds is generally over 30 years and is paid from water revenues.

Revenue Funded Capital

Annual capital expenses that are not paid from debt funding, grants, or loans must be paid from revenues, either from current year revenues or from the R&R fund, if funds exist.

USES OF FUNDS

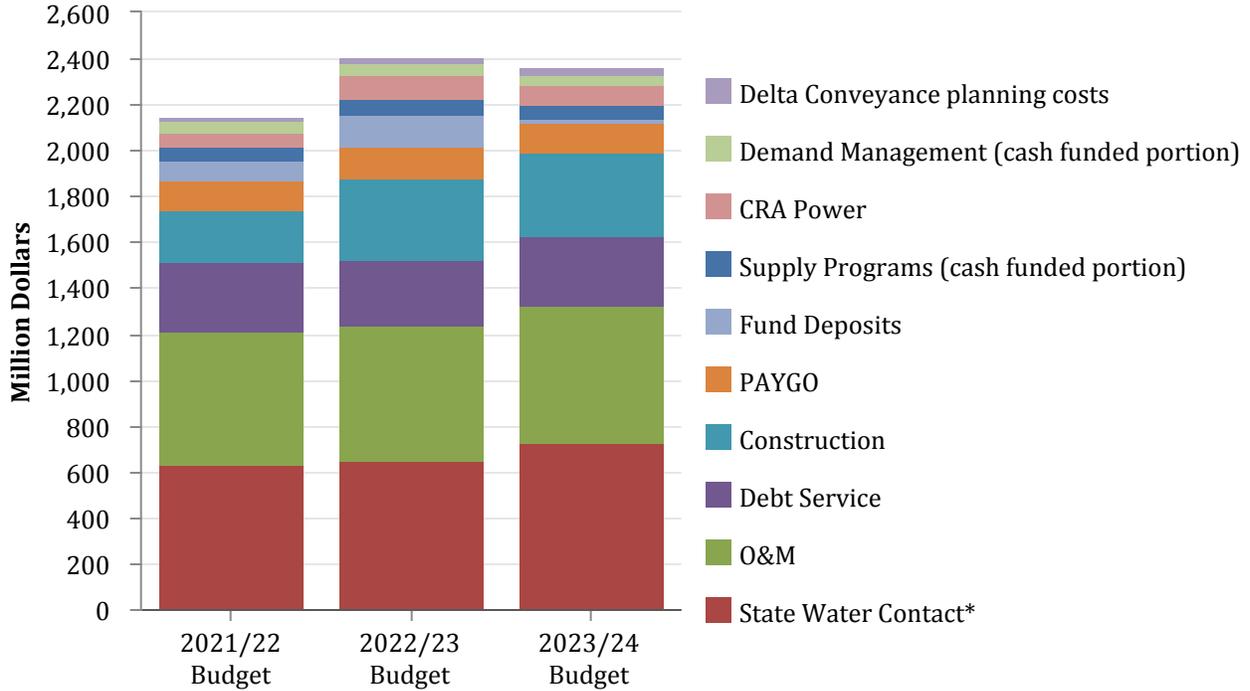
Total uses of funds are \$2.4 billion for FY 2022/23 and \$2.4 billion for FY 2023/24. The table and graph below show the breakdown of expenditures and other obligations that make up the Uses of Funds.

Total Uses of FY 2022/23 and FY 2023/24 Funds, \$ millions

	2021/22 Budget	2022/23 Budget	2023/24 Budget	2021/22 Budget Compared to 2022/23 Budget	2022/23 Budget Compared to 2023/24 Budget
USES OF FUNDS					
Expenditures					
State Water Contract*	629.4	651.7	726.7	22.3	75.0
Supply Programs (cash funded portion)	61.2	66.7	64.1	5.5	(2.6)
Delta Conveyance planning costs	25.0	30.0	34.5	5.0	4.5
Colorado River Power	57.6	105.9	85.6	48.3	(20.2)
Debt Service	307.0	288.0	301.0	(19.0)	13.0
Demand Management (cash funded portion)	52.5	50.8	49.1	(1.7)	(1.7)
Departmental O&M	530.9	542.3	553.6	11.4	11.3
Treatment Chemicals, Sludge & Power	34.8	32.5	34.9	(2.4)	2.4
Other O&M	14.2	11.4	10.8	(2.8)	(0.6)
Sub-total Expenditures	1,712.5	1,779.2	1,860.4	66.7	81.2
Capital Investments	225.0	356.4	364.0	131.4	7.6
Fund Deposits					
R&R and General Fund	135.0	135.0	135.0	—	—
Revenue Bond Construction	—	81.7	—	81.7	(81.7)
Treatment Surcharge Stabilization Fund	2.0	3.5	3.1	1.5	(0.4)
Interest for Construction & Trust Funds	1.2	0.2	0.4	(0.9)	0.2
Increase in Required Reserves	60.8	4.8	7.0	(56.0)	2.2
Increase in Water Rate Stabilization Fund	17.2	52.7	—	35.5	(52.7)
Sub-total Fund Deposits	216.1	277.8	145.5	61.7	(132.4)
TOTAL USES OF FUNDS	2,153.6	2,413.4	2,369.8	259.8	(43.6)

Totals may not foot due to rounding.

Total Uses of FY 2022/23 and FY 2023/24 Funds, \$ millions



Colorado River Aqueduct Power

CRA power costs are projected to be \$105.9 million in FY 2022/23 and \$85.6 million in FY 2023/24 based on diversions of approximately 1,007 TAF in FY 2022/23 and 923 TAF in FY 2023/24. FY 2022/23 is \$48.3 million higher than the FY 2021/22 budget due to higher diversions at Intake and increased power costs. FY 2023/24 is \$20.2 million lower than FY 2022/23 due to reduced CRA diversions.

Please refer to the section on the CRA for additional details on this expense.

State Water Project

State Water Contract (SWC) expenditures, not including the Delta conveyance planned contribution described below, are budgeted at \$651.7 million for FY 2022/23 and \$726.7 million in FY 2023/24. This is based on Metropolitan's deliveries to MWD's service area of 461 TAF in FY 2022/23 and 777 TAF in FY 2023/24. SWP power costs are expected to be \$211.6 million for FY 2022/23 and \$258.6 million for FY 2023/24. Power costs are higher than FY 2021/22 budget due to increased power costs.

The forecasted amount for SWP expenditures reflects incorporation of rate management credits into the forecast. Rate management credits result from a provision of the State Water Contract that provides for the reduction of capital charges based on differences between the Department of Water Resources' collections from the SWP contractors and the actual amounts paid for capital-related charges.

The total State Water Contract expenditure budget of \$681.7 for FY 2022/23 and \$761.2 for FY 2023/24 includes Metropolitan's planned contributions of \$34.5 million in FY 2022/23 and \$64.5 million in FY 2023/24, net of a \$34.5 million California Water Fix refund over the biennium, for Delta conveyance project planning activities.

Please refer to the section on the SWP for additional details on this expense.

Regional Recycled Water Program Planning Costs

The FY 2022/23 and FY 2023/24 budget includes funding for planning costs for the potential Regional Recycled Water Program at \$12.4 million in FY 2022/23 and \$7.3 million in FY 2023/24 for preparation of a programmatic environmental impact report. This is the next step before the Board will be fully informed and ready to make a decision on whether to proceed with further investments in this potential project. The departments have budgeted for the RRWP planning costs as a major O&M project with their budgets. The FY 2021/22 budget of \$15 million was restated to show the planning costs in the departmental O&M budget.

Demand Management Costs

Demand management includes conservation programs, programs to incentivize the development of local water resources, Future Supply Actions Program, and the Stormwater Pilot Program. Metropolitan provides financial incentives to its member agencies for the development of local projects such as water recycling and groundwater recovery projects through the Local Resource Program (LRP). Metropolitan also provides financial incentives for the development of conservation programs. Demand Management paid from current year revenues is budgeted at \$50.8 million for FY 2022/23 and \$49.1 million in FY 2023/24. An additional \$18 million in each year is budgeted for conservation to be funded by debt.

Please refer to the section on Demand Management for additional details on this expenditure.

Supply Programs

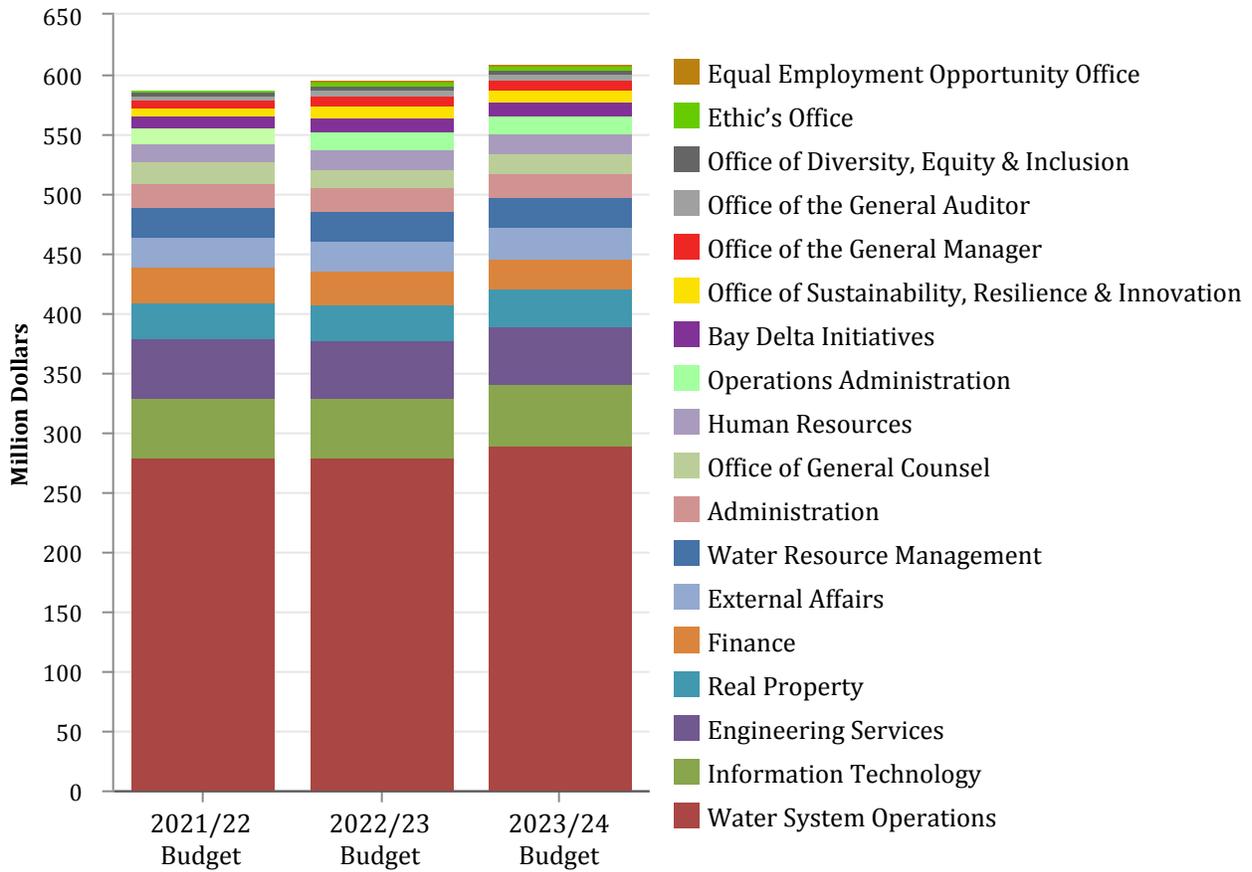
Metropolitan's two principal sources of supply draw from two different watersheds. This has allowed Metropolitan to draw more heavily on one source in the event the other is experiencing a drought. To further ensure regional supply reliability, Metropolitan has developed a portfolio of additional supply programs on both watersheds. Total expenditures from current year revenues are budgeted at \$66.7 million for FY 2022/23 and \$64.1 million in FY 2023/24. Additional spending on Participation Rights for the AVEK High Desert Water Bank Program of \$38.4M in FY 2022/23 and \$46.0M in FY 2023/24 will be funded by debt.

Please refer to the section on the Supply Programs for additional details on this expenditure.

OPERATIONS AND MAINTENANCE

The FY 2022/23 O&M budget, including operating equipment purchases, is \$586.1 million. This is \$6.3 million, or 1.1 percent, higher than the FY 2021/22 budget of \$579.9 million. The FY 2023/24 O&M budget is \$599.3 million, an increase of \$13.2 million, or 2.2 percent, over the FY 2022/23 budget.

Departmental Budget by Organization (without operating equipment, succession planning labor pool and overhead credit), \$ millions



Operations and Maintenance Budget by Organization, \$ thousands

Departmental Units	2021/22 Budget	2022/23 Budget	2023/24 Budget	2021/22 Budget vs. 2022/23 Budget	% Change	2022/23 Budget vs. 2023/24 Budget	% Change
Office of the General Manager	6,269.5	7,832.1	8,180.8	1,562.6	24.9%	348.8	4.5%
Water System Operations w/o Variable Treatment	245,803.4	247,919.8	254,975.5	2,116.4	0.9%	7,055.7	2.8%
Information Technology	49,640.0	49,043.4	52,425.8	(596.6)	(1.2%)	3,382.4	6.9%
Engineering Services	49,345.2	48,649.8	47,860.2	(695.4)	(1.4%)	(789.6)	(1.6%)
Real Property	31,114.0	30,319.8	31,138.4	(794.3)	(2.6%)	818.7	2.7%
Finance	28,488.3	28,636.3	25,733.9	148.0	0.5%	(2,902.4)	(10.1%)
External Affairs	25,346.2	25,041.7	25,870.1	(304.6)	(1.2%)	828.5	3.3%
Water Resource Management	26,207.4	24,584.9	25,243.7	(1,622.5)	(6.2%)	658.8	2.7%
Administration	19,219.2	19,327.8	20,313.7	108.6	0.6%	985.9	5.1%
Human Resources	15,031.1	15,674.7	16,124.7	643.6	4.3%	450.0	2.9%
Operations Administration	13,552.7	15,285.3	15,486.5	1,732.6	12.8%	201.2	1.3%
Bay Delta Initiatives	9,709.4	11,905.7	12,532.5	2,196.3	22.6%	626.8	5.3%
Office of Sustainability, Resilience & Innovation	7,096.8	10,197.9	9,556.5	3,101.1	43.7%	(641.3)	(6.3%)
Office of Diversity, Equity & Inclusion	2,502.1	3,815.0	3,941.7	1,312.9	52.5%	126.7	3.3%
Equal Employment Opportunity Office	—	2,016.0	2,111.7	2,016.0	—%	95.7	4.7%
Subtotal - General Manager's Department	529,325.3	540,250.0	551,495.9	10,924.7	2.1%	11,245.8	2.1%
Office of General Counsel	17,752.3	16,416.7	16,289.3	(1,335.6)	(7.5%)	(127.5)	(0.8%)
Office of General Auditor	4,750.2	4,768.4	4,910.5	18.2	0.4%	142.1	3.0%
Ethic's Office	1,679.9	2,739.6	2,837.8	1,059.7	63.1%	98.2	3.6%
Undistributed RRWP Planning budget	4,035.1	—	—	(4,035.1)	—%	—	—%
Overhead Credit from Construction	(24,203.5)	(21,891.4)	(21,958.2)	2,312.1	(9.6%)	(66.8)	0.3%
Succession Planning Labor Pool	4,539.8	2,000.0	2,000.0	(2,539.8)	(55.9%)	—	—%
Total Department Budget	537,879.0	544,283.3	555,575.3	6,404.3	1.2%	11,291.9	2.1%
Operating Equipment	7,153.4	9,394.9	8,836.8	2,241.5	31.3%	(558.1)	(5.9%)
Variable Treatment	34,818.7	32,464.3	34,883.3	(2,354.4)	(6.8%)	2,419.0	7.5%
GRAND TOTAL	579,851.2	586,142.5	599,295.3	6,291.3	1.1%	13,152.8	2.2%

*FY 2021/22 Departmental O&M budget restated to include RRWP Planning Costs budget of \$15M; remaining \$10,965M budget reflected in individual groups budgets above

Totals may not foot due to rounding

The table above depicts the distribution of the departmental O&M by organization without the overhead credit, succession planning labor pool and operating equipment. Including treatment costs, the Water System Operations (WSO) group accounts for 47 percent of the total departmental budget for FY 2022/23 and FY 2023/24. Information Technology is the second largest departmental expenditure area, accounting for 8 percent of the total departmental budget for FY 2022/23 and FY 2023/24. A summary of the O&M budget by organization is shown in the table above. The table below summarizes the O&M budget by expenditure type. A more detailed discussion of significant factors impacting the O&M budget follows.

FY 2022/23 and FY 2023/24 Operations & Maintenance Annual Budget by Expenditure Type, \$ thousands

	2021/22 Budget	2022/23 Budget	2023/24 Budget	2021/22 Budget vs. 2022/23 Budget	2022/23 Budget vs. 2023/24 Budget
Salaries & Benefits	377,018.1	379,297.4	395,550.3	2,279.3	16,252.9
Chemicals, Sludge and Power	34,818.7	32,464.3	34,883.3	(2,354.4)	2,419.0
Outside Services	68,726.6	68,967.1	65,223.5	240.5	(3,743.6)
Materials & Supplies	33,073.7	34,723.4	36,802.0	1,649.7	2,078.6
Other	59,060.6	61,295.4	57,999.4	2,234.8	(3,296.1)
Operating Equipment	7,153.4	9,394.9	8,836.8	2,241.5	(558.1)
Grand Total	579,851.2	586,142.5	599,295.3	6,291.3	13,152.8

Totals may not foot due to rounding

FY 2022/23 O&M Budget Highlights

The FY 2022/23 O&M budget includes \$586.1 million for labor and benefits, water treatment chemicals, power, and solids handling, materials and supplies, professional services, and operating equipment purchases. This is \$6.3 million, or 1.1 percent, higher than the FY 2021/22 budget of \$579.9 million. This increase is primarily due to negotiated labor increases, enhanced security, land management and maintenance efforts, inflationary pressures on fuels and materials, and increased utilities demand and costs.

Salaries and Benefits: Labor costs, not including those charged to construction are \$379.3 million. This is \$2.3 million, or 0.6 percent, higher than the FY 2021/22 budget of \$377.0 million. Key increases include negotiated labor increases of \$15.3 million, new positions of \$4.6 million, overhead credit from construction of \$2.3 million, overtime & premium of \$0.6 million, offset by an increase in the vacancy rate of \$11.7, a reduction in the succession planning labor pool of \$3.0, a decrease in benefits of \$4.4 million, and a reduction in temporary labor of \$1.4 million. The average vacancy rate was increased from 2% to 5% to be more in line with expected conditions. Retirement, medical and other benefits are increasing offset by a lowered actuarial estimate for Other Post Employment (OPEB) benefits. Overhead credit from construction estimate was also revised downwards.

The FY 2022/23 budget includes 1,929 regular full time positions which are increasing by 22 net positions from the FY 2021/22 budget and 47 district temporary full-time equivalents (FTEs) which are increasing by 10 net positions for a total of 1,976 authorized positions.

The 22 new regular full time positions are being added to support board initiatives of Diversity, Equity & Inclusion (DEI), Equal Employment Opportunity (EEO), Sustainability, Innovation & Resilience (SRI) as well as other critical district needs in land management and property maintenance, media and communication, security (including cybersecurity), Ethics policy and programs, accounting, treasury and contracting. The ten district temporary positions are being added to accommodate enhanced security, business process and business systems support as well as ongoing succession planning and education efforts.

The budget recognizes the importance of sound succession planning and continued training and development of the workforce with a \$5 million succession planning labor pool included in each FY 2022/23 and FY 2023/24 budget for advance recruitment and internship programs. An additional \$2 million each year is included in WSO's budget to fund the apprenticeship program.

Outside Services: Outside Services are anticipated to increase by \$0.2 million primarily as a result of enhanced security, land management, and maintenance efforts offset by a reduction in legal and IT support services; The development and implementation of Metropolitan's Security Strategic Management Plan requires additional labor and non-labor resources in order to meet vulnerability assessment recommendations. In addition, the budget includes large maintenance and repair projects at Metropolitan's USHQ Facility, DVL Visitor Center and

property structures in the Bay Delta and Palo Verde Valley. Some of these projects at USHQ and DVL were deferred by Board action in the last biennial budget.

Materials & Supplies: Materials & Supplies is increasing by \$1.6 million primarily as a result of land management and maintenance efforts as well as water treatment chemicals used for Quagga mussel control. Costs of fuel, building, construction and other materials are rising significantly due to inflationary pressures.

Other O&M and Operating Equipment: Chemicals, solids, and power reflect the cost of the water treatment process and are anticipated to decrease by \$2.4 million in FY 2022/23, driven by a reduction in power and chemical costs. Power costs are decreasing due to changes in power costs and water flows. Chemical costs are decreasing as a result of a change in water blends - a shift to more CRA water which requires less chemicals to treat than SWP water.

The FY 2022/23 budget reflects an increase in utilities not related to variable treatment of \$3.4 million as a result of increasing costs associated with electricity and hazardous waste disposal. Hazardous waste abatement costs are increasing as a result of the Weymouth Basin Remediation and CRA rehabilitation. Electricity costs are increasing due to the planned continuous operation at the Greg Avenue pump station to manage available supplies and help mitigate drought conditions.

Operating equipment is higher by \$2.2 million primarily due to the replacement of critical aging vehicles and equipment that is at the end of its useful life and inflationary pressures in pricing. The purchase of vehicles was deferred by Board action in the last biennial budget.

Regional Recycled Water Program Planning Costs: The budget for the RRWP Planning Costs is \$12.4 million and is reflected in Departmental O&M as a major O&M Project. \$9.2 million of the total is for professional services and \$3.1 million is for salaries and benefits. A total of 11 regular full-time positions have been allocated to the project. The FY 2021/22 budget of \$15 million included \$11.8 million for professional services and \$3.2 million for salaries and benefits.

FY 2023/24 O&M Budget Highlights

The FY 2023/24 O&M budget is \$599.3 million, an increase of \$13.2 million, or 2.2 percent, compared to the FY 2022/23 budget. This increase is primarily due to negotiated labor increases offset by a reduction in outside services related to the RRWP planning project and a decrease in anticipated 3rd party insurance claims.

Salaries and Benefits: The FY 2023/24 O&M labor budget is about \$16.3 million or 4.3 percent higher than the FY 2022/23 budget. Negotiated labor increases represent \$16.1 million, or 99 percent of the increase. Benefits are continuing to decline by \$0.4 million or 2.5 percent as a result of reduced OPEB costs. The remaining \$0.5 million increase, or 3.1 percent, is primarily attributable to a slight increase in overtime, as well as premium and temporary labor.

FY 2023/24 regular full time positions are flat with the FY 2022/23 budget but district temporary positions are increasing by 2 net positions. As a result FY 2023/24 total authorized positions are increasing from 1,976 to 1,978.

Outside Services: Outside Services are anticipated to decrease by \$3.7 million of which \$5.0M is due to the decrease in the level of support for the environmental planning phase of the RRWP Planning project. Other reductions in legal and labor union negotiations costs were somewhat offset by increases in IT maintenance and support services, and Bay Delta studies and pilot projects.

Materials & Supplies: Materials & Supplies is increasing by \$2.1 million. Increases in software licensing and support of \$1.2 million and fuel & other maintenance supplies of \$1.2 million are being offset by a reduction in water treatment chemicals of \$0.3 million used for Quagga mussel control. There is an expectation in FY 2023/24 that SWP flows would increase and the need for chemicals to treat CRA water would decrease.

Other O&M and Operating Equipment: The cost of chemicals, power, and sludge disposal incurred in the water treatment process is anticipated to increase by \$2.4 million in FY 2023/24 due primarily to increased water demands and inflationary pressures on chemical costs.

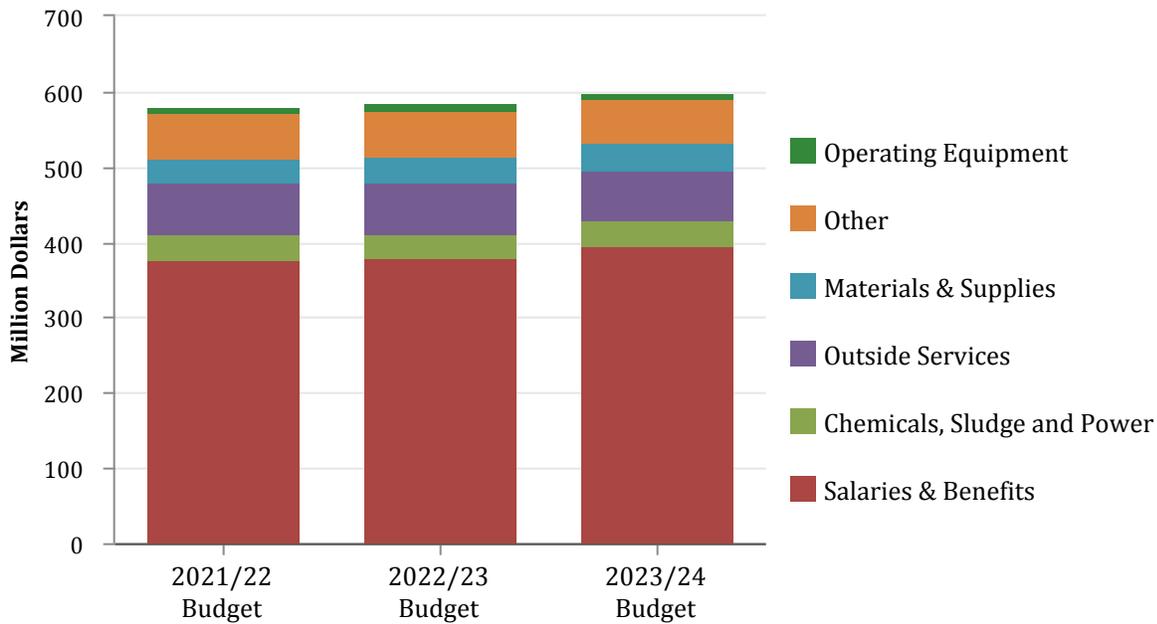
Third-party insurance claims are anticipated to decrease by \$4.0 million as a result of the actuarial study.

The FY 2023/24 budget reflects a decrease in utilities not related to variable treatment, of \$1.1 million due to pumping at the Greg Avenue facility anticipated for only half of the year.

Operating equipment is lower by \$0.6 million from FY 2022/23 due primarily to a reduction in lab equipment and construction and maintenance needs.

Regional Recycled Water Program Planning Costs: The budget for the RRWP Planning Costs is \$7.3 million and is reflected in Departmental O&M as a major O&M Project. \$4.2 million of the total is for professional services and \$3.1 million for salaries and benefits. A total of 11 regular full-time positions have been allocated to the project.

Departmental Budget by Expenditure Type, \$ millions



The figure above summarizes the total departmental O&M budget by expenditure type, of which about 65 percent is for salaries and benefits in both FY 2022/23 and FY 2023/24.

STAFFING PLAN

FY 2022/23 and FY 2023/24 total authorized positions which include district temporary positions, are 1,976 and 1,978 positions, respectively. Total regular full time positions are increasing by 22 over the biennium to support board initiatives of Diversity, Equity & Inclusion (DEI), Equal Employment Opportunity (EEO), Sustainability, Resilience & Innovation (SRI) as well other critical district needs in land management and property maintenance, media and communication, security including cybersecurity, Ethics policy & program support, and accounting, treasury and contracting. Twelve district temporary positions will also be added over the biennium to accommodate enhanced security, business process and business systems support as well as ongoing succession planning and education efforts.

Over the biennium, positions dedicated to O&M work are expected to increase by 37 regular full time positions and by 12 district temporary positions to support increased recruitment, enhanced security, land management and maintenance efforts, enhanced business process and business systems support, and ongoing succession planning efforts. The number of regular full time positions allocated to the RRWP Planning Costs budget over the biennium has remained constant at 11 from the FY 2021/22 budget.

The personnel complement is shown in the following tables.

Regular and Temporary Positions

	2020/21 Budget	2021/22 Budget	2022/23 Budget	2023/24 Budget	2021/22 Budget vs. 2022/23 Budget	2022/23 Budget vs. 2023/24 Budget
Regular Full Time Positions	1,907	1,907	1,929	1,929	22	—
District Temporary Positions	43	37	47	49	10	2
Total	1,950	1,944	1,976	1,978	32	2

Totals may not foot due to rounding.

O&M and Capital Staffing Levels

	2021/22 Budget	2022/23 Budget	2023/24 Budget
O&M Positions			
Regular Full Time Positions	1,623	1,660	1,660
District Temporary Positions	35	46	48
Total O&M	1,658	1,706	1,708
Capital Positions			
Regular Full Time Positions	284	269	269
District Temporary Positions	2	1	1
Total Capital	286	270	270
GRAND TOTAL	1,944	1,976	1,978

Totals may not foot due to rounding.

CAPITAL INVESTMENT PLAN

Estimated expenditures for the Capital Investment Plan (CIP) which includes Minor Capital Projects are \$600 million for FY 2022/23 and FY 2023/24. They are funded by current operating revenues (PAYGO) and revenue bond proceeds. The FY 2022/23 CIP expenditures are \$75 million higher than the FY 2021/22 budget, while the FY 2023/24 is unchanged from the FY 2022/23 budget. The largest areas of expenditures in the Biennial Budget are infrastructure refurbishment and replacement and infrastructure upgrades.

The CIP is discussed in more detail in the CIP supplemental volume.

Cash Funded Capital

The CIP is anticipated to be funded 45 percent by current operating revenues (PAYGO) in FY 2022/23 and in FY 2023/24, the CIP is anticipated to be funded 45 percent by PAYGO. The PAYGO funding for FY 2022/23 is budgeted at \$135 million and in FY 2023/24, the PAYGO funding is budgeted at \$135 million.

Debt Funded Capital

The CIP is anticipated to be funded 55 percent by revenue bond proceeds in FY 2022/23 and in FY 2023/24, the CIP is anticipated to be funded 55 percent by revenue bond proceeds. New debt issues of \$330 million are planned over the biennium to fund the CIP. Given construction funds expected to be available at the beginning of the biennial budget period and planned PAYGO amounts, these bond issues should provide sufficient funds to meet CIP expenditures over the two years.

Debt Service

For FY 2022/23 and FY 2023/24, Metropolitan plans to issue new revenue bond debt as described above. Debt service payments in FY 2022/23 are budgeted at \$288.0 million and \$301.0 million in FY 2023/24.

Please refer to the section on Capital Financing for additional details on this expense.

FUND BALANCES AND RESERVES

Metropolitan operates as a single enterprise fund for financial statements and budgeting purposes. Through its Administrative Code, Metropolitan identifies a number of accounts, which are referred to as funds, to separately track uses of monies for specific purposes as summarized in the table below.

The FY 2022/23 budget forecasts a \$31.2 million increase in reserves by June 30, 2023 and includes the Water Rate Stabilization Fund (WRSF) and the Revenue Remainder Fund. In addition, the Treatment Surcharge Stabilization Fund (TSSF) and the Water Stewardship Fund (WSF) are projected to decrease by \$52.6 million.

The FY 2023/24 budget forecasts a \$36.8 million decrease in reserves by June 30, 2024 and includes the WRSF and the Revenue Remainder Fund. In addition, the TSSF is projected to increase by \$3.1million.

Fund balances are budgeted to be \$1.38 billion at June 30, 2023. Of that total, \$840.4 million is restricted by bond covenants, contracts, or board policy, and \$541.4 million is unrestricted. Fund balances are budgeted to be \$1.27 billion at June 30, 2024. Of that total, \$769 million is restricted by bond covenants, contracts, or board policy, and \$504.6 million is unrestricted.

On June 30, 2023, the minimum and target levels for the reserve funds are estimated to be \$254.5 million and \$625.8 million, respectively. Based on projected revenues and expenditures, it is estimated that the balance in the WRSF and Revenue Remainder Fund will total about \$541.4 million, about \$286.9 million over the minimum level.

On June 30, 2024, the minimum and target levels for the reserve funds are estimated to be \$266.6 million and \$665.9 million, respectively. Based on projected revenues and expenditures, it is estimated that the balance in the WRSF and Revenue Remainder Fund will total about \$504.6 million, about \$238.0 million over the minimum level.

Projected Fund Balances, \$ millions

	Restricted	Designated	Unrestricted	Total
2022/23 Budget				
Operating Funds	483.8	—	—	483.8
Debt Service Funds	200.4	—	—	200.4
Construction Funds	84.7	2.7	—	87.5
Reserve Funds (1)	—	—	541.4	541.4
Rate Stabilization Funds (2)	—	12.8	—	12.8
Trust and Other Funds	55.9	—	—	55.9
Total June 30, 2023	824.8	15.5	541.4	1,381.7
2023/24 Budget				
Operating Funds	479.0	—	—	479.0
Debt Service Funds	200.1	—	—	200.1
Construction Funds	15.3	2.7	—	18.0
Reserve Funds (1)	—	—	504.6	504.6
Rate Stabilization Funds (2)	—	15.8	—	15.8
Trust and Other Funds	55.9	—	—	55.9
Total June 30, 2024	750.3	18.6	504.6	1,273.4

Totals may not foot due to rounding.

(1) includes Water Rate Stabilization Fund and Revenue Remainder Fund.

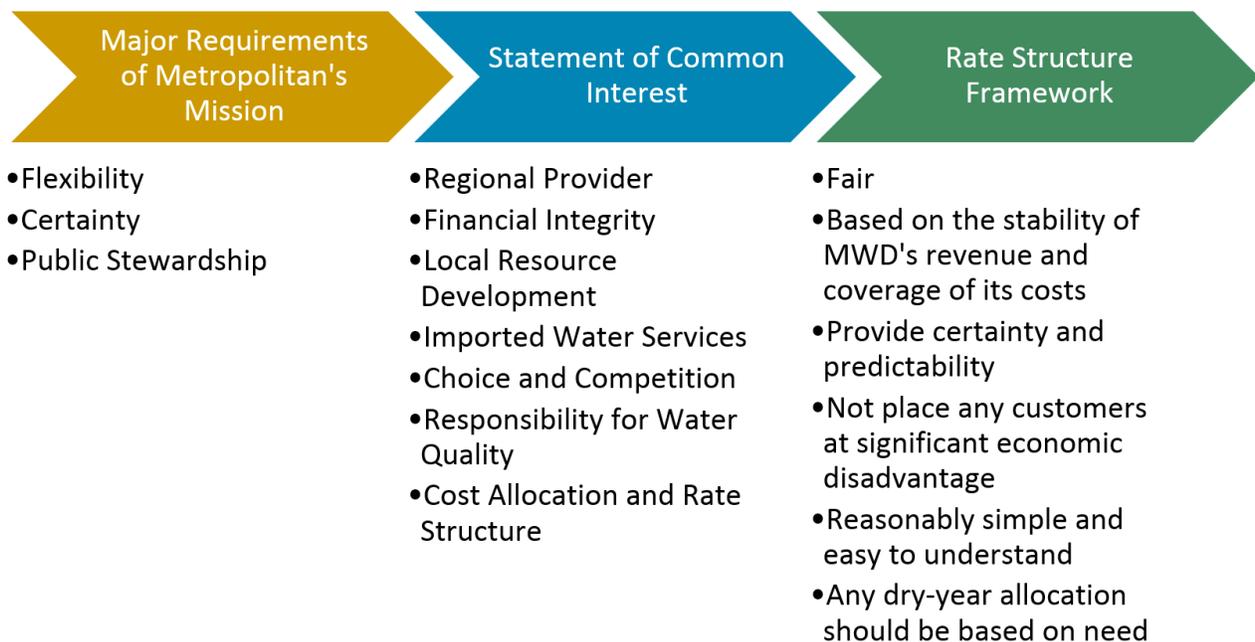
(2) includes Water Stewardship Fund and Treatment Surcharge Stabilization Fund

RATE STRUCTURE OVERVIEW

Framework

The Rate Structure Framework evolved through a comprehensive strategic planning process initiated in 1998. As depicted in the following figure, the first step of the process was to identify the “Major Requirements of Metropolitan’s Mission,” which was reflected in the Strategic Plan Policy Principles. The Statement of Common Interests formed the basis of Metropolitan’s strategic plan to address these mission requirements. One of the most important common interests was “Cost Allocation and Rate Structure.” In determining the most appropriate Cost of Service (COS) and rate structure, a set of pricing objectives, or guiding rate principles, was developed. These guiding rate principles defined Metropolitan’s Rate Structure Framework by which various COS and rate-setting methodologies could be evaluated.

Development of the Rate Structure Framework



The strategic planning process which established the foundation of the Rate Structure Framework is discussed below.

Major Requirements of Metropolitan's Mission

As one of the first steps in the strategic planning process in 1998, the Board developed a list of three mission requirements in its Metropolitan vision statement - flexibility, certainty, and public stewardship, which it described as:

- **Flexibility.** Metropolitan is aware of the legislative and economic pressures which make flexibility in providing water services for a changing demand and in a competitive water market paramount. Fair compensation for wheeling through Metropolitan's conveyance systems is an essential element of Southern California's developing market.
- **Certainty.** The certainty that Metropolitan's water supply is reliable and that the COS is appropriate is of utmost importance to member agencies and their retailers who are endeavoring to provide not only water, but value to the residents in their service area.
- **Public Stewardship.** As public stewards of much of Southern California's water supply, Metropolitan and its member agencies are responsible for making certain that the water is provided in a cost-effective and environmentally sound manner.

Statement of Common Interests

From the strategic planning mission requirements, the Board developed a list of seven areas of common interest that formed the major focus elements of the Metropolitan strategic plan, described as:

- **Regional provider.** This area includes the concerns of protecting regional infrastructure and providing service during drought periods. Regional water must be provided to meet the needs of the member agencies, and water supplies must be equitably allocated during drought periods based on the Water Surplus and Drought Management Plan principles.
- **Financial integrity.** It is a common interest of the members for Metropolitan to assure the financial integrity of the agency in all aspects of its operations.
- **Local resource development.** Metropolitan supports local resources development by working in partnership with its member agencies and by providing member agencies with financial incentives for water conservation and for local projects.
- **Imported water service.** Metropolitan is responsible for providing imported water to meet the committed needs of its member agencies.
- **Choice and competition.** After Metropolitan provides imported water for the member agencies' committed demands, a member agency can choose the most cost-effective additional water supplies for its customers. These choices include either Metropolitan, local resource development, market transfers, or some combination of these secondary options. Metropolitan and its member agencies can decide how to provide these additional supplies collaboratively while balancing local, imported, and market opportunities with affordability.
- **Responsibility for water quality.** Metropolitan must advocate for source water quality and implement in-basin water quality for the imported water it supplies. This is necessary to guarantee compliance with primary drinking water standards and to meet the water quality requirements for water recycling and ground water replenishment.

- **Cost allocation and rate structure.** The framework for a revised rate structure will be established to address allocation of costs, financial commitment, unbundling of services, and fair compensation for services including wheeling, peaking, growth, and others.

Rate Structure Framework

A major element of common interest was “*Cost Allocation and Rate Structure.*” In addressing this element a set of pricing objectives, or guiding rate principles, had to be developed to evaluate alternative COS and rate setting approaches, or methodologies. As a result, the Board adopted a set of rate principles which was defined as the *Rate Structure Framework*. The Rate Structure Framework provided the principles for the Strategic Planning Steering Committee to develop a preferred rate structure. The Rate Structure Framework includes the following principles:

- The rate structure should be *fair*;
- It should be based on the *stability* of Metropolitan’s revenue and coverage of its costs;
- It should provide certainty and predictability;
- It should not place any customers at *significant economic disadvantage*;
- It should be reasonably *simple and easy to understand*; and
- Any dry-year allocation should be *based on need*.

The 2001 COS and rate structure was adopted by the Board to address the Rate Structure Framework. That COS process and rate structure remain today, with the exception of recent modifications by the Board. First, in August 2020, the Board repealed the pre-set wheeling rate for short-term wheeling service to member agencies. As a result, charges for short-term wheeling to member agencies is now subject to contractual negotiations on a case-by-case basis, as has been the case with long-term wheeling arrangements for member agencies, all wheeling for third parties, and all exchange transactions. In December 2019, the Board directed staff (1) to incorporate the 2019/20 fiscal-year-end balance of the Water Stewardship Fund to fund all demand management costs in the proposed FYs 2020/21 and 2021/22 Biennial Budget; and (2) to not incorporate the Water Stewardship Rate, or any other rate or charge to recover demand management costs, with the proposed rate and charges for CYs 2021 and 2022. In November 2021, the Board directed staff to allocate all demand management costs to Metropolitan's supply rate elements, and no Water Stewardship Rate or other demand management recovery charge is included in the rate structure after 2022.

RATE STRUCTURE DESIGN

The elements of the rate structure, and the rates and charges for calendar year 2022, 2023, and 2024 are summarized in Table 14.

Table 14. Rate Elements

Rate Design Elements	Functional Costs Recovered	Type of Charge	2022	2023	2024
Tier 1 Supply Rate	Supply, Drought Storage	Volumetric (\$/af)	\$243	\$321	\$332
Tier 2 Supply Rate	Reflects cost of transfers from north of the Delta	Volumetric (\$/af)	\$285	\$530	\$531
System Access Rate	Conveyance/Distribution (Average Capacity), portion of Regulatory/Emergency Storage	Volumetric (\$/af)	\$389	\$368	\$389
System Power Rate	Power on CRA and SWP	Volumetric (\$/af)	\$167	\$166	\$182
Treatment Surcharge	Treatment	Volumetric (\$/af)	\$344	\$354	\$353
Capacity Charge	Peak Distribution Capacity, portion of Regulatory Storage	Fixed (\$/cfs)	\$12,200	\$10,600	\$11,200
Readiness-to-Serve Charge	Available Conv. & Dist. Capacity, Emergency Storage	Fixed (\$M)	\$140	\$154	\$167

*Rates and Charges effective January 1st

Supply Rates

Purpose

The rate structure recovers supply costs through a two-tiered price structure. The amount of water a member agency may purchase at the lower Tier 1 Supply Rate, which is water within a member agency’s Tier 1 maximum, is established by either a purchase order agreement or calculated as 60% of its Revised Base Firm Demand.

Tier 1 Supply Rate

The Tier 1 Supply Rate is a volumetric rate charged on Metropolitan’s water sales that are within a member agency’s Tier 1 maximum. The Tier 1 Supply Rate supports a regional integrated approach through the uniform, postage stamp rate. The Tier 1 Supply Rate is calculated as the amount of the total revenue requirement functionalized as supply divided by the estimated amount of Tier 1 water sales. Per Board direction in December 2021, all demand management costs (regardless of funding source, such as bond financing or current revenues) are functionalized as supply and collected on the Tier 1 and Tier 2 supply rates. However, because there are no projected Tier 2 transactions in the biennium, the demand management costs are recovered entirely by the Tier 1 supply rate.

Tier 2 Supply Rate

The Tier 2 Supply Rate is a volumetric rate that reflects the costs of Tier 1 and Metropolitan’s cost of purchasing water transfers north of the Delta. The Tier 2 Supply Rate is charged on Metropolitan water sales that exceed a

member agency's Tier 1 maximum. The higher costs reflected in the Tier 2 Supply Rate encourages the member agencies and their customers to maintain existing local supplies and develop cost-effective local supply resources and conservation. Per Board direction in November 2021, all demand management costs (regardless of funding source, such as bond financing or current revenues) are functionalized as supply and collected on the Tier 1 and Tier 2 supply rates. However, because there are no projected Tier 2 transactions in the biennium, the demand management costs are recovered entirely by the Tier 1 supply rate.

Implementation

Because the Tier 1 maximum is set at a total member agency level and not at a meter level, all system water delivered will be billed at the Tier 1 Supply Rate. Any water delivered that exceeds the Tier 1 maximum will be billed an additional amount equivalent to the difference between the Tier 2 and Tier 1 Supply Rates.

For member agencies without purchase orders and member agencies with purchase orders that accrue a cumulative Tier 2 obligation at the end of year five of the purchase order, the Tier 2 Supply Rate will be applied in the month where the Tier 1 maximum is surpassed on all applicable deliveries. Otherwise, any obligation to pay the Tier 2 Supply Rate will be calculated over the ten-year period, consistent with the calculation of any purchase order commitment obligation.

Benefits

The use of the two-tiered structure for Supply Rates provides several benefits including (1) efficient resource management, and (2) clear price signals to accommodate a water transfer market.

System Access Rate (SAR)

Purpose

The SAR recovers the costs of Conveyance, Distribution, and Storage that is used on an average annual basis through a uniform, volumetric rate. All member agencies pay the SAR for the conveyance and distribution capacity associated with deliveries of full-service water.

Implementation

The SAR is charged for each acre-foot of water transported by Metropolitan to its member agencies and delivered as a full-service water transaction.

Benefits

The SAR benefits include: (1) support of a regional approach; (2) accommodates a water transfer market that does not unfairly advantage one user over another; (3) provides a clear linkage between costs and benefits; and (4) establishes a simple approach to recovering the costs of conveyance and distribution functions.

System Power Rate (SPR)

Purpose

The SPR recovers the costs of energy required to pump water to Southern California through the SWP and CRA. The cost of power is recovered through a uniform, volumetric rate.

Implementation

The SPR is applied to all deliveries of Metropolitan water to member agencies.

Benefits

The primary benefit of the SPR is that it clearly identifies Metropolitan's average cost of power.

Treatment Surcharge

Purpose

The Treatment Surcharge recovers all of the costs of providing treatment capacity and operations through a uniform, volumetric rate per acre-foot of treated water transactions.

Implementation

The Treatment Surcharge is charged to all treated water transactions.

Benefits

There are several benefits provided by the treatment surcharge, including that (1) only treated water users pay for the costs of treatment, and (2) by averaging the costs of providing treated water service over the entire system the regional economies of scale are preserved.

Capacity Charge

Purpose

The Capacity Charge recovers the costs incurred to provide peak capacity within the Distribution System. The Capacity Charge also provides a price signal to encourage agencies to reduce peak demands on the Distribution System and to shift demands that occur during the May 1 through September 30 period into the October 1 through April 30 period, resulting in more efficient utilization of Metropolitan's existing infrastructure and deferring capacity expansion costs.

Implementation

Each member agency will pay the Capacity Charge per cubic feet per second (cfs) based on a three-year trailing peak (maximum) day demand, measured in cfs. Each member agency's peak day is likely to occur on different days; therefore this measure approximates peak week demands on Metropolitan.

Benefits

The Capacity Charge provides several benefits including (1) increasing the overall efficiency of water use, (2) improving the fair allocation of costs among member agencies based upon the demand imposed by each agency, and (3) providing a source of fixed revenue.

Readiness-To-Serve Charge (RTS)

Purpose

The RTS recovers the cost of the portion of system that is available to provide emergency service and available capacity during outages and hydrologic variability.

Implementation

The RTS is a fixed charge that is allocated among the member agencies based on a ten-fiscal-year rolling average of firm demands. Water transfers and exchanges are included for purposes of calculating the ten-year rolling average. The SDCWA Exchange Water transactions are excluded from the calculation of the ten-year rolling

average per the terms of the Amended and Restated Agreement between the Metropolitan Water District of Southern California and the San Diego County Water Authority for the Exchange of Water. The Standby Charge is collected at the request of some member agencies that have elected to use the charge as a direct offset to the member agency's RTS obligation.

Benefits

The RTS provides two major benefits, which includes (1) a better matching of costs and benefits, and (2) a SAR that recovers only those costs associated with providing average annual service.

Purchase Order Option

The current rate structure allows member agencies to choose to purchase water from Metropolitan by means of a Purchase Order. Purchase Orders are voluntary agreements that determine the amount of water that a member agency can purchase at the Tier 1 Supply Rate. They allow member agencies to purchase a greater amount of water at the lower Tier 1 Supply Rate than would otherwise be authorized by the Administrative Code. In exchange for the higher Tier 1 Maximum, the member agency commits to purchase a specific amount of water (based on past purchase levels) over the term of the agreement. Such agreements allow member agencies to manage costs and provide Metropolitan with a measure of secure revenue.

In November 2014, the Metropolitan Board approved new Purchase Orders effective January 1, 2015 through December 31, 2024 (the "Purchase Order Term"). Twenty-one of the twenty-six member agencies have Purchase Orders, which commit the member agencies to purchase a minimum amount of supply from Metropolitan (the "Purchase Order Commitment"). The original Purchase Order Commitments were reduced by 10 percent due to the Water Supply Allocation Plan implementation in FY 2015/16.

The key terms of the Purchase Orders include:

- A ten-year term, effective January 1, 2015 through December 31, 2024;
- A higher Tier 1 limit based on the Base Period Demand, determined by the member agency's choice between (1) the Revised Base Firm Demand, which is the highest fiscal year purchases during the 13-year period of fiscal year 1989/90 through fiscal year 2001/02, or (2) the highest year purchases in the most recent 12-year period of fiscal year 2002/03 through 2013/14. The demand base is unique for each member agency, reflecting the use of Metropolitan's system water over time;
- An overall purchase commitment by the member agency equal to the Demand Base period chosen multiplied by ten to reflect the ten-year Purchase Order term. Those agencies choosing the more recent 12-year period may have a higher Tier 1 Maximum and commitment. The commitment is also unique for each member agency.
- The opportunity to reset the Base Period Demand using a five-year rolling average;
- Any obligation to pay the Tier 2 Supply Rate will be calculated over the ten-year period, consistent with the calculation of any Purchase Order commitment obligation; and
- An appeals process for agencies with unmet purchase commitments that will allow each acre-foot of unmet commitment to be reduced by the amount of production from a local resource project that commences operation on or after January 1, 2014.

Member agencies that do not have Purchase Orders in effect are subject to Tier 2 Supply Rates for amounts exceeding 60 percent of their base amount (equal to the member agency's highest fiscal year demand between 1989-90 and 2001-02) annually.

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UNDERSTANDING THE LAYOUT OF THE DEPARTMENTAL BUDGET

DEPARTMENTAL/GROUP BUDGET

The Departmental Section provides detailed information about the Operations and Maintenance (O&M) budget of each group and department and consists of the following:

Mission

Describes, at a high level, the scope of the organization's functions.

Programs

Describes the organizations roles and responsibilities by program or section and provides a summary organizational chart.

Goals & Objectives

Summarizes the goals & objectives each organization proposes to accomplish in the upcoming fiscal years.

O&M Financial Summary

Provides a summary of the organization's O&M budgets. For FY 2022/23 and FY 2023/24, O&M expenditures are identified by expense categories such as salaries and benefits, professional services, and "other" expenditures and incorporate the group objectives.

Expense Category

Category	Description
<i>Salaries and Benefits</i>	Labor costs and fringe benefits for Metropolitan's regular, district temporary, and agency temporary employees. Total salaries and benefits, direct charges to capital, and O&M salaries are shown.
<i>Professional Services</i>	All costs associated with work performed by outside contractors and consultants.
<i>Operating Equipment</i>	Costs associated with the purchase of capitalized portable equipment, including automobiles, trucks, servers, and other applicable portable equipment.
<i>Other</i>	Cost of purchasing chemicals, materials and supplies, reprographics, travel, telephone, and other necessary items for effective operation of Metropolitan. A breakdown has been provided to itemize those expense categories that are five percent or more of the "other" category.

O&M Budget by Section

Provides a summary of the organization's O&M budget and personnel count by section or program.

Personnel Summary

Provides a breakdown for the organization of total personnel involved in O&M and capital work.

Budget Highlights

Identifies the major factors of the budget variance over the biennium as well as any significant changes by budget year.

OFFICE OF THE GENERAL MANAGER

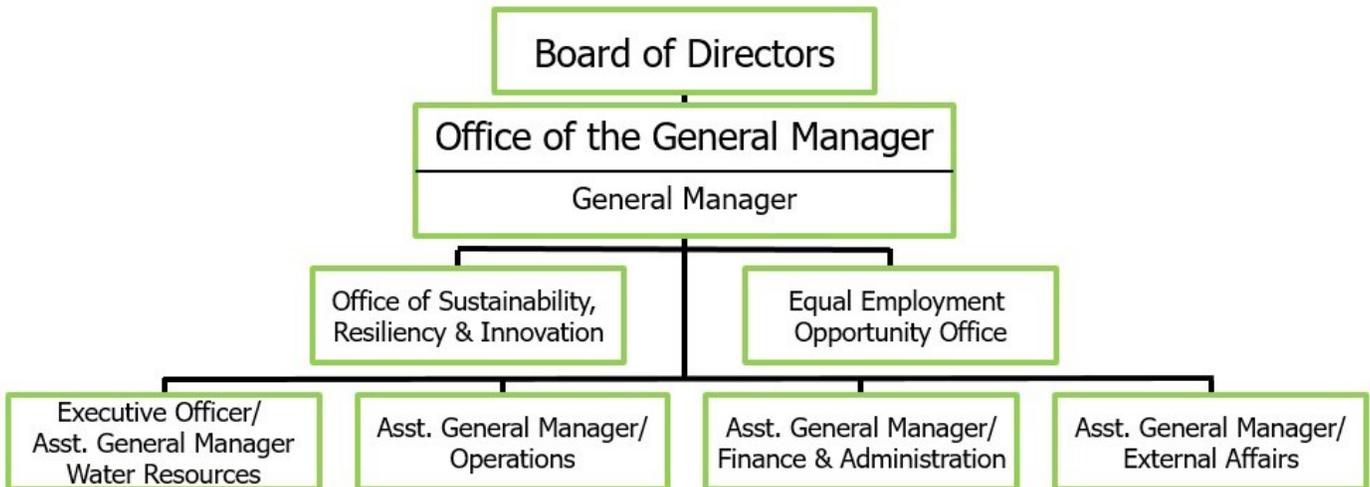
The Office of the General Manager manages and administers all Metropolitan activities except those functions specifically delegated by statutes and Board order to the General Counsel, General Auditor, or Ethics Officer.

PROGRAMS

The Office of the General Manager is responsible for the management and administration of Metropolitan's activities including the management of all matters pertaining to the business of the Board and research on actions and policies of the Board by staff for directors, member agencies, and the public.

The reporting structure of the Office of the General Manager is reflected below.

The Board of Directors provides policy and direction as the governing body of the Metropolitan Water District.



GOALS AND OBJECTIVES

The following strategic priorities in the General Manager's Business Plan reflect the funding emphasis in the budget and highlight items that will be the focus of Board and staff attention over the next two years.

Strategic Priority #1: Empower the Workforce and Promote Diversity, Equity and Inclusion

Establish Office of Diversity, Equity, and Inclusion

Establish Equal Employment Opportunity (EEO) office

Establish Workforce Development Strategies

- Update training curriculum to focus on future challenges
- Pilot program to expand craft training to complement the apprenticeship program
- Coordinate District-wide management forum

Update recruitment strategies and practices

Strategic Priority #2: Sustain Metropolitan's Mission with a Strengthened Business Model

Given the identified challenges before us, document a common understanding of the services needed and value provided to the region

Assess the rate structure based on the identified values and services

Manage rate pressure on Member Agencies

- Secure state and federal funding
- Explore non-rate revenues
- Assess benefits, costs and alternative approaches for major initiatives and projects

Evaluate alternative funding and participation mechanisms for local supply development

Strategic Priority #3: Adapt to Changing Climate and Water Resources

Establish Office of Sustainability, Resiliency, and Innovation

Complete IRP Implementation Plan and Revise Water Surplus and Drought Management Plan to meet short- and long-term water resource objectives

Implement Climate Action Plan to reduce and mitigate emissions and impacts from energy use and other activities

Advance source reliability of major water resources

- Regional Recycled Water Program (per Board consideration)
- Water management guidelines for Colorado River
- Delta Conveyance Project (DCP) planning and permitting
- Advance watershed science and ecosystem restoration
- Increase water use efficiency for all communities and sectors, with a particular emphasis on addressing outdoor use (irrigation and agriculture) and leaking pipes

Strategic Priority #4: Protect Public Health, Regional Economy, and Metropolitan's Assets

Invest in system resilience, with an emphasis on infrastructure reliability and system flexibility (e.g., SWP dependent areas)

Protect water quality from source to tap and prepare for emerging water quality issues

Apply innovation and technology across project lifecycles (design, construction, operations, maintenance, and replacement)

Identify and address system vulnerabilities, such as

- Emergency preparedness and response
- Physical- and cyber-security
- Seismic and other system risks

Strategic Priority #5: Partner with Stakeholders and the Communities We Serve

Strengthen collaboration with member agencies and external stakeholders on public outreach, business, education, conservation and workforce development

Build greater awareness and understanding of underserved communities and engage them in addressing challenges of water quality, infrastructure and affordability

Engage new civic leaders at the local, state and federal levels

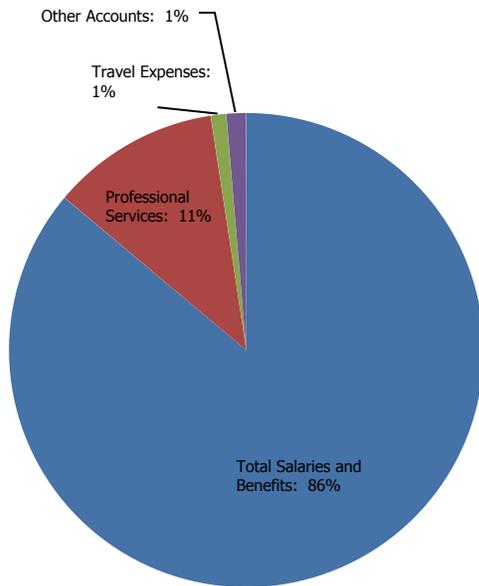
Equip staff to serve as ambassadors for Metropolitan and water reliability throughout the region and state, nationally, and industry-wide

O&M FINANCIAL SUMMARY

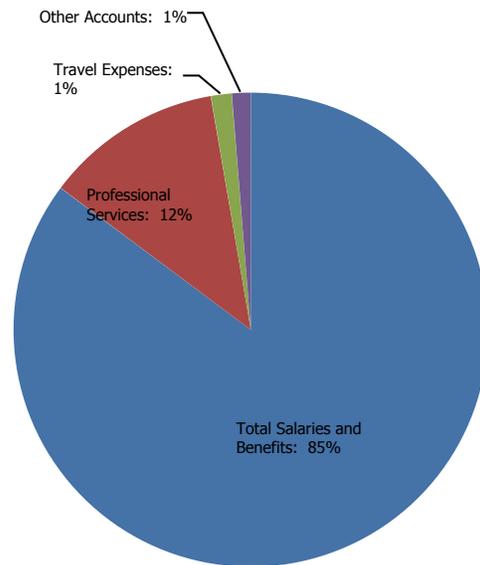
	2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Total Salaries and Benefits	4,768,012	5,269,432	6,744,043	1,474,610	6,970,246	226,204
<i>Direct Charges to Capital</i>	4,768,012	—	—	—	—	—
Total Salaries and Benefits		5,269,432	6,744,043	1,474,610	6,970,246	226,204
% Change	19,762,468.00	10.5%		28.0%		3.4%
Professional Services	38,022	800,000	900,000	100,000	990,000	90,000
Travel Expenses	1,306	101,200	82,835	(18,365)	115,399	32,564
Other Accounts	26,313	98,850	105,200	6,350	105,200	—
Total O&M	5,031,278	6,269,482	7,832,078	1,562,595	8,180,845	348,768
% Change		24.6%		24.9%		4.5%

Totals may not foot due to rounding.

FY 2022/23 BUDGET BY EXPENDITURE



FY 2023/24 BUDGET BY EXPENDITURE



PERSONNEL SUMMARY

		2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Regular	Total	11	13	17	4	17	—
	O&M	11	13	17	4	17	—
	Capital	—	—	—	—	—	—
Temporary	Total	1	—	1	1	1	—
	O&M	1	—	1	1	1	—
	Capital	—	—	—	—	—	—
Total Personnel	Total	12	13	18	5	18	—
	O&M	12	13	18	5	18	—
	Capital	—	—	—	—	—	—

Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

The Office of the General Manager’s O&M Biennial Budget is \$7.8 million in FY 2022/23 and \$8.2 million in FY 2023/24 or an increase of 24.9% and an increase of 4.5% respectively from the prior budget years. The main factors affecting these changes:

- Four positions were transferred in from other groups and one additional district temporary position was added to provide administrative support.
- Salaries and Benefits reflect negotiated labor increases and merit increases for qualified employees.
- Non-labor expenses are increasing by about 21% primarily in the areas of travel and professional services to support additional staff and GM strategic priorities.

The following are the significant changes by budget year:

FY 2022/23

Personnel–related issues

Total personnel count is increasing by 5 FTEs from FY 2021/22. Regular full time positions are increasing by four with the transfer in of 2 positions from Finance, 1 position from WSO and 1 position from WRM. One district temporary position was added to provide administrative support for additional staff.

Salaries and Benefits reflect negotiated labor increases and merit increases for qualified employees.

Professional Services

The budget for professional services is increasing to support GM strategic priorities.

Other

The budget for travel is decreasing in response to expected travel slow down.

FY 2023/24

Personnel-related issues

Total personnel count remains flat with the FY 2022/23 budget.

Salaries and Benefits reflect negotiated labor increases and merit increases for qualified employees.

Professional Services

The budget for professional services is increasing to support GM strategic priorities.

Other

The budget for travel is increasing to support additional staff.

OFFICE OF SUSTAINABILITY, RESILIENCE & INNOVATION

The Office of Sustainability, Resilience & Innovation promotes the successful integration of sustainability, resiliency, and innovation initiatives into all District wide efforts across all departments and with external agencies.

PROGRAMS

Metropolitan’s Office of Sustainability, Resilience and Innovation (SRI) was established in 2021. Initial efforts include planning and preparation for the future through innovative and sustainable solutions in collaboration with key stakeholders. Programs will address environmental and infrastructure issues and address the District’s approach to environmental responsibility and minimize environmental impact of its activities and operations.

The Office of SRI reviews Metropolitan’s planned activities, operational functions, and capital investments to make sure they work toward meeting the goals of reducing Metropolitan’s carbon footprint and complies with the Board-adopted climate action plan.

Environmental Planning (EPS) provides expertise for environmentally responsible decision-making and compliance with environmental laws and regulations. EPS ensures Metropolitan activities comply with the California Environmental Quality Act (CEQA); obtains permits or approvals from federal and state environmental regulatory agencies for Metropolitan activities; and participates in management of Metropolitan reserves and coordination with other non-Metropolitan reserve planning efforts.



GOALS AND OBJECTIVES

In FY 2022/23 and FY 2023/24, the Office of Sustainability, Resilience & Innovation will focus on the following key issues and initiatives:

Development of a comprehensive resiliency and sustainability plan and goals for Metropolitan. These plans will define the baseline of current operations and include clear goals, deliverables and metrics that address reductions in greenhouse gas emissions.

The Office of SRI will monitor SRI work across the region and work to build collaborative relationships within Metropolitan and with external environmental advocacy organizations.

The Environmental Planning section will focus on the following key issues and initiatives:

Support Proposed Delta Improvements

Provide environmental and technical services to support long-term Delta solutions to improve water supply reliability and water quality, and protect and enhance Delta ecosystem and associated species.

Provide technical and regulatory support for Metropolitan's Delta Island holdings.

Support Development of Water Supplies and Management of Water Reserves

Provide planning, California Environmental Quality Act/National Environmental Policy Act (CEQA/NEPA), and regulatory support for development of new water supplies, including continued planning support for the proposed Regional Recycled Water Program.

Prepare CEQA/NEPA and environmental permitting documentation for supplemental water supplies and water conservation measures, including support of Local Resources Programs with member agencies.

Provide strategic environmental compliance input and services to obtain supplemental supplies of water through transfers, banking and innovative crop and land management practices.

Climate Action Planning

Convene Climate Working Group responsible for implementation of Metropolitan's Climate Action Plan that mitigates the significant effects of greenhouse gas (GHG) emissions from Metropolitan projects.

Develop and implement web-based GHG monitoring and reporting tools and establish a monitoring schedule.

Continue collaboration with internal Metropolitan groups to implement GHG reduction strategies and verify reductions realized.

Provide annual Board updates on progress towards meeting CAP goals.

Continue to identify and evaluate new GHG reduction strategies for future updates to ensure Metropolitan is meeting its GHG reduction goal.

Regulatory Compliance

Provide timely and professional planning services and CEQA and regulatory support for all capital and O&M projects in an environmentally responsible manner.

Coordinate biennial inspections and prepare annual reports for Metropolitan's operations in compliance with the provisions of the Surface Mining and Reclamation Act (SMARA). Initiate reclamation of five SMARA sites identified for closure.

Provide environmental monitoring support for Desert O&M activities to support refurbishment or replacement of aging infrastructure and urgent repairs resulting from changing climatic conditions.

Support continued monitoring of populations and habitat of the unarmored threespine stickleback fish in compliance with Metropolitan-sponsored legislation (AB 2488) and long-term Endangered Species Act permits for the inspection and maintenance of the Foothill Feeder.

Represent Metropolitan interests and support preparation of environmental documentation for implementation of new operating guidelines on the Lower Colorado River.

Provide federal and state legislative review and identify bills and regulations that should be supported or opposed based on Metropolitan's legislative priorities and policy principles.

Reserve Management

Manage Metropolitan's four large-scale multi-species reserves and participate in several other regional conservation and multi-species reserve programs. Management of these reserves is required to satisfy regulatory requirements for the continued delivery of imported water and the construction and operation of major O&M and capital projects.

Serve as Metropolitan's representative on the Southwestern Riverside County Multi-Species Reserve Management Committee, administer a reserve management agreement with Riverside County Parks (Parks), and actively manage reserve lands to ensure compliance with state and federal permits and multi-agency cooperative management agreements, including the Memorandum of Intent between Metropolitan, Parks, and other members of the Diamond Valley Lake Ad Hoc Committee.

Facilitate collaboration among Metropolitan, Parks, and the Southwestern Riverside County Multi-Species Reserve Management Committee towards implementation of the Trails Plan and construction of multi-use connecting trails between Diamond Valley Lake and Lake Skinner and between the Reserve and the County's Regional Trail System.

Serve as Metropolitan's representative on the Reserve Management Committee for the Lake Mathews Multiple Species Reserve, administer a reserve management agreement with Riverside County Habitat Conservation Agency, and actively manage Lake Mathews reserve lands to ensure compliance with state and federal permits.

Represent Metropolitan on the Orange County Natural Communities Coalition as voting members of the respective governance committees.

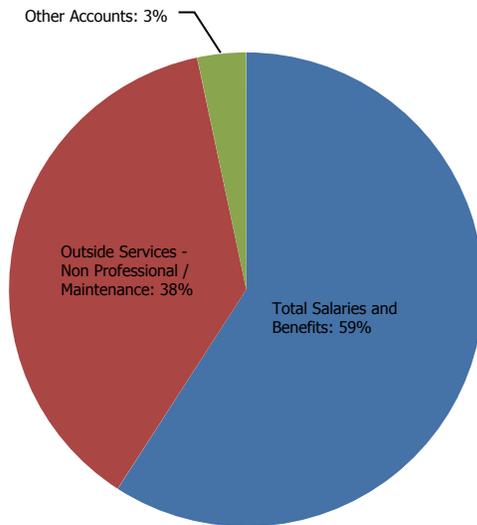
Work collaboratively with Real Property, Engineering Services, and reserve management to facilitate field coordination among stakeholders on issues within the reserves and surrounding areas.

O&M FINANCIAL SUMMARY

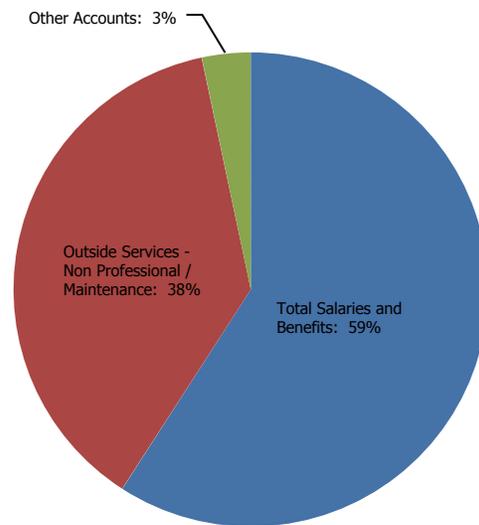
	2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Total Salaries and Benefits	3,983,449	5,596,732	6,722,071	1,125,339	7,032,560	310,489
Direct Charges to Capital	(572,273)	(1,255,572)	(692,774)	562,797	(740,603)	(47,829)
Total Salaries and Benefits	3,411,176	4,341,161	6,029,297	1,688,136	6,291,957	262,660
% Change		27.3%		38.9%		4.4%
Professional Services	1,098,670	2,472,200	3,830,000	1,357,800	2,930,000	(900,000)
Other Accounts	61,568	283,412	338,574	55,162	334,574	(4,000)
Total O&M	4,571,414	7,096,773	10,197,871	3,101,098	9,556,531	(641,340)
% Change		55.2%		43.7%		(6.3%)
Operating Equipment	—	—	99,193	99,193	—	(99,193)
Total O&M and Operating Equipment	4,571,414	7,096,773	10,297,064	3,200,291	9,556,531	(740,533)
% Change		55.2%		45.1%		(7.2%)

Totals may not foot due to rounding.

FY 2022/23 BUDGET BY EXPENDITURE

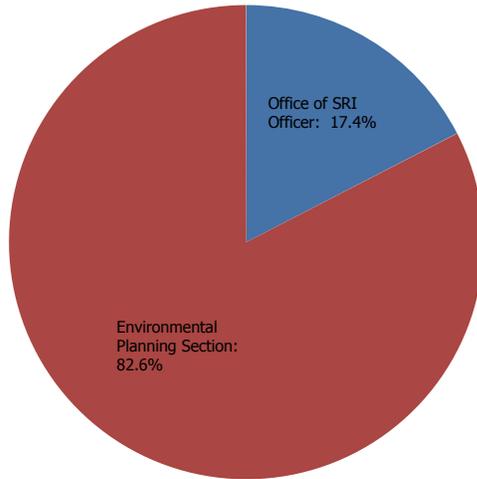


FY 2023/24 BUDGET BY EXPENDITURE

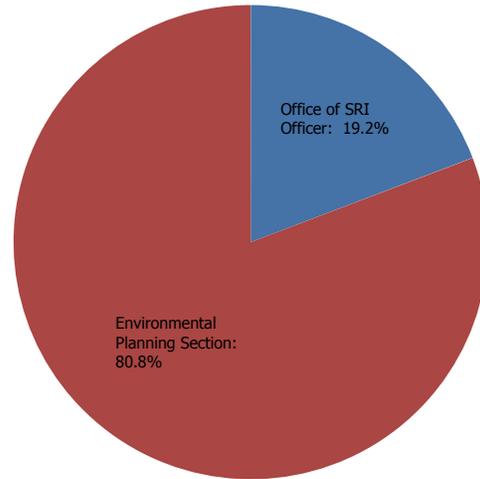


O&M BUDGET BY SECTION

FY 2022/23 BUDGET BY SECTION



FY 2023/24 BUDGET BY SECTION



	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23	Personnel Budget		
						21/22	22/23	23/24
Office of SRI Officer	—	1,777,100	1,777,100	1,837,500	60,400	—	5	5
Environmental Planning Section	7,096,800	8,420,800	1,324,000	7,719,000	(701,800)	15	17	17
Total O&M	7,096,800	10,197,900	3,101,100	9,556,500	(641,300)	15	22	22

Totals may not foot due to rounding.

PERSONNEL SUMMARY

		2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Regular	Total	16	20	25	5	25	—
	O&M	14	15	22	7	22	—
	Capital	2	5	3	(2)	3	—
Temporary	Total	—	—	—	—	—	—
	O&M	—	—	—	—	—	—
	Capital	—	—	—	—	—	—
Total Personnel	Total	16	20	25	5	25	—
	O&M	14	15	22	7	22	—
	Capital	2	5	3	(2)	3	—

Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

The Office of Sustainability, Resilience & Innovation's Biennial Budget is \$10.3 million in FY 2022/23 and \$9.6 million in FY 2023/24 or an increase of 45.1% and a decrease of 7.2% respectively from the prior budget years. The increase is due primarily to the following:

- New Office of SRI Officer includes 2 staff transferred over from External Affairs and 3 new positions requested and professional services to support Office's key issues and initiatives.
- Environmental Planning costs are increasing for more stringent and specialized environmental regulatory oversight services for O&M projects throughout Metropolitan's service area.
- Professional services budget for Environmental Planning is increasing due to anticipated environmental consultant support for large programs requiring complex environmental documentation, including the proposed Regional Recycled Water Program and implementation of new operating guidelines on the Lower Colorado River.

FY 2022/23

Personnel-Related Issues

Total personnel count is increasing by 5 regular full-time positions from the FY 2021/22 budget to support the formation of the Office of the Sustainability, Resilience and Innovation Officer. Regular full-time positions for the Environmental Planning section remain flat with FY 2021/22.

Salaries and benefits reflect negotiated labor increases and merit increases for qualified employees.

Professional Services

Professional services includes budget for New Office of SRI Officer and Environmental Planning consultant support for large programs requiring complex environmental documentation, including the proposed Regional Recycled Water Program and implementation of new operating guidelines on the Lower Colorado River.

Other

Environmental Planning memberships & subscriptions are increasing due to a new CCEEB Climate Change Project annual membership. CCEEB's Climate Change Project is heavily involved in shaping Governor Newsom's policy objectives for electrification and the California Air Resources Board's (CARB's) upcoming 2022 Assembly Bill (AB) 32 Scoping Plan Update. Other accounts increasing include travel, training and conferences as well as materials & supplies to support the new Office of the SRI Officer.

FY 2023/24

Personnel-Related Issues

Total personnel count remains flat with the FY 2022/23 budget.

Salaries and benefits reflect negotiated labor increases and merit increases for qualified employees.

Professional Services

Professional services are decreasing due to a decrease in environmental documentation work required for the proposed Regional Recycled Water Program.

Operating Equipment FY 2022/23 & FY 2023/24

Two vehicles are being requested in FY 2022/23. One of the vehicles is a replacement vehicle that will be used by Environmental Planning section staff at Union Station to travel to proposed project field locations/project sites to conduct environmental surveys, construction & environmental monitoring, site visits, and field coordination, and attend meetings with WSO and other Metropolitan personnel. The second vehicles will be used by Environmental Planning section to conduct environmental surveys, environmental/construction monitoring, site visits, and field coordination and attend field meetings at work locations/project sites along the Colorado River Aqueduct, at Desert pump plant facilities, and along associate electrical transmission lines in the Desert.

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EQUAL EMPLOYMENT OPPORTUNITY OFFICE

The Equal Employment Opportunity Office is responsible for ensuring a work environment free from discrimination for all Metropolitan employees and job applicants.

PROGRAMS

Metropolitan’s Equal Employment Opportunity (EEO) Office was established by the Board in 2021. The EEO Office investigates all EEO complaints and oversees the complaint resolution process to ensure investigations are conducted in a timely, impartial, and independent fashion.

The EEO Officer also directs staff responsible for Affirmative Action, Non-Discrimination and OFCCP

regulatory compliance. The EEO Office develops mitigation policies designed to satisfy complaints and eliminate the possibility of future violations.

The newly established EEO Office should be noted for transparency, impartiality and accountability. The office should be operated independently and free from influence or interference and noted for investigating complaints thoroughly.



GOALS AND OBJECTIVES

In FY 2022/23 the Equal Employment Opportunity Office will focus on the key priorities listed below. Goals will be reviewed and refined for FY 2023/24.

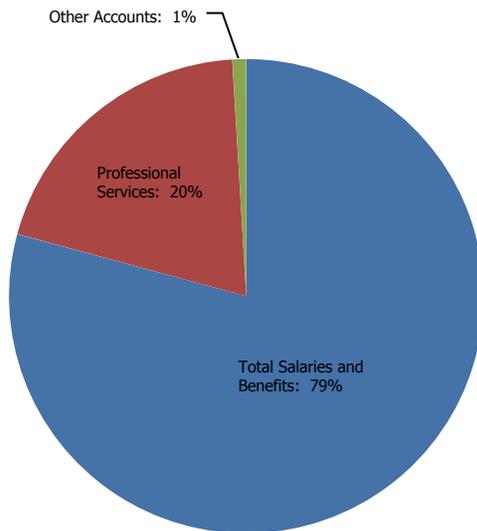
1. Develop a strategic plan and an organizational plan for the newly created EEO Office that is presented to and approved by the Board.
2. Immediately establish the EEO Office in accordance with the approved strategic and organization plan.
3. Oversee the elimination of the backlog of EEO cases and establish new standards for adjudication reducing cycle time.
4. Within the first 6-12 months receive approval and publish new EEO policies and practices to ensure a discrimination free work environment; include a training plan for all employees of Metropolitan.

O&M FINANCIAL SUMMARY

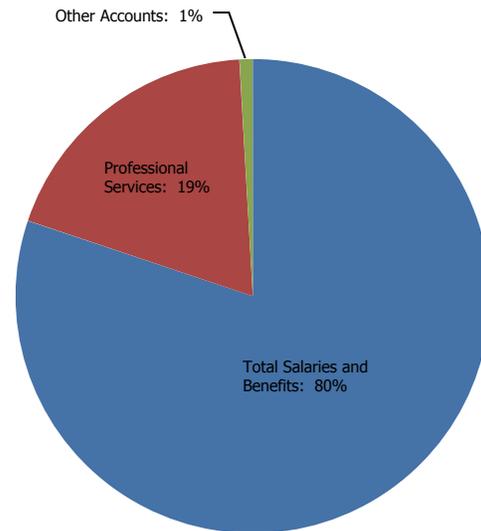
	2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Total Salaries and Benefits	—	—	1,597,156	1,597,156	1,692,893	95,737
<i>Direct Charges to Capital</i>	—	—	—	—	—	—
Total Salaries and Benefits	—	—	1,597,156	1,597,156	1,692,893	95,737
% Change		0.0%		100.0%		6.0%
Professional Services	—	—	400,000	400,000	400,000	—
Other Accounts	—	—	18,820	18,820	18,820	—
Total O&M	—	—	2,015,976	2,015,976	2,111,713	95,737
% Change		0.0%		100.0%		4.7%

Totals may not foot due to rounding.

FY 2022/23 BUDGET BY EXPENDITURE



FY 2023/24 BUDGET BY EXPENDITURE



PERSONNEL SUMMARY

		2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Regular	Total	0	0	6	6	6	—
	O&M	0	0	6	6	6	—
	Capital	—	—	—	—	—	—
Temporary	Total	—	—	—	—	—	—
	O&M	—	—	—	—	—	—
	Capital	—	—	—	—	—	—
Total Personnel	Total	0	0	6	6	6	—
	O&M	0	0	6	6	6	—
	Capital	—	—	—	—	—	—

Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

The Equal Employment Opportunity Office’s Biennial Budget is \$2.0 million in FY 2022/23 and \$2.1 million in FY 2023/24 or an increase of 100.0% and an increase of 4.7% respectively from the prior budget years. The increase is due primarily to the following:

- New EEO Office includes 3 staff transferred over from Office of the General Manager and HR and 3 new positions requested.
- Professional services to support Office's key issues and initiatives.

FY 2022/23

Personnel-Related Issues

Total personnel count is increasing by 6 regular full-time positions from the FY 2021/22 budget to support the formation of the EEO Office.

Salaries and benefits reflect negotiated labor increases and merit increases for qualified employees.

Professional Services

Professional services support Office's key issues and initiatives.

Other

Other accounts includes materials & supplies, travel and other expenses necessary to support the EEO Office.

FY 2023/24

Personnel-Related Issues

Total personnel count remains flat with the FY 2022/23 budget.

Salaries and benefits reflect negotiated labor increases and merit increases for qualified employees.

Professional Services

Professional services remain flat with the FY 2023/24 budget.

Other

Other accounts remains flat with the FY 2022/23 budget.

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ENGINEERING SERVICES

Engineering Services provides innovative solutions that exceed our partners' expectations as the public-sector's leader for water engineering.

PROGRAMS

Engineering Services performs project management, design, construction management, infrastructure condition assessments, and facility planning; manages Metropolitan's Capital Investment Plan (CIP); and provides on-going operations and maintenance support to other stakeholders and partners within the organization.

Engineering Services accomplishes its mission through the following programs or services to our strategic partners:

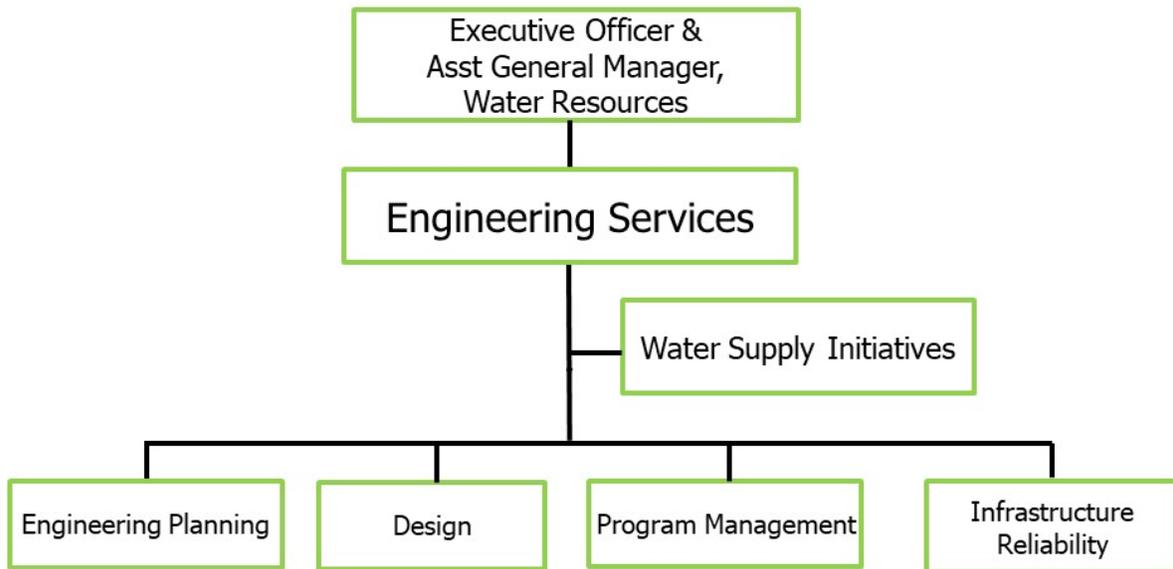
Office of the Group Manager oversees the management of the Engineering Services group by providing strategic leadership on engineering initiatives and core business efforts, to ensure the continued reliability and quality of water deliveries and the safety of Metropolitan's dams. The office also provides technical support for special initiatives including Metropolitan's Regional Recycled Water Program and the Delta conveyance.

Engineering Planning is responsible for the functions of facility planning, dam safety, hydraulic analysis, hydraulic modeling, protection of Metropolitan's substructures, construction contract administration, technical control and oversight of engineering standards, capital project support, business process management and budgeting, and management of Metropolitan's CIP.

Design is responsible for the preparation of technical assessments, conceptual and preliminary designs for new facilities and for rehabilitation of existing facilities, final design drawings and specifications for construction, and technical support during the construction, commissioning, and operation of facilities. Design provides engineering support to support Metropolitan's operations. Design is also responsible for Engineering Services' design technology and Computer Aided Design System (CAD) Electronic Drafting and Design platforms.

Program Management is responsible for the overall planning and delivery of both capital and O&M projects for treatment plants, distribution, conveyance and storage systems, and the Regional Recycled Water Program; and serves as Metropolitan's Owner's Engineer.

Infrastructure Reliability is responsible for the management of construction and procurement contracts, field inspection, soils and concrete testing, and fabrication inspection; field surveying, survey mapping, and protection of right-of-way and property rights; and infrastructure condition assessments, corrosion engineering, and materials engineering.



GOALS AND OBJECTIVES

In FY 2022/23 and FY 2023/24, Engineering Services will focus on the following key areas:

Delta Conveyance

Continue supporting the ongoing activities of the Design and Construction Authority Joint Powers Authority by providing as-needed project management and technical support for the work activities related to the Delta conveyance facilities.

Regional Recycled Water

Provide program management and leadership for development of Metropolitan’s Regional Recycled Water Program during the environmental planning phase for the full-scale program in the form of program planning, technical studies, budgeting and collaboration with internal and external program participants and stakeholders.

Successfully perform engineering and technical studies to plan and manage modifications to the Advanced Purification Demonstration Plant. Continue to support opportunities to collaborate with other agencies to enhance local water supplies.

Dam Safety

Ensure the safe and reliable operation of Metropolitan’s dams and reservoirs through regular dam inspections and extensive surveillance, comprehensive evaluations of existing dams and appurtenant structures using current design standards, thorough review and inspection of major repair work, and careful planning and coordination of emergency action plans with local agencies. New dam safety initiatives include upgrading instrumentation and use of technology to obtain and present instrumentation results in real-time.

Drought Resilience

Identify, develop and implement solutions to address drought’s impact on Metropolitan’s ability to deliver water to its member agencies. Initial focus will be on projects to increase supply reliability to portions of Metropolitan’s system that exclusively receive State Water Project supplies.

Infrastructure Reliability

Manage and complete board–authorized projects within the CIP to ensure the reliable delivery of water to Metropolitan’s member agencies.

Provide engineering and technical services to support the operation and maintenance of Metropolitan’s water conveyance, delivery, treatment, and support facilities.

Protect public safety, minimize future costs of infrastructure maintenance and repairs, and avoid unplanned outages by monitoring Metropolitan’s facilities and right-of-way, performing essential technical assessments, and implementing modern asset management methods.

CIP Management

Execute capital projects to rehabilitate aging infrastructure, enhance seismic resiliency of key Metropolitan facilities, and maintain system flexibility. High priority programs that will continue during the biennium include the Distribution System Reliability Program and CRA Rehabilitation.

Manage Metropolitan’s overall CIP. Coordinate with stakeholders to prioritize project completion and develop asset-management tools. Provide regular updates on projected expenditures to finance and prepare informative quarterly reports illustrating progress on capital projects.

Partner with Water System Operations and other stakeholders to prioritize capital projects to address Metropolitan’s short-term needs and long-term objectives, and optimize utilization of internal and external resources.

Continue to identify and implement improvements in project delivery.

Distribution System Reliability

Complete construction of the Orange County Feeder Relining, Etiwanda Pipeline Relining, and Casa Loma Siphon No. 1 Seismic Retrofit. Continue design for the Lake Mathews Forebay Pressure Control Structure and water reliability improvements for the Rialto Pipeline service area.

CRA Rehabilitation

Continue construction to rehabilitate pump house cranes and CRA domestic water treatment systems at all five plants. Complete design to upgrade potable water, industrial water and wastewater lines and replace transformers at each of the five CRA pumping plants. Continue design to rehabilitate the CRA main pumps.

Asset Management

Provide comprehensive engineering support to implement Metropolitan’s Asset Management Strategy to effectively develop, operate, assess, upgrade, and dispose Metropolitan assets through the entire lifecycle. This effort will establish a consistent and unified framework for condition assessment and risk management, develop tools to facilitate the process, and prioritize asset acquisition, replacement, and rehabilitation to build a reliable infrastructure that is sustainable and resilient.

Hazard Mitigation Planning and Grant Funding

Develop a comprehensive Hazard Mitigation Plan to assess the overall risk of Metropolitan’s infrastructure to damage caused by natural hazards (e.g., seismic, fire, flooding, climate change), and use the plan as the basis to develop mitigation projects and actions. Based on the Hazard Mitigation Plan approved by the state and federal agencies, staff will research, pursue, administer, and manage state and federal grants and loans to implement the identified mitigation projects and actions. Potential projects include Regional Recycled Water Program, drought-related improvements, seismic upgrade projects and measures to improve system flexibility.

Sustainability and Innovation

Develop strategies for, and identify opportunities to implement sustainable energy practices in CIP projects. Key focus areas include renewable energy, energy storage such as battery storage systems, energy efficiency improvements, optimization of water operations, and greenhouse gas reductions. Collaborate with Metropolitan's new Sustainability, Resiliency, and Innovation office.

Develop a sustainable infrastructure program within Engineering Services and take concrete steps to implement sustainable practices early in the planning and design phases of projects, while continuing to leverage technologies to facilitate optimal project delivery and engineering processes in addition to preserving institutional knowledge and achieving efficiencies.

System Flexibility

In response to the updated IRP, conduct a system flexibility study to evaluate the impact of outages on water delivery to member agencies and identify opportunities for system improvements and interconnections to increase resilience and improve flexibility. The study will also address impacts on the system due to seismic vulnerabilities and develop mitigation measures.

Employee Development

Develop a workforce for the future by actively maintaining and leading workforce development and succession planning activities to develop and maintain technical expertise and skills needed in the future to ensure infrastructure reliability, meet regulations, respond to emergencies, and support Metropolitan initiatives.

Empower employees to optimize procedures for routine activities and develop innovative solutions to address Metropolitan's challenges.

Actively foster open discussions to enhance workplace diversity, equity, and inclusion.

Partnership and Collaboration

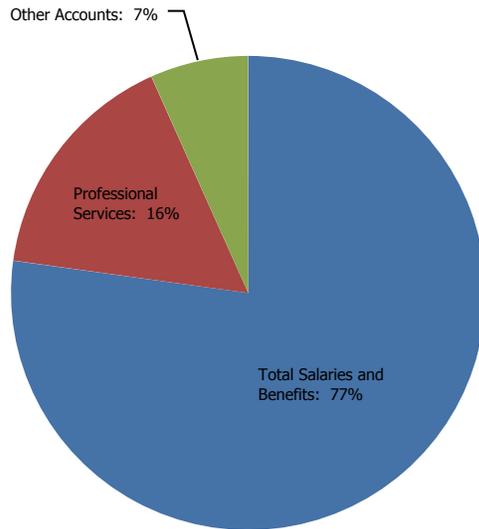
Lead ongoing communications and new initiatives to enhance partnership and collaboration between Engineering Services and WSO, to provide the best practical solutions for Metropolitan.

O&M FINANCIAL SUMMARY

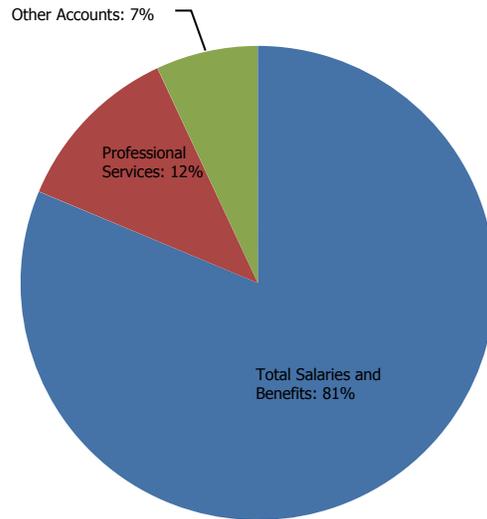
	2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Total Salaries and Benefits	83,468,039	91,723,905	90,258,904	(1,465,001)	93,663,283	3,404,379
Direct Charges to Capital	(48,576,315)	(53,066,641)	(52,710,975)	355,666	(54,748,944)	(2,037,969)
Total Salaries and Benefits	34,891,724	38,657,264	37,547,929	(1,109,335)	38,914,338	1,366,410
% Change		10.8%		(2.9%)		3.6%
Materials & Supplies	659,369	769,700	1,193,700	424,000	1,237,000	43,300
Professional Services	2,519,415	8,040,300	7,845,737	(194,563)	5,617,400	(2,228,337)
Taxes & Permits	508,055	957,000	957,000	—	957,000	0
Other Accounts	1,116,539	920,900	1,105,400	184,500	1,134,419	29,019
Total O&M	39,695,101	49,345,164	48,649,766	(695,398)	47,860,157	(789,608)
% Change		24.3%		(1.4%)		(1.6%)
Operating Equipment	609,403	569,800	752,436	182,636	544,112	(208,324)
Total O&M and Operating Equipment	40,304,504	49,914,964	49,402,202	(512,762)	48,404,270	(997,933)
% Change		23.8%		(1.0%)		(2.0%)

Totals may not foot due to rounding.

FY 2022/23 BUDGET BY EXPENDITURE

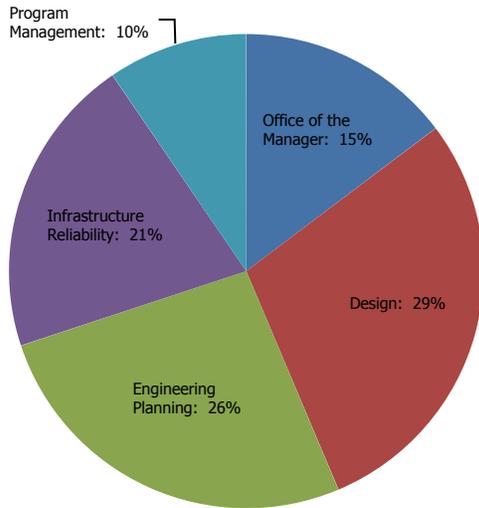


FY 2023/24 BUDGET BY EXPENDITURE

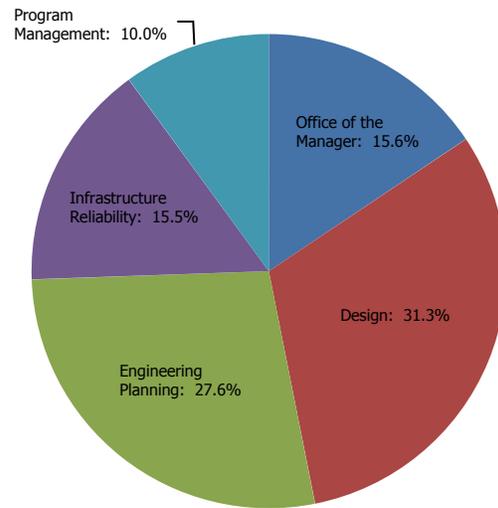


O&M BUDGET BY SECTION

FY 2022/23 BUDGET BY SECTION



FY 2023/24 BUDGET BY SECTION



	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23	Personnel Budget		
						21/22	22/23	23/24
Office of the Manager	6,590,300	7,162,100	571,800	7,472,600	310,500	20	25	25
Design	11,805,100	14,076,900	2,271,800	14,963,700	886,800	42	44	44
Engineering Planning	12,634,900	12,783,300	148,500	13,197,000	413,700	51	51	51
Infrastructure Reliability	14,535,700	9,992,200	(4,543,400)	7,426,900	(2,565,400)	12	10	10
Program Management	3,779,200	4,635,200	856,000	4,800,000	164,800	13	16	16
Total O&M	49,345,200	48,649,800	(695,400)	47,860,200	(789,600)	139	146	146

Totals may not foot due to rounding.

PERSONNEL SUMMARY

		2020/21	2021/22	2022/23	Change from	2023/24	Change from
		Actual	Budget	Budget	2021/22	Budget	2022/23
Regular	Total	338	355	355	—	355	—
	O&M	139	139	146	7	146	—
	Capital	199	217	209	(7)	209	—
Temporary	Total	1	—	—	—	—	—
	O&M	—	—	—	—	—	—
	Capital	1	—	—	—	—	—
Total Personnel	Total	339	355	355	—	355	—
	O&M	139	139	146	7	146	—
	Capital	200	217	209	(7)	209	—

Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

Engineering Services' O&M and Operating Equipment Biennial Budget is \$49.4 million in FY 2022/23 and \$48.4 million in FY 2023/24 or a decrease of 1.0% and a decrease of 2.0%, respectively from the prior year budgets. These decreases are primarily due to the following factors:

- Salaries and benefits reflect a vacancy factor savings.
- Professional services reflect budget reductions for specialized technical support for the environmental planning phase of the RRWP, Bay Delta efforts, and long-term planning efforts for facility planning (e.g., seismic resilience; vulnerability, reliability and flexibility studies; hazard mitigation planning; etc.), and innovation and sustainability efforts.

The following are the significant changes by budget year:

FY 2022/23

Personnel–Related Issues

Total personnel levels remain flat at 355 individuals which is consistent with the previous fiscal year. However, the O&M and capital staffing complement differs from the FY 2021/22 budget. This change is primarily due to increased support for the environmental planning phase of the RRWP and innovation and sustainability initiatives, thereby resulting in a shift of staff from capital work to O&M in FY 2022/23.

Planned capital spending for FY 2022/23 is estimated to increase by \$50 million with a district-wide capital budget estimated to be approximately \$300 million (see details in CIP Appendix). Planned spending reflects project budgets and schedules to meet Metropolitan's overall biennial budgetary goals. High priority programs that will continue during the fiscal year include the System Flexibility/Supply Reliability Program, which includes drought projects; the Prestressed Concrete Cylinder Pipe (PCCP) Rehabilitation Program; the Colorado River Aqueduct (CRA) Reliability Program; the Distribution System Reliability Program; and the Right of Way and Infrastructure Protection Program.

Salaries & Benefits

Salaries and benefits reflect a vacancy factor savings to the labor budget.

Professional Services

The budget primarily reflects a decrease in the level of support for the environmental planning phase of the RRWP, the Bay Delta design efforts, and long-term facility planning efforts including seismic resilience, hazard mitigation, and system vulnerability, reliability, and flexibility support.

Materials and Supplies

The budget reflects an increase in software licenses and maintenance costs (e.g., Bentley ProjectWise), the addition of new softwares (e.g., BIM, InVizion), and upgrade to existing softwares (e.g., Bluebeam, Adobe Acrobat).

Other

Other non-labor budgets reflect replacement and upgrades to field equipment (e.g., gauges, survey levels, meters and monitors), increases in telecommunication and iPad costs, and increasing costs for various county fees (e.g., survey mapping reviews, parcel and record of survey).

FY 2023/24

Personnel-related issues

Total personnel count remains flat at 355 individuals from FY 2022/23.

Planned capital spending for FY 2023/24 will remain steady with a district-wide capital budget estimated to be approximately \$300 million (see details in CIP Appendix).

Salaries & Benefits

Salaries and benefits reflect negotiated labor increases and merit increases for qualified employees.

Professional Services

The budget primarily reflects a decrease in level of support for the environmental planning phase of the RRWP.

Materials and Supplies

The budget reflects an increase in software maintenance fees.

Other

The budget reflects technical training planned for RRWP staff; conference participation by staff, especially showcasing technical papers and presentations; and anticipated increases for the Underground Service Alert.

Operating Equipment – FY 2022/23 and FY 2023/24

The operating equipment budget reflects an increase in FY 2022/23 from the prior budget year primarily due to the replacement of aging vehicles, and various equipment for corrosion engineering. In FY 2023/24, the budget reflects ongoing replacement of aging vehicles.

WATER RESOURCE MANAGEMENT

Water Resource Management (WRM) plans, secures, and manages water resources to provide its member agencies with a reliable, cost-effective, and drought and climate-resilient water supply.

PROGRAMS

Water Resource Management manages imported water supplies; advances water-use efficiency; provides supply and demand forecasts foundational for long-term resource planning; and develops and implements timely resource programs and projects.

In addition, Water Resource Management assists member agencies in optimizing local resources to benefit the entire Metropolitan service area, and ensures Metropolitan receives a fair return on contractual investments in local and imported resources.

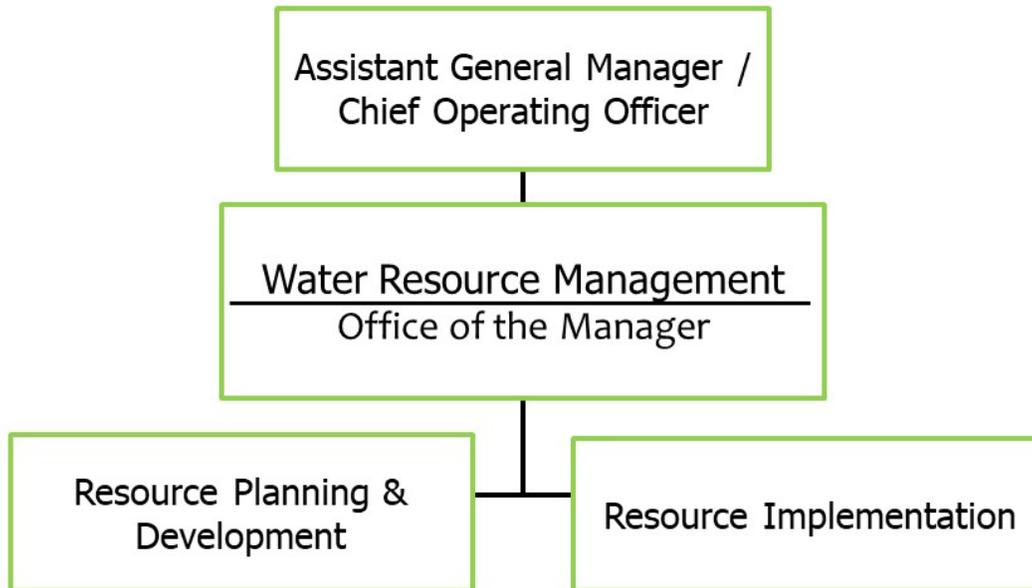
Water Resource Management accomplishes its mission through the following programs or sections:

Office of the Manager directs the group's efforts in planning, securing, and managing Metropolitan's water resources; monitors and tracks the group's business plan, financial and budgetary initiatives; and provides administrative and business process support.

Resource Planning & Development is responsible for providing technical and policy planning that will meet the needs of member agencies. Integrated water supply and demand planning reflects long-range planning efforts for local supplies and sets the foundation for Metropolitan's resource investments and programs needed to meet demands. This section supports the

development of resource programs, projects, and infrastructure to meet projected resource targets; administers regional planning processes; defines strategies for meeting service area water needs, including the Integrated Water Resources Plan (IRP), Water Surplus and Drought Management (WSDM) plan and Urban Water Management Plan (UWMP); and develops resource options, such as groundwater conjunctive use, regional recycling, stormwater and seawater desalination; as well as alternatives for short-range planning and implementation through joint action with Water System Operations.

Resource Implementation develops and administers water resource programs and contracts, and pursues application of new technologies and innovations. These activities focus on the Colorado River, State Water Project, water transfers, water recycling, groundwater recovery, and water conservation for the region. The Resource Implementation Section also monitors and responds to regulatory, legislative, and operational activities that may influence Metropolitan's water rights and benefits related to the quality, reliability and cost of water.



GOALS AND OBJECTIVES

In FY 2022/23 and FY 2023/24, WRM will focus on the following key issues:

Colorado River

Actively participate in negotiations of Colorado River system operations.

Protect Colorado River resources, Metropolitan’s Colorado River rights, and optimize the use of available Colorado River water.

Participate in the Colorado River Salinity Control Forum and facilitate salinity management projects and other actions that protect and improve source water quality.

Partner with other Colorado River water delivery contractors to develop new Metropolitan supplies, including interstate and international water supply programs.

Administer Imperial Irrigation District (IID), Palo Verde Irrigation District (PVID), and proposed Bard Irrigation District agricultural conservation programs.

Work with representatives of the International Boundary and Water Commission and United States Bureau of Reclamation (USBR) to continue implementation of Minute 323 and coordinate emergency deliveries for Tijuana.

Administer contracts with Colorado River entities to make full use of Metropolitan’s supplies developed from Colorado River resources. Manage intentionally created surplus supplies to ensure maximum benefit to Metropolitan.

Develop strategies and tools for managing agricultural land holdings in the Palo Verde Valley.

Groundwater Storage Program

Manage nine approved conjunctive use programs to store water for dry-year yield.

Facilitate dialogue among agencies in groundwater management, recycled water production, and stormwater and flood management to enhance groundwater basin recharge.

Legislative Review

Continue to review and provide comments and inform member agencies on proposed state and federal legislation on water resources issues related to Metropolitan's mission and WRM functions.

Regional Resources and Water Conservation

Actively participate in the development of water use objectives and water shortage assessments as part of California's Conservation as a Way of Life legislative package.

Pursue grant funding to supplement implementation of regional water conservation program initiatives.

Participate in local, state, and national activities leading to expanded use of recycled water and increased water-use efficiency.

Administer agreements that provide incentives for conservation, recycled water, recovered groundwater production, and support development of local resource development projects.

Conduct and fund research to advance local supply development and conservation program effectiveness.

Administer the Future Supply Actions Funding program to remove barriers to local supply production.

Implement stormwater pilot programs with the member agencies to evaluate Metropolitan's participation in stormwater projects.

Develop programs to improve water conservation in disadvantaged communities.

Seawater Desalination

Continue to support member agency development efforts and actively participate in CalDesal regulatory and legislative initiatives.

State Water Project

Closely coordinate with DWR to respond to current severe drought and to improve the reliability of the SWP.

Coordinate implementation of SWP contract amendments including the SWP contract extension, water management amendment and proposed Delta conveyance facility amendment. These contract amendments will ensure a long-term supply, and effective water management tools to manage the supply and reliability into the future.

Ensure accurate billings and influence sound financial decisions by DWR, including effective DWR energy management practices with regard to renewable energy, emissions reductions, transmission strategies, and energy acquisitions.

Continue to identify and resolve disputed charges related to annual SWP billings.

Protect SWP water, power, and financial positions under the Oroville Federal Energy Regulatory Commission (FERC) relicensing process as well as associated litigation and upcoming FERC relicensing and several DWR facilities in Southern California.

Coordinate and influence decisions for major facility rehabilitations and SWP capital projects to ensure cost-effective and reliable water supply, energy generation, and use.

Promote water quality monitoring and forecasting activities through the Municipal Water Quality Investigations program and raise awareness of potential water quality impacts from operational decisions.

Water Supply and System Planning

Based on the Board-adopted findings of the 2020 IRP Regional Needs Assessment, collaboratively engage with the member agencies and stakeholders to develop and complete the IRP implementation plan.

Develop Metropolitan's long-term water resources strategy. to respond to the IRP Regional Needs Assessment and Severe Drought Assessment on the State Water Project.

Complete the annual reports on Metropolitan's achievements in conservation, recycling, and groundwater recharge and Annual Water Supply Assessment.

Complete the annual forecast of Metropolitan demands to support revenue requirements and budget process.

Develop a comprehensive analysis of Metropolitan's distribution system. Identify potential spatial constraints and system improvements to reliably deliver water to member agencies during peak demands, drought, and emergency conditions.

Update emergency storage objective for in-basin protection from earthquake or other outage with information from IRP needs assessment.

Continue to develop the Regional Recycled Water Program to increase water reuse and enhance opportunities for groundwater recharge within Metropolitan's service area.

Upgrade and enhance planning tools, such as computer models for demand forecasting, resource program evaluation, and distribution system.

Participate in state water/energy nexus processes and data access initiatives.

Continue to collaborate with various agencies and stakeholders in statewide and regional water resource planning efforts, such as the California Water Plan Updates and the Integrated Regional Water Management Plans.

Continue work with the Water Utility Climate Alliance to perform case studies on climate data applications to water resources planning.

Continue to administer agreements in the area of supply development including Future Supply Actions and Stormwater for Recharge Pilot.

Water Transfers, Exchanges, and Storage Programs

Continue to manage existing water transfer, exchange, and storage programs along the California Aqueduct and Colorado River Aqueduct.

Continue to evaluate the need for additional reliability by either developing new programs or modifying existing programs. Pursue additional water transfers, exchanges, and storage programs as needed.

Work with other State Water Contractors on a long-term water transfer permitting process.

Workforce Development & Succession Planning

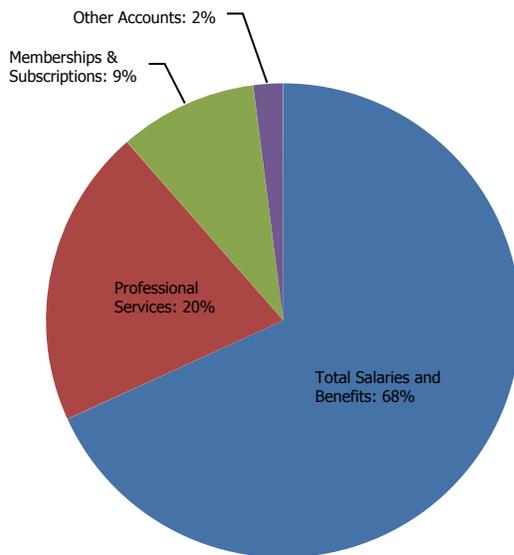
Continue to develop staff expertise in critical areas to prepare for employee retirements or departures.

O&M FINANCIAL SUMMARY

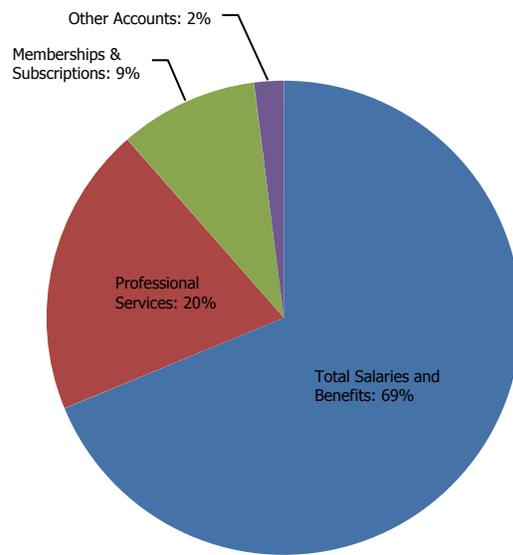
	2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Total Salaries and Benefits	16,408,582	17,823,670	17,073,097	(750,573)	17,789,924	716,828
<i>Direct Charges to Capital</i>	<i>(3,122)</i>	—	—	—	—	—
Total Salaries and Benefits	16,405,460	17,823,670	17,073,097	(750,573)	17,789,924	716,828
% Change		8.6%		(4.2%)		4.2%
Memberships & Subscriptions	4,465,373	5,069,647	5,106,239	36,592	5,116,436	10,197
Professional Services	1,663,857	2,012,500	2,352,800	340,300	2,442,600	89,800
Other Accounts	140,930	440,415	509,522	69,107	521,179	11,657
Total O&M	22,675,620	25,346,232	25,041,658	(304,574)	25,870,139	828,482
% Change		11.8%		(1.2%)		3.3%

Totals may not foot due to rounding.

FY 2022/23 BUDGET BY EXPENDITURE

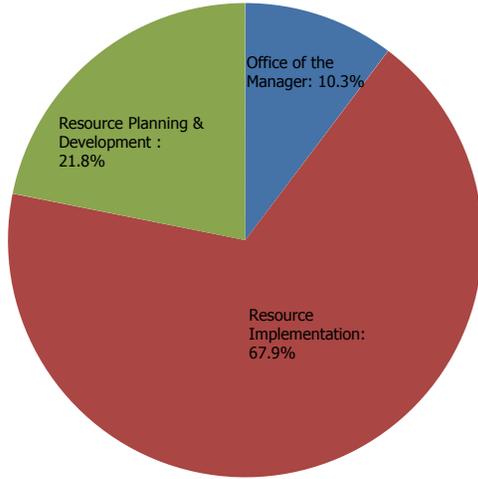


FY 2023/24 BUDGET BY EXPENDITURE

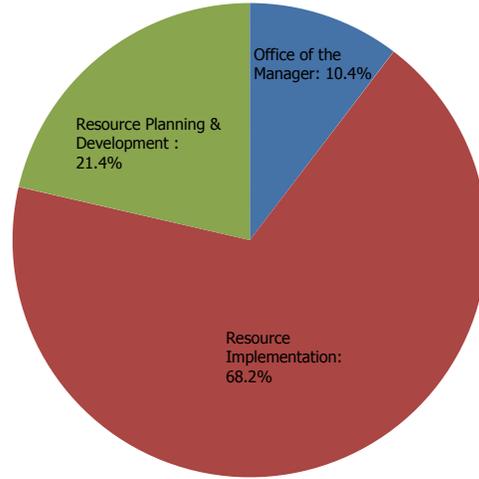


O&M BUDGET BY SECTION

FY 2022/23 BUDGET BY SECTION



FY 2023/24 BUDGET BY SECTION



	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23	Personnel Budget		
						21/22	22/23	23/24
Office of the Manager	2,818,400	2,577,200	(241,200)	2,683,800	106,600	12	11	11
Resource Implementation	17,202,600	16,993,000	(209,600)	17,655,600	662,700	41	43	43
Resource Planning & Development	5,325,200	5,471,500	146,300	5,530,800	59,300	18	17	17
Total O&M	25,346,200	25,041,700	(304,600)	25,870,100	828,500	70	71	71

Totals may not foot due to rounding.

PERSONNEL SUMMARY

		2020/21	2021/22	2022/23	Change from	2023/24	Change from
		Actual	Budget	Budget	2021/22	Budget	2022/23
Regular	Total	63	68	68	—	68	—
	O&M	63	68	68	—	68	—
	Capital	—	—	—	—	—	—
Temporary	Total	1	2	3	1	3	—
	O&M	1	2	3	1	3	—
	Capital	—	—	—	—	—	—
Total Personnel	Total	64	70	71	1	71	—
	O&M	64	70	71	1	71	—
	Capital	—	—	—	—	—	—

Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

WRM's Biennial Budget is \$25.0 million in FY 2022/23 and \$25.9 million in FY 2023/24 or an decrease of 1.2% and an increase of 3.3%, respectively from the prior budget years. The main factors affecting these changes:

- The decrease in salaries and benefits in FY 2022/23 assists in the offset of the increases in Professional Services, Memberships and Subscriptions, and Sponsorships in the same year, as detailed below.
- The 3.3% total O&M budget increase in FY 2023/24 is due to salaries and benefits.

The following are the significant changes by budget year:

FY 2022/23

Personnel–Related Issues

Regular full time positions remain flat. District temporary positions are increasing by one FTE to assist with records management, document offsite recording and storage, as well as processing of invoices and process documentation.

Salaries and benefits reflect negotiated labor increases and merit increases for qualified employees. These increases are offset by vacancies filled at lower level job classifications.

Professional Services

The budget reflects an increase for critical IRP Sims Software updating in support of the IRP, consulting for One Water Implementation, critical SharePoint workflow updates, as well as scheduled fee increases to current agreements.

Memberships and Subscriptions

The budget is increasing as the result of the Water Utility Climate Alliance (WUCA) membership and the membership for the California Water Data Consortium.

Other

The budget reflects an increase in sponsorships for the Board requested California Resilience Challenge, offset by an anticipated reduction in travel, training and seminars, and conferences and meetings.

FY 2023/24

Personnel–Related Issues

Personnel count remains flat.

Salaries and benefits reflect negotiated labor increases and merit increases for qualified employees.

Professional Services

Budget reflects slight increase due to Remote Sensing Crop Water Model.

Memberships and Subscriptions

The budget reflects an inflationary increase for WaterReuse and Six Agency dues.

Other

The budget reflects a 5% decrease in Materials and Supplies and an 18% increase in Travel expenses due to the expectation of business travel returning to pre-pandemic levels.

BAY DELTA INITIATIVES

Bay Delta Initiatives advances Delta improvements and the pursuit of the best scientific research to protect and restore fish, wildlife, and the Delta's ecosystem to ensure water supply reliability.

PROGRAMS

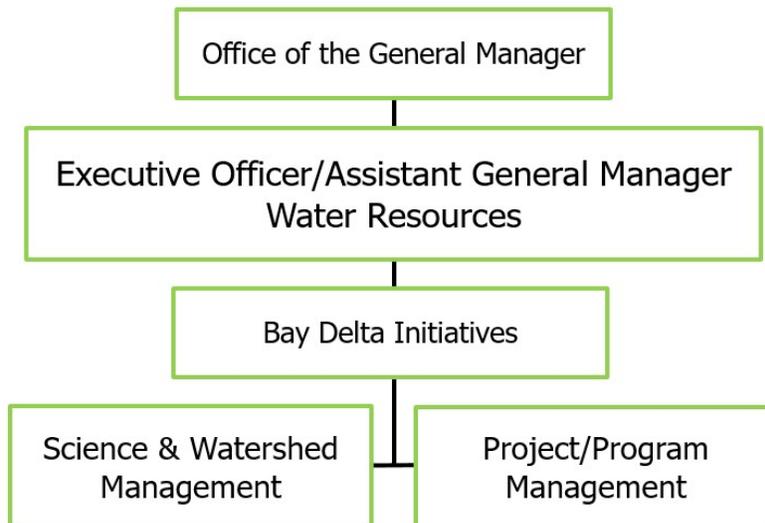
Bay Delta Initiatives (BDI) spearheads efforts toward advancement of the State's Proposed Delta Improvements, including the Delta Conveyance Project and EcoRestore and the pursuit of scientific research to protect and restore fish, wildlife, and the Delta's ecosystem while ensuring water supply reliability.

[Office of the Bay Delta Initiatives Manager](#) includes the Science and Watershed Management Section and Project/Program Management Section. BDI's Manager provides strategic leadership by ensuring the implementation of the organization's core business efforts and strategic objectives.

[Science & Watershed Management Section](#) is responsible for management of BDI's science program, support activities within Bay-Delta's watershed, continue engagement with the

planning process for the proposed Delta Conveyance Project including the Delta Conveyance Design and Construction Authority (DCA), Finance Joint Powers Authority, Department of Water Resources (DWR), and the State Water Contractors and policy/regulatory support.

[Project/Program Management Section](#) leads the implementation of strategic planning on Metropolitan's Delta Islands future land use including identifying habitat opportunities, sustainable agriculture and ecosystem health and restoration, participates in the planning process for the proposed Sites reservoir, manages the organization's budget and financial reporting, contract administration and general administration, and provides oversight of business plans, monthly reports, annual report, and board support.



GOALS AND OBJECTIVES

In FY 2022/23 and FY 2023/24, BDI will focus on the following key issues:

Delta Conveyance and EcoRestore

Continue review and participation with the DWR for planning and environmental documentation including the Environmental Impact Report (EIR) under the California Environmental Quality Act (CEQA) and key informational webinars, outreach and technical information provided to the public.

Support DWR planning to advance development of Biological Assessment with Fishery Agencies and provide coordination as necessary.

Collaborate with the DCA, and DWR on public outreach content and education.

Provide support on various habitat restoration projects that promote the goals of California EcoRestore.

Science Development

Advance collaborative science through research and studies addressing the protection of endangered species, management of fish and wildlife species, management of stressors, and the improvement and protection of ecosystem habitat throughout the Delta ecosystem.

Continue to participate in the Bay-Delta science community by providing input to the Collaborative Science and Adaptive Management Program, including supporting the Collaborative Adaptive Management Team.

Develop manuscripts reporting on scientific research supported by Metropolitan for publication in peer-reviewed publications; conduct presentations at workshops, symposiums and conferences to advance new scientific findings.

Provide input in the review of technical work products, workplan development, and discussion of relevant issues that may influence key Delta regulations and policies.

Collaborate on scientific research for selected pilot projects using Metropolitan's Delta Islands.

Regulatory, Planning, and Legislative Support

Provide analysis of key regulations and legislation that may influence State Water Project (SWP) supply reliability, Bay Delta water quality and environmental health.

Monitor and analyze legislations, coordinate with Legal on key topics that intersect with regulations, policies and operations.

Provide coordination between Metropolitan and SWP permitting processes including but not limited to implementation, revisions and/or new permits such as Incidental Take Permits, Biological Opinions, Temporary Urgency Change Petitions and other key water rights etc.

Provide policy and technical support for processes related to State and Federal Endangered Species Act permitting for the State Water Project.

Sites Reservoir

Continue review and participation with the Sites Joint Powers Authority in the planning, modeling and environmental documentation development for the proposed Sites Reservoir Project.

Continue discussions with federal and state regulatory agencies regarding project impacts and benefits.

Continue discussions with federal and state project operators regarding coordinated operation agreements.

Review and comment on draft documents including: revised environmental impact report, Proposition 1 feasibility report, and biological assessment to be submitted to US Fish & Wildlife Service and National Marine Fishery Service.

Delta Islands Management

Implement the California Department of Fish and Wildlife grant for the "Analysis of Opportunities for Island-wide Improvements that includes a Mosaic of Multiple Land Uses for Subsidence Reversal, Sustainable Agricultural Practices, Carbon

Sequestration, Water Quality, and Habitat Restoration.

Work with the Reclamation Districts (RD) in implementing DWR grant-funded levee improvement projects on Bouldin and Bacon Islands, developing a regional emergency flood fight supply depot on Bouldin Island, and finalizing the 5-year Levee Improvement Plans.

Continue routine patrol of all four properties, identify and repair levee cracks, monitor active seepage areas, coordinate the removal of unoccupied structures and installation of electronic gates.

Work with Engineering in completing the bidding process and award of construction contract for completion of the final phase for the installation of additional meters for full compliance of Senate Bill 88.

Initiate preliminary design for the replacement of aging pump stations.

Manage the Delta Islands Emergency Response Team for flood/emergency situation updates.

Levee Monitoring and Freshwater Pathway

Continue scientific field investigations and surveys related to levee monitoring and instrumentation pilot project. Manage the pilot projects related to finding nutria with scent detection dogs, testing subsurface techniques and instruments for levee anomalies.

Collaborate with the Delta RD engineering firms for final draft levee monitoring and instrumentation report comments and review, present the draft to management for direction and implementation.

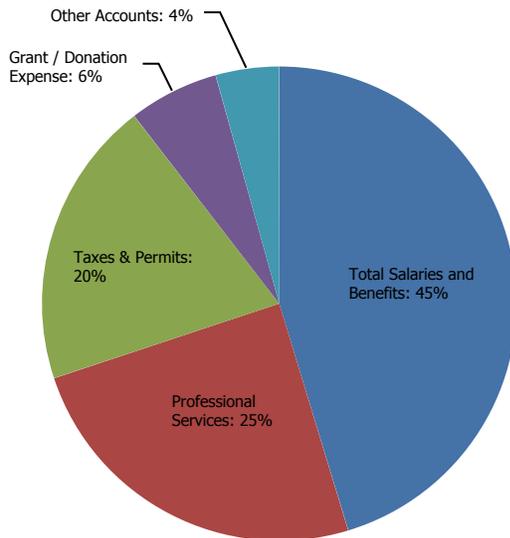
Work with local RD engineering firms to draft a revised levee standard that incorporates seismic, sea level rise and habitat elements.

O&M FINANCIAL SUMMARY

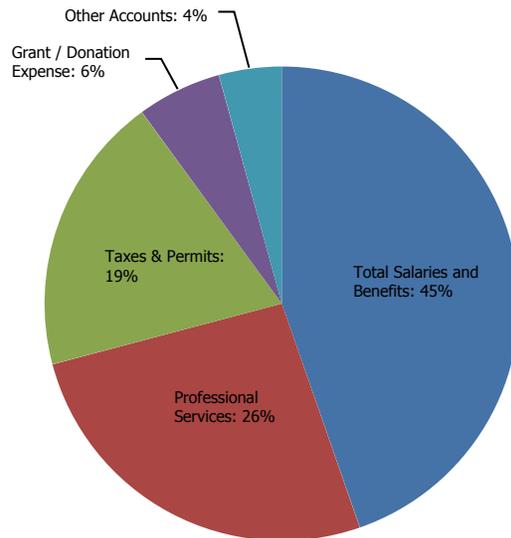
	2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Total Salaries and Benefits	4,849,844	5,542,239	5,456,924	(85,315)	5,662,175	205,251
Direct Charges to Capital	(15,894)	0	(61,786)	(61,786)	(63,658)	(1,872)
Total Salaries and Benefits	4,833,951	5,542,239	5,395,138	(147,101)	5,598,517	203,379
% Change		14.7%		(2.7%)		3.8%
Grant / Donation Expense	916,837	714,734	731,000	16,266	722,500	(8,500)
Professional Services	2,433,297	2,883,216	2,928,544	45,328	3,284,293	355,749
Taxes & Permits	315	—	2,336,467	2,336,467	2,391,561	55,094
Other Accounts	65,295	569,237	514,598	(54,639)	535,666	21,068
Total O&M	8,249,695	9,709,426	11,905,747	2,196,321	12,532,537	626,790
% Change		17.7%		22.6%		5.3%

Totals may not foot due to rounding.

FY 2022/23 BUDGET BY EXPENDITURE



FY 2023/24 BUDGET BY EXPENDITURE



PERSONNEL SUMMARY

		2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Regular	Total	15	17	16	(1)	16	—
	O&M	15	17	16	(1)	16	—
	Capital	—	—	—	—	—	—
Temporary	Total	—	—	2	2	2	—
	O&M	—	—	2	2	2	—
	Capital	—	—	—	—	—	—
Total Personnel	Total	15	17	18	1	18	—
	O&M	15	17	18	1	18	—
	Capital	—	—	—	—	—	—

Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

The Bay Delta Initiatives' O&M Biennial Budget is \$11.9 million in FY 2022/23 and \$12.5 million in FY 2023/24 or an increase of 22.6% and an increase of 5.3% respectively from the prior budget years. The main factors affecting these changes:

- Changes to BDI staffing from prior budget years include staff promotions and transfer of a staff to the Office of the General Manager, who was not replaced. Some of the variances from promotions and position upgrades were offset by the downgrade of some positions. Budgets for FY 2022/23 and FY 2023/24 include allocations for three interns and a District Temp.
- Professional services cover allocations intended for consultants that will provide professional and technical expertise on Sacramento-San Joaquin Bay Delta (Bay-Delta) issues.
- Grant expense or cost shares for studies in collaboration with various agencies and academic institutions reflect an increase in funding to allow continuous advancement of efforts on collaborative science.
- Repairs and Maintenance (Outside Services) includes budget transfer from Real Property since BDI is mainly responsible for overseeing these activities for the Delta Islands.
- Taxes and Permits is a budget transfer from Real Property since BDI is primarily responsible for closely coordinating with the RDs and overseeing the operations of the Delta Islands. The budget covers allocations for RD Assessments for the Delta Islands. The budget for Property Taxes will remain with Real Property.

The following are the significant changes by budget year.

FY 2022/23

Personnel–related issues

Total regular personnel count was reduced by 1 FTE due to the transfer of a staff with 16 regular staff remaining. Three interns and a District Temp are added to the labor budget for this year,

Capital labor is budgeted at 20% of one regular FTE for the Delta Islands regulatory compliance project (Senate Bill 88), replacement of pump stations, and implementation of the Delta smelt and native species preservation project.

Salaries and Benefits reflect negotiated labor increases and merit increases for qualified employees.

Professional Services

Professional Services budget reflect an increase due to scientific studies and pilot projects that are anticipated to ramp up with interests and partnerships with various agencies. Studies that are anticipated to be pursued may include eDNA monitoring, various Delta smelt studies, GIS/mapping data management, water supply and quality modeling, Delta smelt and native species preservation study, regenerative agriculture, floating wetlands research and others. The Professional Services budget also includes allocations for consultants involved in emergency preparedness, water reliability planning, and various other land management alternatives for the Delta Islands.

Grant Expense

The grant-related expense budget is for Metropolitan’s cost share contributions under collaborative partnerships with other agencies, and academic institutions that pursue studies that are of interest to Metropolitan.

The increase in grant/donation expenses is due to new scientific studies that staff plan to pursue in collaboration with partners that also provide cost shares. Studies that are planned to be implemented include those related to Delta smelt, habitat needs for listed fish, predation on juvenile salmon, and

other studies that pursue scientific research addressing effectiveness of management actions, impacts of stressors, and development of innovative technologies.

Travel Expenses

Decrease in budget is due to the retirement of a staff that used to travel weekly between Los Angeles and Sacramento. BDI also anticipates less travel requirements for meetings that can now be effectively conducted through virtual technology.-

Repairs & Maintenance (Outside Services)

The budget for this account is transferred from Real Property since BDI is mainly responsible for overseeing the operations and maintenance of the Delta Islands. The Repairs and Maintenance shall cover costs related to various structures and infrastructures in the islands to ensure safety and proper operations of facilities.

Taxes & Permits

The budget for Taxes and Permits is transferred from Real Property since BDI is mainly responsible for RD coordination and activities. The budget is intended for RD assessments that cover the costs of levee and flood control facilities maintenance and abandoned structure removal. The assessment budget also includes additional funds for debt-service reduction payments.

Other

The budget is for funding subsidies and incentives, materials and supplies, District validated parking for Bay Delta Sacramento staff, training and conferences, lease expense for one vehicle for use by a staff for Delta Islands inspections, communication expenses, sponsorship, and membership and subscriptions mainly for open-access publication of science-related manuscripts resulting from the various science studies.

FY 2023/24

Personnel–related issues

Total personnel count remains flat from the FY 2022/23 budget.

Salaries and Benefits reflect negotiated labor increases and merit increases for qualified employees.

Professional Services

The budget reflects an increase of 12% in funding due to some studies that are anticipated to start on the second year of the biennial budget.

Grant Expense

The budget remains flat from the FY 2022/23 budget since most of the studies to be pursued usually goes on for two to three years.

Travel Expenses

The budget reflects an increase of 16% in funding due to more frequent travels between Los Angeles and Sacramento resulting from anticipated increase of in-person meetings as more offices go back to pre-Covid routines.

Repairs & Maintenance

The budget remains flat from the FY 2022/23 budget since there is no anticipated change to the repairs and maintenance requirements.

Taxes & Permits

The budget for assessments includes a 3% annual increase due to cost of living adjustment.

Other

The budget remains flat from the FY 2022/23 budget since there is no anticipated change to the requirements for the various accounts covered under this category.

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FINANCE

Finance provides innovative, proactive, and strategic financial direction in support of the mission of Metropolitan, the Board of Directors, management, and employees.

PROGRAMS

Finance is responsible for maintaining Metropolitan's strong financial position and high credit ratings and helping to achieve equitable water rates and charges that generate sufficient revenues.

In addition, Finance assists in the efficient management of Metropolitan's financial resources, and ensures that adequate financial controls are in place to accurately record financial transactions, communicate financial results, and protect Metropolitan's assets.

Finance accomplishes its mission through the following programs or sections:

Chief Financial Officer is responsible for the overall administration of finance and accounting functions for Metropolitan including debt and investment management; financial planning and analysis including rate setting and budgeting; accounting and control including financial reporting, payroll, accounts payable, accounts receivable; and risk management and business continuity.

Revenue & Budget is responsible for Metropolitan's Biennial Budget, revenue requirements, and rates and charges recommendations; cost monitoring and analysis; annexation fee calculations; short and long term financial analysis; and planning and financial modeling.

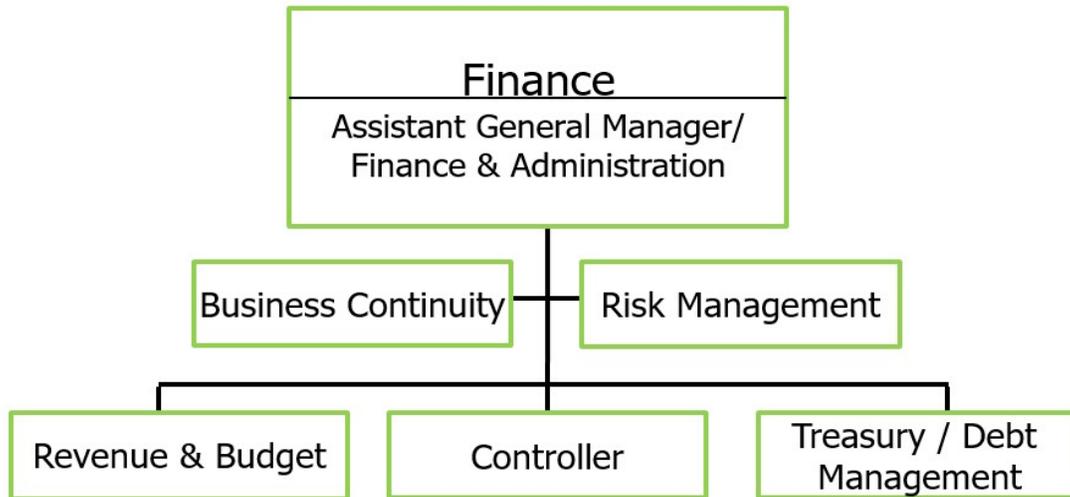
Controller is responsible for maintaining internal controls that safeguard Metropolitan's assets, as well as recording and maintaining its official accounting records via the billing, accounts payable, payroll, and financial reporting functions.

Business Continuity Management Program

ensures that Metropolitan proactively identifies potential business impacts and develops recovery strategies to continue critical operations in the event of an emergency or other business disruption. This is accomplished by conducting Business Impact Analyses and developing business continuity plans along with a life cycle of ongoing plan maintenance, testing, training and awareness. In addition, emergency communications are spearheaded using the MetAlert emergency notification system.

Risk Management reports directly to the Chief Financial Officer section, is responsible for managing all aspects of Metropolitan's casualty insurance and risk management programs to minimize exposure to loss; access risk and recommend strategies to minimize or transfer contract risk on all Metropolitan and agreements, and procure excess and specialty insurance policies to supplement the self-insured property and liability claims program.

Treasury/Debt Management is responsible for Metropolitan's investment and treasury operations including receipt, safekeeping, and disbursement of Metropolitan's funds; managing the District's liquidity cashflow needs and commercial banking activities, including receipts and payment processing, such as wires, checks, and automatic deposits; managing the District's debt obligations including preparation of security sale documents for new issues, administration of outstanding debt obligations, including compliance with all certifications and disclosure notifications; investor and bond rating agency relations; managing the District's property tax programs, including the water standby charge program and the annual ad valorem tax levy program.



GOALS AND OBJECTIVES

In FY 2022/23 and FY 2023/24, Finance will focus on the following key issues:

Cost of Service and Budget

Complete the biennial cost-of-service analysis for rates and charges. Complete and implement the Biennial Budget.

Financial Forecasts and Analysis

Provide an updated Ten-Year Financial Forecast in the Biennial Budget.

Continue to provide the Board with various analyses to manage financial performance for long-term rate stability, given the future potential implementation of the Delta conveyance and the Regional Recycled Water Program.

Analyze the funding of financial initiatives as identified.

Annexation/Tax Levy

Complete the annual annexation calculation and tax levy assessments.

Rates and Charges

Manage and effectively administer rates and charges to recover costs consistent with Board policy and objectives. Complete a comprehensive rate restructuring study.

Financial Reporting/Internal Control

Continue to record and report the financial activities of Metropolitan in a timely and transparent manner to the Board and member agencies.

Continue to ensure that internal controls are in place to provide assurance that assets are safeguarded and financial information is fairly stated.

Continue to improve communications of financial information to the Board, member agencies, management, and the financial community.

Capital Financing

Update capital financing plans and communicate Metropolitan's financial needs and capabilities to ensure cost-effective access to capital markets.

Work with Metropolitan's underwriting team, financial advisors, and swap advisors to identify financing opportunities to prudently manage the overall cost of financing Metropolitan's capital investment program.

Manage investor relations to ensure clear communications, accuracy of information, and integrity.

Continue to manage debt service to mitigate the volatility of debt service payments over time and reduce debt service costs through re-financings and the prudent use of interest rate swaps, in accordance with Metropolitan's interest rate swap policy.

Maintain relationships with the financial community and bond rating agencies to maintain Metropolitan's high credit ratings and access to various aspects of the financial markets to maximize financial flexibility.

Investment

Prudently invest Metropolitan's funds with the objective of safety of principal, liquidity, and yield.

Manage the District's portfolios to provide the necessary liquidity to fund in excess of \$3.0 billion over the biennium in expenditures for Operations and Maintenance, debt service, and construction projects.

Measure the performance of the District's portfolios and manage each to meet or exceed the benchmark consistent within established investment codes and policy.

Manage all outside portfolio managers to ensure compliance with Metropolitan's investment policy, and to monitor investment activity performance.

Risk Management

Continue to effectively manage Metropolitan's casualty insurance and risk management programs to minimize exposure to loss.

Business Continuity

Conduct regular meetings with the Business Continuity Steering Committee to ensure the Business Continuity program is aligned with Metropolitan's strategic priorities.

Continue to refine the Business Continuity Plan template and Fusion system to capture better information and produce actionable and easy to follow recovery plans.

Continue collaboration with the business users to perform annual plan updates and approvals using the Fusion software.

Conduct biannual application recovery exercises with the business users to ensure accessibility and functionality of critical applications at the back up data center in accordance with business requirements.

Conduct tabletop exercises for Metropolitan's business continuity plans to validate recovery strategies and identify areas in need of updating.

Test emergency communications using the MetAlert emergency notification system to ensure effective communications in the event that normal methods are impacted.

Workforce Development & Succession Planning

Continue to examine and consider the challenges associated with succession planning and future staffing requirements in light of the composition and age of the workforce.

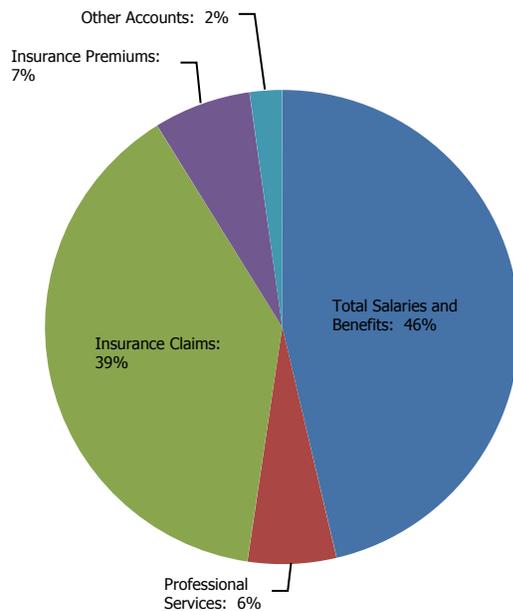
Work with each section within Finance to establish staff back-up responsibilities for various work processes.

O&M FINANCIAL SUMMARY

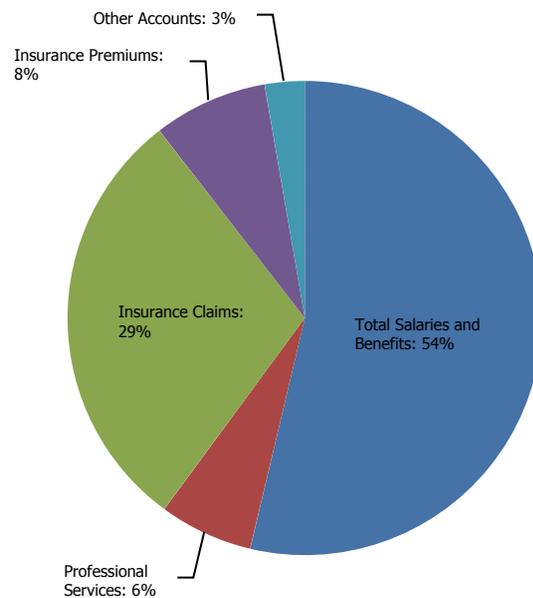
	2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Total Salaries and Benefits	11,086,009	13,259,705	13,450,945	191,240	13,983,791	532,847
Direct Charges to Capital	(183,541)	(203,041)	(186,187)	16,853	(161,254)	24,933
Total Salaries and Benefits	10,902,468	13,056,664	13,264,757	208,093	13,822,537	557,780
% Change		19.8%		1.6%		4.2%
Professional Services	1,064,239	2,061,100	1,730,900	(330,200)	1,640,600	(90,300)
Insurance Claims	(2,155,243)	11,419,990	11,110,008	(309,982)	7,571,303	(3,538,705)
Insurance Premiums	1,284,552	1,500,000	1,900,000	400,000	2,000,000	100,000
Other Accounts	294,144	450,576	630,659	180,083	699,506	68,847
Total O&M	11,390,160	28,488,330	28,636,324	147,994	25,733,946	(2,902,378)
% Change		150.1%		0.5%		(10.1%)

Totals may not foot due to rounding.

FY 2022/23 BUDGET BY EXPENDITURE

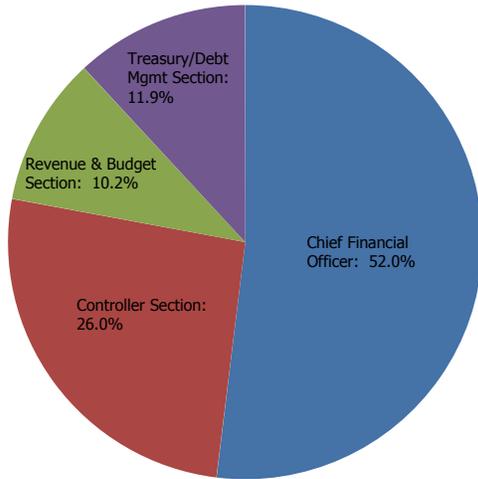


FY 2023/24 BUDGET BY EXPENDITURE

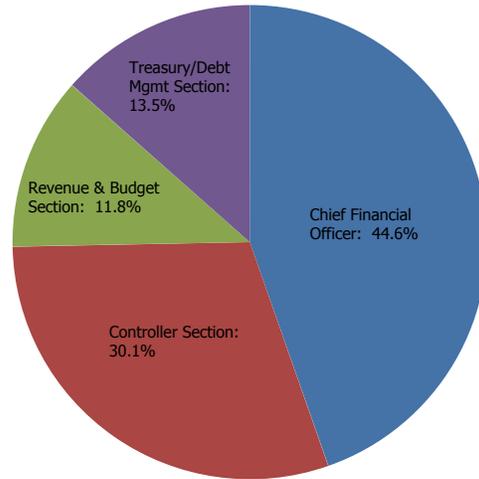


O&M BUDGET BY SECTION

FY 2022/23 BUDGET BY SECTION



FY 2023/24 BUDGET BY SECTION



	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23	Personnel Budget		
						21/22	22/23	23/24
Chief Financial Officer	15,564,200	14,877,200	(686,900)	11,487,300	(3,389,900)	8	5	5
Controller Section	6,682,000	7,438,800	756,800	7,738,300	299,600	31	35	35
Revenue & Budget Section	3,871,900	2,920,400	(951,500)	3,042,300	121,900	11	9	9
Treasury/Debt Mgmt Section	2,370,300	3,399,900	1,029,600	3,466,000	66,100	5	10	10
Total O&M	28,488,300	28,636,300	148,000	25,733,900	(2,902,400)	55	59	59

Totals may not foot due to rounding.

PERSONNEL SUMMARY

		2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Regular	Total	49	51	53	2	53	—
	O&M	48	51	53	2	53	—
	Capital	1	—	—	—	—	—
Temporary	Total	1	4	7	3	7	—
	O&M	1	4	6	2	6	—
	Capital	—	—	1	1	1	—
Total Personnel	Total	49	55	60	5	60	—
	O&M	49	55	59	4	59	—
	Capital	1	—	1	1	1	—

Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

Finance's O&M Biennial Budget is \$28.6 million in FY 2022/23 and \$25.7 million in FY 2023/24 or an increase of 0.5% and a decrease of 10.1% respectively from the prior budget years. The change is primarily due to the following factors:

- Staffing was increased to support the Payroll process and accurate and timely reporting of compensation to CalPERS and Delta Conveyance Authority (DCA) reporting as well as Treasury operations.
- Temporary labor was increased to support increased reporting workload due to new government accounting and reporting standards as well as reporting for Delta Conveyance Authority (DCA), Delta Conveyance Finance Authority (DCFA), Six Agency Committee, Colorado River Board and other agencies; accurate payroll processing and reporting to CalPERS; and critical business systems such as water billing, payroll and budget.
- Insurance premiums are increasing significantly in the first year with an anticipated decrease in third party claims in the second year.
-

The following are the significant changes by budget year.

FY 2022/23

Personnel–Related issues

Total personnel count is increasing by 5 FTEs. Regular full time positions are increasing by 2 FTEs with the transfer out of 2 positions to the Office of the General Manager, the transfer in of 1 position from Administrative Services and the addition of 3 new positions to support Accounting, Payroll and Treasury. Temporary labor is increasing by 3 FTEs to support increased reporting workload due to new government accounting and reporting standards as well as reporting for Delta Conveyance Authority (DCA), Delta Conveyance Finance Authority (DCFA), Six Agency Committee, Colorado River Board and other agencies; accurate payroll processing and reporting to CalPERS; and critical business systems such as water billing, payroll and budget.

Salaries and Benefits reflect negotiated labor increases and merit increases for qualified employees.

Professional Services

Accounting for the realignment of some of the budget from professional services to software licensing & support the budget for professional services is decreasing by about \$65K. Professional services include investment management services

to support Metropolitan's \$600 million investment portfolio, and for critical audits and studies related to accounting, reporting and business systems.

Insurance Premiums

The insurance premiums budget is increasing as a result of the expected overall pool exposure to catastrophic losses such as wild fire risk liability, US economic and political uncertainties, global instability and new and increased exposures due in part to climate change.

Insurance Claims

Third-party liability claims budget is increasing based on projected losses from the actuarial report. However, this is substantially offset by a reduction in the insurance contingency account.

Other

Increase in other is primarily due to the realignment of financial, investor, credit and data analytic tools and services from professional services to Software licensing and support.

FY 2023/24

Personnel–Related issues

Total personnel count remains flat from the FY 2022/23 budget.

Salaries and Benefits reflect negotiated labor increases and merit increases for qualified employees.

Professional Services

The professional services budget is decreasing primarily as the result of the completion of audit and studies related to accounting, reporting and business systems before the end of the year.

Insurance Premiums

The insurance premiums budget is increasing as a result of the expected overall pool exposure to catastrophic losses.

Insurance Claims

Third-party liability claims budget is decreasing based on projected losses from the actuarial report.

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ADMINISTRATION

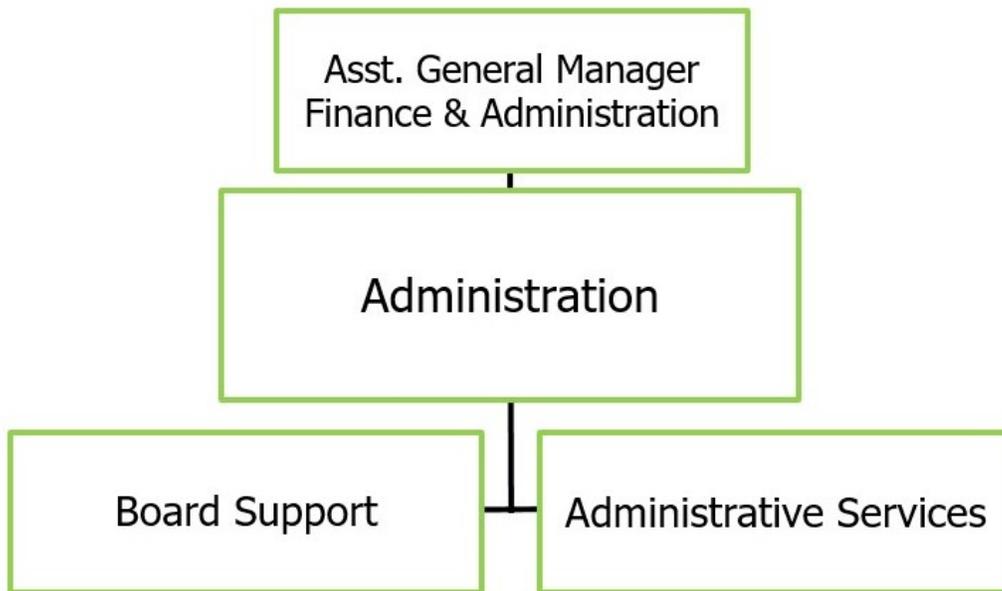
The Administration group provides outstanding value to its customers for a wide range of administrative services including contracting, inventory and Enterprise Content management in addition to providing administrative support to the Board and Office of the Chair.

PROGRAMS

The Administration group accomplishes its mission through the following programs or sections:

Administrative Services provides a range of critical services including contracting, inventory management, warehousing, reprographics, technical writing, records management, EForms management, Enterprise Content Management, and administration of Metropolitan's Rideshare Program.

Board Support provides administrative support to the Board and the Office of the Chair; coordinates Metropolitan's board document management system; and coordinates travel for the Board.



GOALS AND OBJECTIVES

In FY 2022/23 and FY 2023/2024, the Administration group will focus on the following key issues:

Innovative Solutions

Increase efficiency in procurement practices by streamlining acquisition processes. Enhance customer experience and satisfaction by upgrading warehouse online ordering system and expanding online training modules to further the customer's knowledge in key areas such as requisition processing and agreement administration.

Review administrative functions to promote higher levels of productivity, standardization, and to improve efficiency in key areas such as procurement spend analysis and records management.

Launch Information Governance / Enterprise Content Management (ECM) solution to improve existing storage, access, retrieval and control of physical and electronic records in line with fiscal, legal, and regulatory requirements.

Utilize Metropolitan's EForm Management program to improve business processes, increase productivity and enhance overall user experience by incorporating mobile technology and adopting innovative and efficient business practices.

Continue to enhance board document management through modernized technology and continued training of District staff on policies and procedures of Board matters.

Sustainability Efforts

Continue efforts to ensure Metropolitan's Rideshare Program remains beneficial for employees and compliant with South Coast Air Quality Management District's regulatory requirements.

Explore opportunities to expand the Electric Vehicle Charging program (partnership with Environmental/Engineering/WSO district-wide study).

Succession Planning and Employee Development

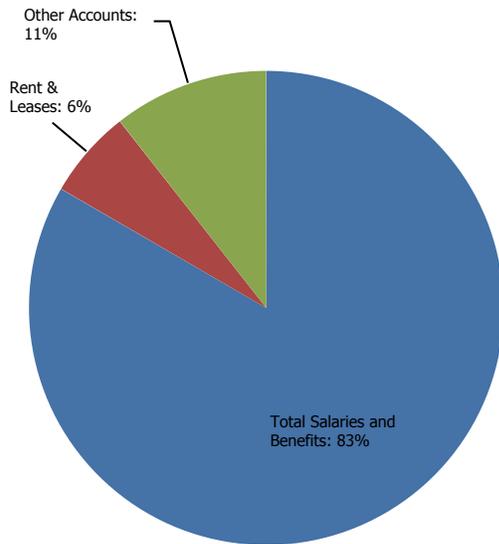
Continue to implement a section-wide cross-training program to promote organizational adaptability, institutional knowledge, experience, and expertise.

O&M FINANCIAL SUMMARY

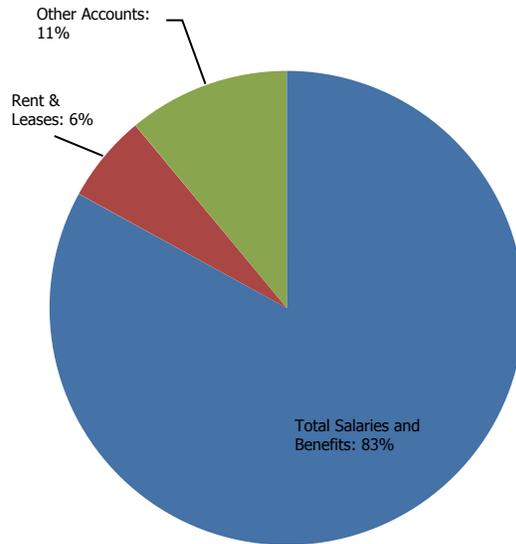
	2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Total Salaries and Benefits	15,781,825	16,393,818	16,860,925	467,107	17,626,728	765,803
Direct Charges to Capital	(829,459)	(757,945)	(743,094)	14,851	(765,606)	(22,512)
Total Salaries and Benefits	14,952,366	15,635,872	16,117,830	481,958	16,861,122	743,292
% Change		4.6%		3.1%		4.6%
Materials & Supplies	242,262	395,400	472,700	77,300	549,900	77,200
Outside Services - Non Professional / Maintenance	985,303	456,500	342,100	(114,400)	334,900	(7,200)
Professional Services	71,501	174,000	175,646	1,646	225,000	49,354
Rent & Leases	463,826	1,118,500	1,168,440	49,940	1,217,740	49,300
Subsidies & Incentives	33,964	821,400	525,600	(295,800)	560,600	35,000
Travel Expenses	46,426	294,891	197,485	(97,406)	227,450	29,965
Other Accounts	134,333	322,632	327,970	5,338	336,956	8,986
Total O&M	16,929,979	19,219,195	19,327,771	108,576	20,313,668	985,897
% Change		13.5%		0.6%		5.1%
Operating Equipment	87,392	34,600	218,917	184,317	43,351	(175,566)
Total O&M and Operating Equipment	17,017,371	19,253,795	19,546,688	292,893	20,357,019	810,331
% Change		13.1%		1.5%		4.1%

Totals may not foot due to rounding.

FY 2022/23 BUDGET BY EXPENDITURE

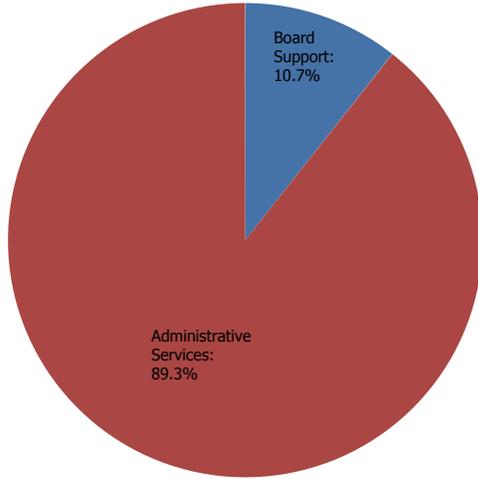


FY 2023/24 BUDGET BY EXPENDITURE

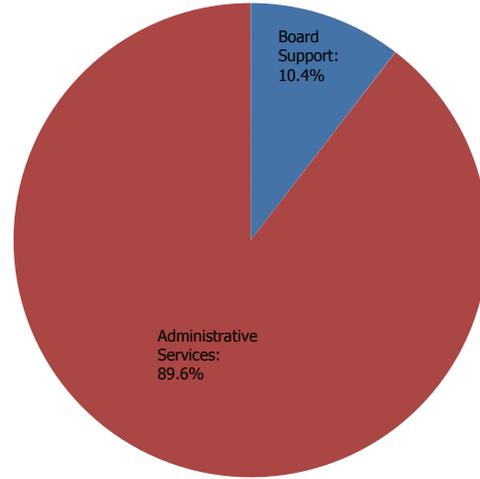


O&M BUDGET BY SECTION

FY 2022/23 BUDGET BY SECTION



FY 2023/24 BUDGET BY SECTION



	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23	Personnel Budget		
						21/22	22/23	23/24
Board Support	2,024,500	2,058,800	34,300	2,121,400	62,600	6	6	6
Administrative Services	17,194,700	17,269,000	74,300	18,192,300	923,300	73	75	76
Total O&M	19,219,200	19,327,800	108,600	20,313,700	985,900	79	81	82

Totals may not foot due to rounding.

PERSONNEL SUMMARY

		2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Regular	Total	79	81	80	(1)	80	—
	O&M	76	78	77	(1)	77	—
	Capital	3	3	3	—	3	—
Temporary	Total	3	1	4	3	5	1
	O&M	3	1	4	3	5	1
	Capital	—	—	—	—	—	—
Total Personnel	Total	82	82	84	2	85	1
	O&M	79	79	81	2	82	1
	Capital	3	3	3	—	3	—

Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

The Administration group's O&M and Operating Equipment Biennial Budget is \$19.5 million in FY 2022/23 and \$20.4 million in FY 2023/24 or an increase of 1.5% and an increase of 4.1% respectively from the prior budget years. The changes are due primarily to the following factors:

- Increase in temporary labor to provide additional procurement resources to handle material increase in capital and information technology projects, as well as to support the E-Forms migration/upgrade effort.
- A study to determine the best way to capture procurement spend and provide analytical data.
- A consultant study to recommend a central repository to organize technical operational manuals and provide online access and searchability.
- Acquisition of a library management software system to catalog Metropolitan historical documents.

The following are the significant changes by budget year:

FY 2022/23

Personnel–Related issues

Total personnel count increased by 2 FTEs. Regular full time positions decreased by 1 FTE as a position was transferred to Finance. There was a net increase of 3 district temporary positions from the FY 2021/22 budget. The increase in temporary labor is necessary in order to provide additional procurement resources to handle material increase in capital and information technology projects, as well as to support the E-Forms migration/upgrade effort.

Salaries and Benefits reflect negotiated labor increases and merit increases for qualified employees.

Professional Services

The professional services budget is essentially flat with FY 2021/22. Increase in support for the Chair of the Board of Directors is offset by the deferral to FY 2023/24 of the procurement spend analysis initiative, technical requirements study for a new contracts management system, development of online training modules and business process improvements, and the implementation of a district-wide organization system for technical manuals.

Non-Professional Services

The budget decrease reflects a reduction in costs associated with off-site document storage and shredding services.

Materials and Supplies

The budget increase from FY 2021/22 is driven by higher costs for the new E-Forms platform and related applications.

Subsidies and Incentives

The budget decrease from FY 2021/22 reflects the anticipated employee usage rate for Metropolitan's Rideshare program under Administrative Services.

Rents and Leases

The budget increase from FY 2021/22 reflects the anticipated employee usage and higher leasing rates for the Vanpool program under Administrative Services.

Other

The budget reflects a decrease in travel, training and conferences.

FY 2023/24

Personnel–Related issues

Total personnel count reflects a net increase of 1 temporary position from FY 2022/23 for Administrative Services. The increase in temporary labor is primarily in support of procurement resources to handle material increase in capital and information technology projects, as well as to support the E-Forms migration/upgrade effort.

Salaries and Benefits reflect negotiated labor increases and merit increases for qualified employees.

Materials and Supplies

The budget increase from FY 2022/23 is driven by costs associated with the library management software system.

Rents and Leases

The budget increase from FY 2022/23 is due to an increase in costs for copier lease and maintenance and increase in vanpool leasing rates.

Professional Services

The budget increase from FY 2022/23 is due to the procurement spend analysis initiative, technical requirements study for a new contracts management system, development of online training modules and business process improvements, and the implementation of a district-wide organization system for technical manuals.

Other

The budget reflects an increase in travel and training related to Administrative Services and Board Support activities.

Operating Equipment - FY 2022/23 and FY 2023/24

The operating equipment budget for Administrative Services reflects the need for the replacement of a forklift, utility cart, and truck in Metropolitan's warehouse. Additionally, an increase in service demand necessitates the purchase of specialized reprographics equipment.

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HUMAN RESOURCES

Human Resources (HR) strategically, and cost effectively, recruits, retains, motivates, rewards, and develops Metropolitan's employees.

PROGRAMS

The focus of Human Resources is to work closely with management to foster effective management; prepare to meet future workforce challenges; partner with customers on solutions; and provide excellent HR services that ensure compliance to numerous HR laws, regulations, and responsibilities.

The Human Resources Group partners with others across the organization to provide custom services and solutions that address current and future gaps in skills, knowledge, and abilities.

HR services include employee and labor relations, recruitment and selection, HR Strategic Partnering, HR Information Systems, benefits, retirement, leave administration, classification and compensation administration, medical screening, workers' compensation, training, organizational development, workforce and career development, and HR business support services.

HR accomplishes its mission through the following programs or sections:

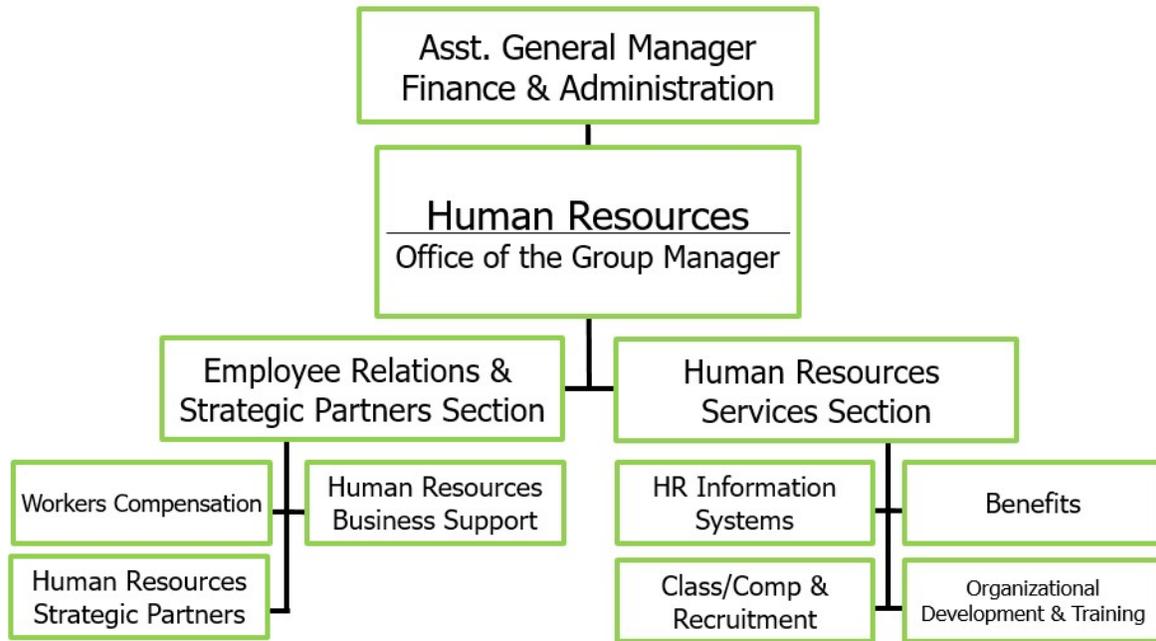
Office of Human Resource Group Manager provides strategic leadership and direction for Metropolitan's Human Resources functions. Organizations reporting directly to the Office of the Human Resource Group Manager include Employee Relations and Human Resources Services.

Employee Relations is responsible for fostering harmonious labor relations between Metropolitan and its four certified bargaining units, and plays a key role in contract negotiations. The staff also serves as a resource to managers and supervisors on such matters as grievances, disciplinary actions, and workplace conflicts. The section also provides ongoing training to managers on all facets of employer-employee relations.

HR has designated HR Strategic Partners to serve as single points of contact for managers, providing HR support in several areas, including Employee Relations, recruitment, training, succession planning, and strategic development.

Human Resources Services is responsible for the strategic design and implementation of Metropolitan's compensation, benefits, recruitment. The section leads and participates in continuous process improvement and cost optimization studies for all plans. Responsibilities include job analysis, market assessments, recruitment, active employee and retiree benefit program administration, partnering with management on new initiatives, compliance, Workers Compensation, medical screening and implementing new programs and agreements.

Finally, staff under Human Resources Information Systems administer Metropolitan's MyHR system, and serve as a critical liaison between HR and the Information Technology Group.



GOALS AND OBJECTIVES

In FY 2022/23 and FY 2023/24, HR will focus on the following key issues that support the General Manager's objective of Employee Development and additional HR priorities:

Ensure Effective People Management

Strong people management skills are essential to meeting Metropolitan's future challenges and successes. HR will ensure that the role of management is defined and that current managers have the tools and training needed to provide effective management.

A formal, multi-tiered Management and Leadership Development program will help managers better understand their roles and responsibilities as they progress through management.

Learning opportunities will be provided to employees to prepare for future management positions from the entry-level manager all the way to the executive level.

Ongoing events, workshops and forums will provide opportunities to deliver consistent expectations and tools for management, including motivating and valuing employee contributions.

Strengthen Partnerships with HR Customers

Effective people solutions require that HR partners with its customers, including management, unions, employees, retirees and others. HR must understand the customer's business needs and then build working relationships that develop effective solutions to people-related challenges. This working partnership will minimize misdirected efforts, speed decision-making, reduce rework and, ultimately, produce a better workplace at a reduced cost.

Strengthened HR/customer partnerships and communications will identify areas for improvement in HR products, services, support and messaging.

Ensure that Risk Management, Employee Relations, EEO and the Legal Department coordinate to effectively defend against litigation of liability claims and to cost-effectively resolve claims.

Prepare to Meet Challenges of Future Workforce Changes

On average, about 100 employees per year are retiring and this trend is expected to continue over the next several years. As experienced and knowledgeable employees retire, HR will continue to support and expand upon on-going succession planning efforts underway.

Efforts will include a focus on learning, development, knowledge capture, cross-training opportunities, and building pipelines for future vacancies.

HR will develop new strategies, support existing efforts and ensure Metropolitan remains competitive when compared to other organizations.

HR will support career development activity undertaken by employees to enhance knowledge, skills, and abilities for future work and promotional opportunities, including support of internship and mentoring initiatives.

Provide Excellent Human Resources Services

HR provides a wide range of services and support from pre-hire to retirement, impacting almost every aspect of the organization. To make the maximum contribution, all HR functions must serve as trusted advisors that speak with one voice, listen well and provide consistent guidance on people-related matters.

HR's organization is designed to improve customer service, provide stronger support to employees, and is aimed at developing the next generation of leaders through training, Management Academy, and recruitment.

HR will continue to simplify policies, processes, and procedures to reduce the costs of HR administration by utilizing technology, reducing redundancies and implementing new approaches to existing services.

HR will develop standard reports to enhance management access to employee data and assist with decision-making.

HR will administer a full-range of benefit services for health, leave, deferred compensation and retirement programs.

HR will continue to review the recruitment process and procedures to improve quality of hire and time-to-fill.

Ensure Compliance with Laws and Regulations

HR manages compliance to four MOUs and the Administrative Code, and addresses many sensitive and confidential personnel issues.

HR will continue to monitor a wide array of changing legal and regulatory requirements while adapting HR processes and systems to conform to these changing requirements.

HR will ensure Metropolitan meets Equal Employment Opportunity requirements and numerous Federal, State, and Local laws and regulations and Public Sector codes and rulings.

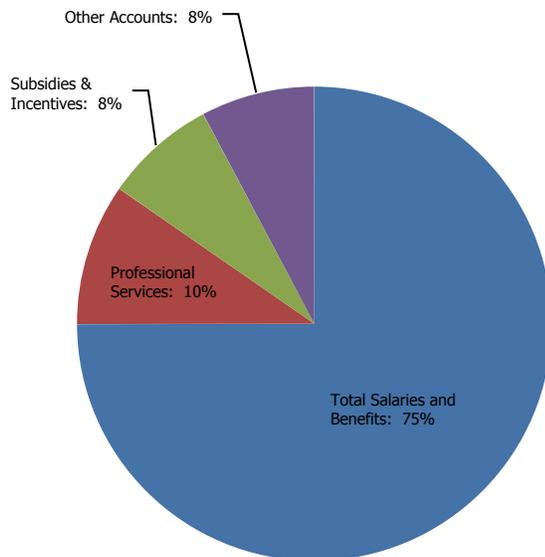
HR will maintain fiduciary responsibilities in the management of financial and retirement programs and comply with the Affordable Care Act and with all privacy and data security requirements.

O&M FINANCIAL SUMMARY

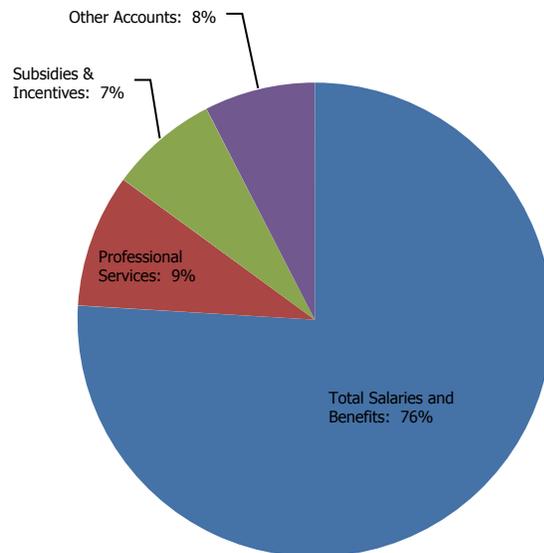
	2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Total Salaries and Benefits	11,404,496	11,792,170	11,753,659	(38,512)	12,249,264	495,605
Direct Charges to Capital	(52,023)	—	—	—	—	—
Total Salaries and Benefits	11,352,473	11,792,170	11,753,659	(38,512)	12,249,264	495,605
% Change		3.9%		(0.3%)		4.2%
Advertising	152,510	230,000	230,000	0	250,000	20,000
Outside Services - Non Professional / Maintenance	188,715	240,300	408,970	168,670	408,970	—
Professional Services	1,100,783	1,242,650	1,516,731	274,081	1,467,001	(49,730)
Subsidies & Incentives	1,066,463	974,800	1,191,600	216,800	1,191,600	—
Other Accounts	421,586	551,140	573,725	22,585	557,860	(15,865)
Total O&M	14,282,529	15,031,060	15,674,685	643,624	16,124,695	450,010
% Change		5.2%		4.3%		2.9%

Totals may not foot due to rounding.

FY 2022/23 BUDGET BY EXPENDITURE

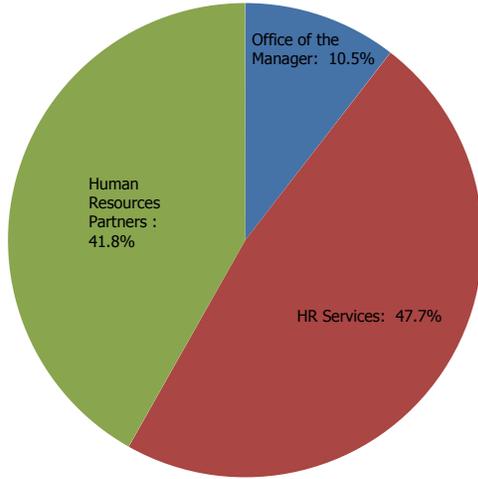


FY 2023/24 BUDGET BY EXPENDITURE

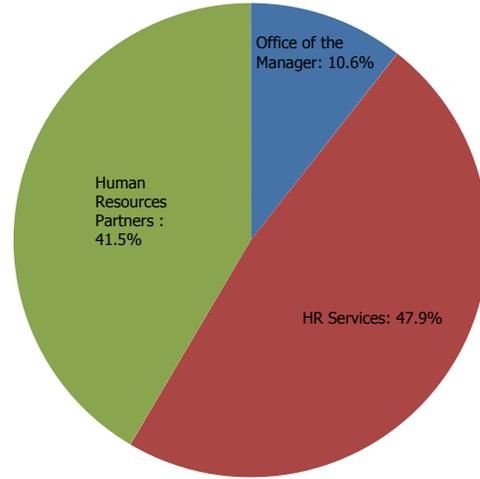


O&M BUDGET BY SECTION

FY 2022/23 BUDGET BY SECTION



FY 2023/24 BUDGET BY SECTION



	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23	Personnel Budget		
						21/22	22/23	23/24
Office of the Manager	2,256,500	1,643,900	(612,500)	1,709,200	65,200	6	4	4
HR Services	7,179,400	7,475,100	295,700	7,722,000	246,900	23	26	26
Human Resources Partners	5,595,200	6,555,700	960,500	6,693,500	137,900	15	16	16
Total O&M	15,031,100	15,674,700	643,600	16,124,700	450,000	44	46	46

Totals may not foot due to rounding.

PERSONNEL SUMMARY

		2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Regular	Total	41	44	44	—	44	—
	O&M	41	44	44	—	44	—
	Capital	0	—	—	—	—	—
Temporary	Total	7	5	2	(3)	2	—
	O&M	7	5	2	(3)	2	—
	Capital	—	—	—	—	—	—
Total Personnel	Total	47	49	46	(3)	46	—
	O&M	47	49	46	(3)	46	—
	Capital	—	—	—	—	—	—

Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

HR's Biennial O&M Budget is \$15.7 million in FY 2022/23 and \$16.1 million in FY 2023/24 or an increase of 4.3% and an increase of 2.9% respectively from the prior budget years. The changes are due primarily to the following factors:

- Salaries and benefits reflect negotiated labor increases from the prior budget cycle.
- Materials and supplies reflect an increase in software licensing purchases and support.
- Professional services increase in both years due to increased organizational and employee development training programs, and increased recruitment activities.
- Non-Professional services increase in both years due to increased recruitment activities.
- The budget reflects an increase in the Professional Development Expenses Reimbursement Program budget to accurately reflect the five-year usage trend.

The following are the significant changes by budget year:

FY 2022/23

Personnel–Related issues

Total Regular positions remain flat with the FY 2021/22 budget. Two (2) positions were transferred out of Human Resources Group to support EEO efforts; and two (2) new positions were added to support Recruitment and Organizational Development & Training. District Temporary positions decreased from seven (7) from the FY 2021/22 budget to two (2) District Temporary positions. The two(2) District Temporary positions are to support HRIS in the implementation of Ventiv and PeopleSoft functionalities until automation can be achieved. District Temporary positions in Recruitment were no longer required.

Salaries and Benefits reflect negotiated labor increases and merit increases for qualified employees.

Professional Services

The budget reflects increases as a result of bargaining unit negotiations. The budget also reflects increases in Recruitment, Organizational Development and Employee Training Programs, and Employee Relations services.

Non-Professional Services

The budget reflects an increase due to an increase in recruitment activities. In order for Recruitment to extend the candidate reach, Recruitment is using professional network services, and a service to proctor written and practical exams.

Materials & Supplies

The budget reflects an increase in software licensing (e.g., Adobe, DocuSign, LinkedIn Learning).

Subsidies & Incentives

The budget reflects an increase in the Professional Development Expenses Reimbursement Program budget to accurately reflect the five-year usage trend.

FY 2023/24

Personnel–Related issues

Personnel count remains flat from FY 2022/23. Salaries and Benefits reflect negotiated labor increases and merit increases for qualified employees.

OFFICE OF DIVERSITY, EQUITY & INCLUSION

The Office of Diversity, Equity, and Inclusion (DE&I) is responsible for the strategic oversight of DE&I including planning, developing, and implementing Metropolitan’s strategies and initiatives that create an organizational culture of diversity, equity, and inclusion.

PROGRAMS

Metropolitan’s Office of Diversity, Equity & Inclusion was established by the Board in 2021. The Office of DE&I champions, educates and influences the importance and value of a diverse and inclusive work environment and fosters the atmosphere and culture that attracts diverse candidates who can enhance the workplace culture.

The newly established Office of DE&I will also use a diversity, equity and inclusion lens to address disparities existing in the District’s contracting and economic development operations and lead the District’s approach to effectively engage underserved communities and direct community engagement programs.

Business Outreach & Community Engagement actively encourages the participation of small, locally-owned, minority-owned, disabled veteran-owned and economically disadvantaged business enterprises, and facilitates business in the solicitation and procurement of construction contracts, professional services agreements, innovation hubs and other agencies. Business Outreach & Community Engagement enhances involvement in new technologies and positions Metropolitan as an international leader in water innovation.



GOALS AND OBJECTIVES

In FY 2022/23 and FY 2023/24, the Office of Diversity, Equity & Inclusion will focus on the following key issues and initiatives:

DE&I Commitment

Normalize conversations around DE&I. Develop, recommend, and implement education and procedures to help management and employees at all levels, in all departments and in all disciplines, embrace and facilitate the mission, goals, strategies and expected outcomes of the Office of DE&I.

Develop DE&I Strategy

In collaboration with the Board, General Manager, Executive Leadership Team and the DE&I Council, create an organization-wide DE&I plan that includes a strategic blueprint of systems, structures and programs where substantial impacts in recruitment, hiring, promotion, contracting and community engagement are realized and measured.

DE&I Training and Workforce Development

Partner with the internal departments to ensure continuous learning and quality improvement regarding DE&I KPI's, metrics, and organizational culture that align with the Metropolitan's DE&I mission and operational plans.

Collaborate with the Human Resources group and EEO Office to create and refine equity-focused leadership development curriculum and educational opportunities, and to provide career advancement pathways for people of color, women and LGBTQ+ staff, as well as focus on inclusive recruitment and retention strategies.

Business Outreach

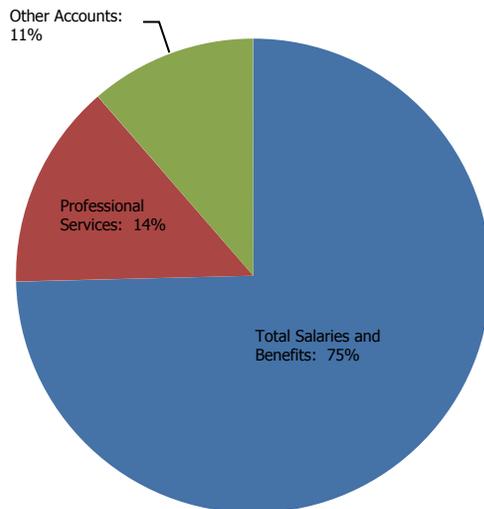
Increase opportunities to encourage small, diverse and emerging businesses to work with and secure contracts with Metropolitan through training, workshops and partnerships with organizations and other outreach to the business community. Identify and develop strategies to reduce core barriers for small and diverse business success and growth, and collaborate with Metropolitan staff to understand, advocate for, and maximize Metropolitan's business outreach policy and resources.

O&M FINANCIAL SUMMARY

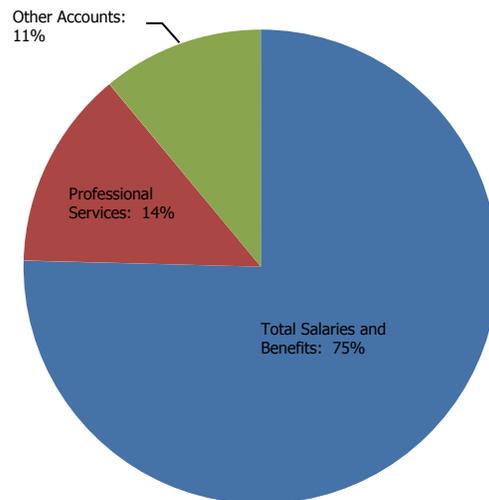
	2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Total Salaries and Benefits	1,992,135	2,044,290	2,846,344	802,054	2,972,994	126,651
<i>Direct Charges to Capital</i>	—	—	—	—	—	—
Total Salaries and Benefits	1,992,135	2,044,290	2,846,344	802,054	2,972,994	126,651
% Change		2.6%		39.2%		4.4%
Memberships & Subscriptions	102,619	50,000	143,443	93,443	143,503	60
Outside Services - Non Professional / Maintenance	48,225	79,600	56,650	(22,950)	56,650	—
Professional Services	143,749	100,000	535,000	435,000	535,000	—
Sponsorships	81,250	150,000	150,000	—	150,000	—
Other Accounts	10,513	78,224	83,570	5,346	83,570	—
Total O&M	2,378,490	2,502,115	3,815,007	1,312,892	3,941,717	126,711
% Change		5.2%		52.5%		3.3%

Totals may not foot due to rounding.

FY 2022/23 BUDGET BY EXPENDITURE

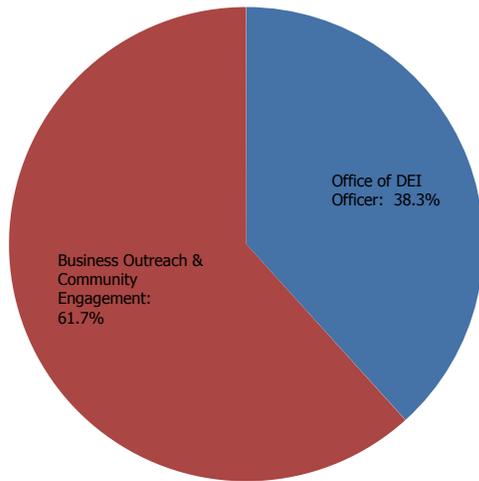


FY 2023/24 BUDGET BY EXPENDITURE

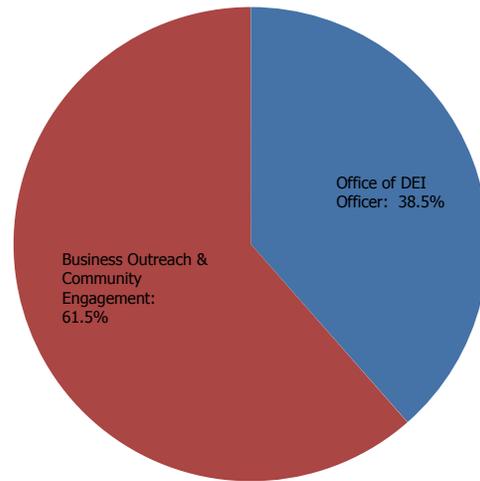


O&M BUDGET BY SECTION

FY 2022/23 BUDGET BY SECTION



FY 2023/24 BUDGET BY SECTION



	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23	Personnel Budget		
						21/22	22/23	23/24
Office of DEI Officer	—	1,461,500	1,461,500	1,518,800	57,300	—	4	4
Business Outreach & Community Engagement	2,502,100	2,353,500	(148,600)	2,422,900	69,400	7	6	6
Total O&M	2,502,100	3,815,000	1,312,900	3,941,700	126,700	7	10	10

Totals may not foot due to rounding.

PERSONNEL SUMMARY

		2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Regular	Total	7	7	9	2	9	—
	O&M	7	7	9	2	9	—
	Capital	—	—	—	—	—	—
Temporary	Total	—	—	1	1	1	—
	O&M	—	—	1	1	1	—
	Capital	—	—	—	—	—	—
Total Personnel	Total	7	7	10	3	10	—
	O&M	7	7	10	3	10	—
	Capital	—	—	—	—	—	—

Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

The Diversity, Equity & Inclusion Office’s Biennial Budget is \$3.8 million in FY 2022/23 and \$3.9 million in FY 2023/24 or an increase of 52.5% and an increase of 3.3% respectively from the prior budget years. The Salaries and Benefits increase in FY 2023/24 is due primarily to the negotiated labor increases and merit increases for qualified employees. The increase is due primarily to the following:

- New Office of DE&I Officer includes 1 staff transferred over from WSO and 2 new positions requested.
- Business Outreach section transferred from External Affairs to become Business Outreach & Community Engagement section.
- Professional services to support Office's key issues and initiatives.

FY 2022/23

Personnel-Related Issues

Total personnel count is increasing by 2 regular full-time positions from the FY 2021/22 budget to support the formation of Office of the DE&I Officer.

Salaries and benefits reflect negotiated labor increases and merit increases for qualified employees.

Professional Services

Professional services support new Office's key issues and initiatives.

Memberships & Subscriptions

Memberships & Subscriptions are increasing to support the Office's key issues and initiatives.

Other

Other accounts includes training & seminars, conferences & meetings, travel and other expenses necessary to support the new Office of DE&I.

FY 2023/24

Personnel-Related Issues

Total personnel count remains flat with the FY 2022/23 budget. Salaries and benefits reflect negotiated labor increases and merit increases for qualified employees.

Professional Services

Professional services remain flat with the FY 2022/23 budget.

WATER SYSTEM OPERATIONS

Water System Operations reliably treats and delivers high-quality water to Metropolitan's member agencies in an efficient, sustainable, and environmentally responsible manner.

PROGRAMS

Water System Operations (WSO) treats and delivers water from the Colorado River and the State Water Project (SWP) through a raw water conveyance system, five treatment plants, and an extensive treated water distribution network. This flexible system provides reliable deliveries to the member agencies and moves available supplies and storage reserves to meet Metropolitan's mission. Water quality remains paramount and all functions focus on surpassing drinking water standards in a safe and economical way.

WSO accomplishes its mission through the following programs or sections:

Office of the Group Manager provides day-to-day operational management as well as strategic and organizational leadership, directing all initiatives and core business efforts of WSO. The office also provides support functions such as budgeting and administration and coordinates and engages in regulatory and legislative activities. The Operations Projects & Asset Management unit provides oversight for the group on capital and operational project delivery, asset management, and member agency service connection requests.

Operations Support Services provides a diverse range of support to Metropolitan's core operational reliability functions and, on a reimbursable basis, to public entities such as DWR and member agencies. The Manufacturing Services unit performs fabrication, machining, coating, valve and pump refurbishment, underwater maintenance, and crane safety and certification. Construction Services unit performs general construction, large equipment transportation, equipment installation, and emergency response. The Power & Equipment

Reliability unit provides maintenance services which include predictive, preventive, and corrective maintenance analysis for critical equipment, including all treatment plants, pumping plants, hydroelectric power plants, pressure control structures, high voltage equipment, and heating, ventilation, and air conditioning (HVAC) systems.

The Fleet Services unit acquires and maintains vehicles, construction equipment, aircraft, and emergency generators.

Water Treatment operates and maintains five water treatment plants with a combined capacity of over 2.3 billion gallons per day. The section oversees treatment processes to ensure high-quality water is reliably produced that complies with drinking water regulations. All five treatment plants are staffed and operated 24 hours a day, seven days a week to meet about half of Metropolitan's annual deliveries. All five of the treatment plants (Jensen, Mills, Skinner, Weymouth and Diemer) have been retrofitted to use ozone as the primary disinfectant.

Water Conveyance and Distribution meets delivery requirements of member agencies by moving water into and throughout Metropolitan's 5,200 square mile service area and performing a wide range of operations and maintenance activities to ensure system reliability. This work encompasses the Colorado River Aqueduct (CRA) system and its five pumping plants as well as the distribution system of about 830 miles of pipelines, approximately 350 service connections to member agencies, 15 hydroelectric plants, and 9 storage and regulatory reservoirs that help Metropolitan meet peak flow periods and provide dry year and

emergency supply reliability. These functions are separated into two sections: one for the desert region, and one for the eastern and western regions of the service area.

Water Quality ensures that Metropolitan provides safe and aesthetically pleasing water through the following activities: conducting chemical and biological analyses; optimizing existing treatment processes; testing new technologies to assure compliance with current and future regulations; and providing technical expertise, laboratory services, and troubleshooting of water quality issues for Metropolitan and its member agencies. Water Quality also works to preserve and improve source water quality through rigorous watershed surveys and advocate for measures to reduce the risk of point and non-point source pollution. The section is also advancing water reuse opportunities through operations and testing at the Regional Recycled Water Advanced Purification Center.

Water Operations and Planning plans and implements the movement and use of water resources. These plans incorporate infrastructure and supply limitations, hydrologic variations, agency demands, changing water quality requirements, and storage program economics. Operational scenarios that encompass a broad range of potential supplies and demands are developed and refined on a weekly basis throughout the year. This process prepares WSO for a wide variety of possible outcomes as the year develops while maintaining reliable deliveries and balancing management of water storage reserves at a reasonable cost.

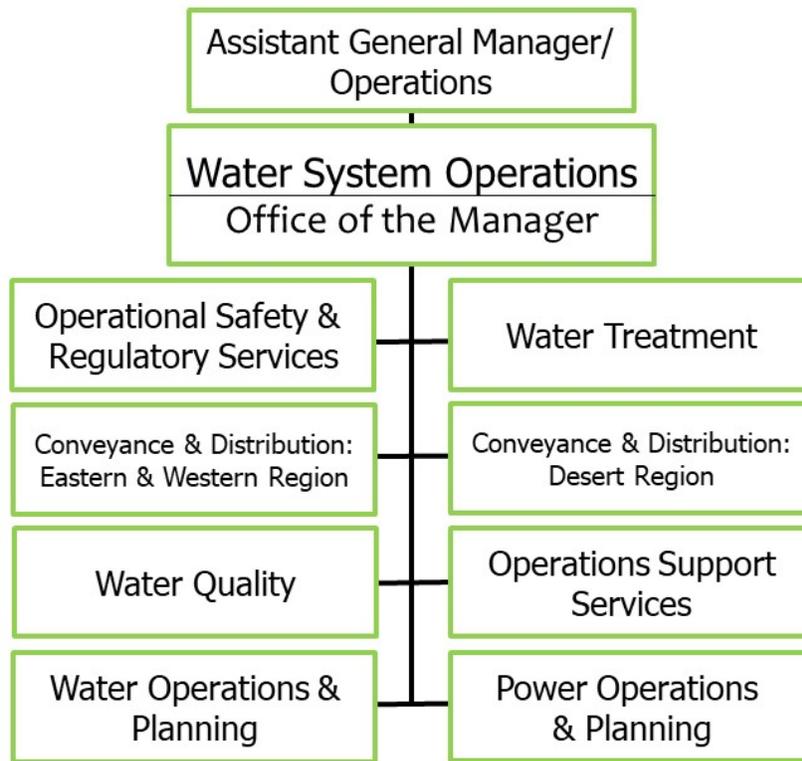
In addition, the section programs and maintains Metropolitan's automated control system, known as the Supervisory Control and Data Acquisition (SCADA) system.

Operational Safety and Regulatory Services is responsible for ensuring a safe working environment for employees through programs and training, ensuring business operations are conducted in an environmentally responsible way, and complying with all regulatory and occupational health and safety regulations and requirements. The section integrates environmental, health and safety practices into Metropolitan's operations and culture with the goal of achieving a safe workplace and eliminating regulatory incidents.

In addition, the section manages technical skills training for maintenance craft employees and sponsors an accredited apprenticeship program which is a cornerstone of WSO's proactive succession planning efforts. This is done by training industrial mechanics and electricians over a four-year period of classroom and hands on instruction.

Power Operations and Planning plans, acquires and accounts for the energy required to operate the CRA. This activity includes energy transactions with electric utilities and marketers. The section also negotiates and manages the contracts and energy accounting of renewable energy credits and greenhouse gas allowances for 15 small hydroelectric power plants and the CRA system.

In addition, the section is responsible for wholesale energy activities including evaluation of proposed energy-related regulations and legislation; analysis of state and regional transmission plans and impacts to the CRA transmission system; and reporting on compliance with regional and national electric reliability standards. Finally, the section works closely with energy staff at DWR on energy and transmission issues for the SWP.



GOALS AND OBJECTIVES

In FY 2022/23 and FY 2023/24, WSO will focus on the following key issues:

System Reliability

Manage and maintain the water system to ensure operational reliability for all reasonably expected demands. Metropolitan enters the biennium amid severe drought conditions that has led to efforts to further expand system flexibility and resilience by developing and implementing new projects and envisioning future projects, that add features to the conveyance and distribution system. These efforts will expand the movement of supplies and storage throughout the service area, with an emphasis on addressing the SWP dependent areas of the system.

Develop and distribute the Annual Operating Plan and manage water storage to provide the greatest delivery flexibility and cost effectiveness. Build on strategies such as employing operational flexibility to mitigate future drought condition impacts on water availability.

Plan, schedule, and execute the Annual Shutdown Plan to ensure reliable operation of the water delivery system, including a strategy to manage longer shutdowns to support the refurbishment of prestressed concrete cylinder pipelines.

Maintain eight-pump flow readiness on the CRA and manage storage accounts to capture all available Colorado River supplies in concert with water supplies from other sources. With member agency and regional partners, develop new water supplies to supplement the core SWP and Colorado River supplies including groundwater recovery, ocean desalination, and potable reuse.

Support the Regional Recycled Water Program by achieving regulatory acceptance for the advanced water treatment process. Conduct demonstration testing and perform optimization studies.

Support the Colorado River Aqueduct Main Pump Reliability Program, including detailed inspections of pumps, components and support systems.

Participate with the California Department of Water Resources (DWR) on value-engineering efforts to ensure cost-effective rehabilitation of SWP conveyance, pumping, and generation facilities.

Fully utilize the manufacturing shops in La Verne to maintain Metropolitan's infrastructure reliability and support projects for DWR and the member agencies.

Partner with Engineering Services and Information Technology groups to implement a comprehensive Asset Management Plan that will maximize the value of infrastructure assets and enhance reliability.

Partner with other groups to implement the Energy Sustainability Plan that will define strategies to increase operational flexibility, and reduce energy costs and greenhouse gas emissions.

Partner with other groups to implement the Energy Sustainability Plan that will define strategies to increase operational flexibility, and reduce energy costs and greenhouse gas emissions.

Continue the multi-year upgrade of the SCADA system to maintain and improve the ability to remotely operate the conveyance, distribution, and treatment systems.

Conduct emergency response exercises involving internal operational groups, member agencies, and other emergency response agencies.

Workforce Development & Succession Planning

Partner with Human Resources for an annual Leadership Academy program to improve internal recruitment pool for entry-level supervisors. Develop and implement targeted training courses for new field managers.

Recruit and begin training a new apprentice class for the mechanical and electrical trades. Support additional workforce development opportunities for the water sector.

Provide continuing education classes for licensed water treatment and distribution operators that are tailored to Metropolitan's procedures and facilities.

Water Quality, Environmental Protection, and Safety

Meet or surpass all drinking water standards and ensure delivery of aesthetically pleasing water.

Engage in the regulatory process to ensure full consideration of technical and economic feasibility for drinking water and environmental regulations. Implement increased laboratory functions to comply with new, stringent laboratory accreditation standards. Monitor for constituents of emerging concern, including PFAS and microplastics.

Engage watershed stakeholders and regulators to ensure effective control of source water contaminants such as uranium, perchlorate, hexavalent chromium, nutrients, and cyanotoxins.

Provide safety and regulatory services to ensure safe work practices and adhere to environmental and workplace health and safety regulations. Partner with the National Safety Council to identify and implement areas for improvement of the health and safety program, building upon prior efforts to continuously improve. Apply necessary workplace safety practices amid the continuing COVID-19 pandemic.

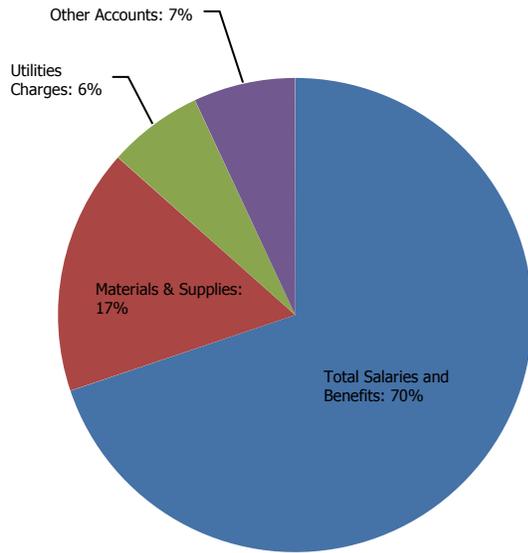
Continue effective management and monitoring of quagga mussels throughout Metropolitan's water system. Partner with DWR for monitoring quagga mussels in the west and east branches of the State Water Project and prepare quagga mussel control plans.

O&M FINANCIAL SUMMARY

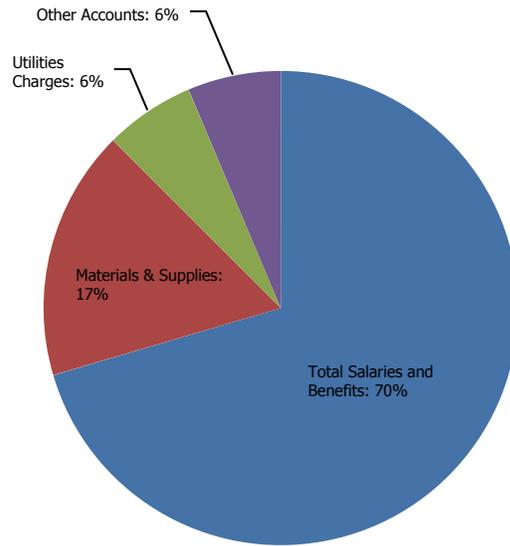
	2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Total Salaries and Benefits	188,075,974	209,058,267	205,040,551	(4,017,715)	213,782,194	8,741,643
Direct Charges to Capital	(10,015,653)	(8,951,284)	(9,246,454)	(295,171)	(9,619,320)	(372,865)
Total Salaries and Benefits	178,060,321	200,106,983	195,794,097	(4,312,886)	204,162,875	8,368,777
% Change		12.4%		(2.2%)		4.3%
Materials & Supplies	39,463,050	46,279,592	46,942,750	663,158	49,535,958	2,593,208
Outside Services - Non Professional / Maintenance	7,560,867	7,187,613	7,713,509	525,896	7,761,452	47,943
Utilities Charges	12,653,308	16,364,471	18,197,576	1,833,105	17,766,850	(430,726)
Other Accounts	9,259,214	10,683,464	11,736,145	1,052,681	10,631,627	(1,104,518)
Total O&M	246,996,760	280,622,123	280,384,077	(238,045)	289,858,762	9,474,684
% Change		13.6%		(0.1%)		3.4%
Operating Equipment	4,778,164	6,000,000	7,356,062	1,356,062	8,000,571	644,509
Total O&M and Operating Equipment	251,774,924	286,622,123	287,740,139	1,118,016	297,859,333	10,119,193
% Change		13.8%		0.4%		3.5%

Totals may not foot due to rounding.

FY 2022/23 BUDGET BY EXPENDITURE

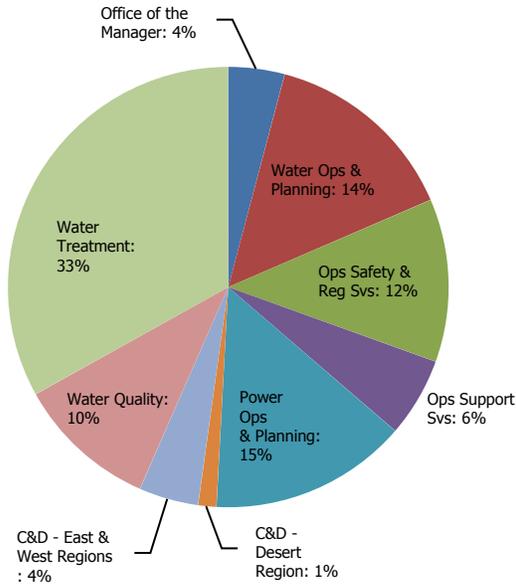


FY 2023/24 BUDGET BY EXPENDITURE

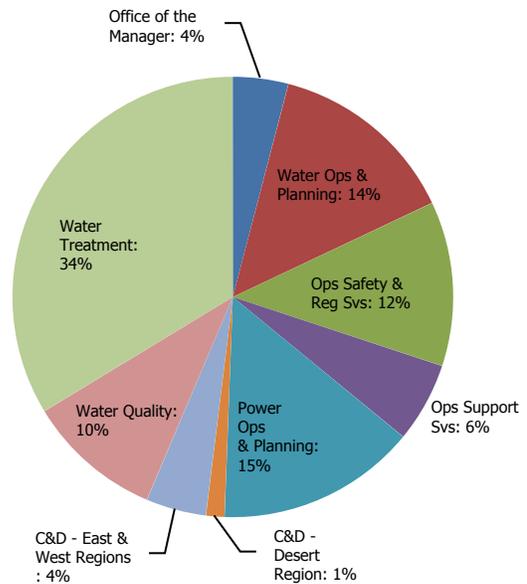


O&M BUDGET BY SECTION

FY 2022/23 BUDGET BY SECTION



FY 2023/24 BUDGET BY SECTION



	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23	Personnel Budget		
						21/22	22/23	23/24
Office of the Manager	9,793,300	11,588,600	1,795,300	11,821,700	233,100	21	22	22
C&D Section - Eastern & Western Regions	38,859,100	40,363,700	1,504,700	40,308,100	(55,600)	133	131	131
C&D Section - Desert Region	32,961,300	33,561,800	600,600	35,059,700	1,497,900	134	133	134
Operational Safety and Regulatory Services	16,414,100	16,357,200	(56,800)	17,003,900	646,700	51	50	50
Operations Support Services	39,408,200	40,723,900	1,315,800	42,481,800	1,757,900	150	154	154
Power Operations and Planning	3,800,400	3,782,000	(18,400)	3,942,000	159,900	12	11	11
Water Operations and Planning	12,716,200	12,268,200	(448,000)	12,825,700	557,500	40	38	38
Water Quality	29,428,000	28,994,100	(433,900)	28,811,900	(182,200)	102	102	102
Water Treatment	97,241,600	92,744,400	(4,497,200)	97,604,000	4,859,600	267	267	267
Total O&M	280,622,100	280,384,100	(238,000)	289,858,800	9,474,700	910	909	910

Totals may not foot due to rounding.

PERSONNEL SUMMARY

		2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Regular	Total	884	940	939	(1)	939	—
	O&M	845	894	893	(1)	893	—
	Capital	39	46	46	0	46	—
Temporary	Total	20	16	16	0	17	1
	O&M	19	16	16	0	17	1
	Capital	1	—	—	—	—	—
Total Personnel	Total	904	956	955	(1)	956	1
	O&M	865	910	909	(1)	910	1
	Capital	39	46	46	0	46	—

Totals may not foot due to rounding

BUDGET HIGHLIGHTS

WSO's O&M and Operating Equipment Biennial Budget is \$287.7 million in FY 2022/23 and \$297.9 million in FY 2023/24 or an increase of 0.4% and an increase of 3.5%, respectively from the prior year budgets. The main factors affecting these changes:

- Significant increases in chemical commodity prices, raised the expected chemical costs for water treatment.
- An increase in vendor pricing in all areas due to increasing fuel and labor costs.
- An increase in hazardous waste abatement costs expensed to O&M as a result of capital projects for Weymouth Basin Remediation and CRA rehabilitation.
- An increase in professional consulting services to support the next phase of testing at the Advanced Purification Center and the Environmental Planning phase of the Regional Recycled Water Program.
- An increase in Electricity costs due to planned continuous operation at the Greg Avenue pump station in FY 2022/23 to manage available supplies and help mitigate drought conditions.
- These increases are offset in part by a reduction in Agency and District Temp labor, Memberships & Subscriptions, and Travel expenses by taking advantage of greater availability for virtual training and conferences.

The following are the significant changes by budget year.

FY 2022/23

Personnel–Related issues

The number of regular positions reduced by one from the FY 2021/22 budget to support other district initiatives. This is in contrast to the need for additional staff in WSO to accomplish several key initiatives, such as the Regional Recycled Water Program, increased safety and regulatory compliance programs, system and drought

resiliency programs, and numerous reliability projects and programs in the Desert, among others.

Agency Temp labor needs are anticipated to decrease due to the filling of vacant regular positions. There was a reduction of District Temp student interns across WSO to meet budgetary

goals, which will lead to some desert and water treatment facility tasks, such as weed abatement and general maintenance to be deferred or require existing full time employees to complete at the expense of other O&M duties.

Organizational changes were made to better support business objectives, including addressing aging infrastructure and major rehabilitation programs, increased regulatory and compliance requirements, new strategic initiatives as well as workforce development efforts.

Refinements to the organizational structure were implemented to better serve changing operational needs and address gaps in high priority areas. These refinements focused on implementing asset management processes, addressing the need for improved power planning and NERC compliance, advancing CRA reliability and rehabilitation efforts, and meeting growing needs in the area of environmental health and safety.

Organizational refinements in the Water Quality Section help to prepare for new regulations addressing laboratory standards, and to advance potable reuse initiatives through operations and testing at the Regional Recycled Water Advanced Purification Center.

Salaries and Benefits reflect negotiated labor increases and merit increases for qualified employees.

Materials and Supplies

The budget reflects inflationary pressure anticipated on chemicals and other materials and supplies.

Professional Services

The budget reflects an increase in consultant services required to support demonstration testing and technical studies for the environmental planning phase for the Regional Recycled Water Program as well as strategic development of the Asset Management Program.

Non-Professional Services

The budget reflects inflationary increases in labor and fuel costs for services provided in this category such as janitorial, pest control, and inspection services.

In addition, costs for compliance-related contract services increased for environmental and safety equipment, as well as energy regulatory compliance activities for power operations.

Utilities Charges

The budget reflects an increase in waste disposal costs from facility R&R projects and an increase in expected electrical rates. Due to drought conditions, pumping at the Greg Avenue facility is anticipated for the majority of the year increasing electricity costs.

Other

A switch to high capacity circuits resulted in a reduction in Communications Expenses by reducing the amount and types of communications lines needed for both data and phone traffic.

FY 2023/24

Personnel–Related issues

Regular personnel count for both O&M and capital work remain unchanged from the FY 2022/23 budget. This is in contrast to the need for additional staff in WSO to accomplish key initiatives, such as the Regional Recycled Water Program, increased safety and regulatory compliance programs, system and drought resiliency programs, and numerous reliability projects and programs in the Desert, among others.

Temporary labor needs were reduced to meet budgetary goals including continued deferment of WSO student intern positions, which will lead to some desert and water treatment facility tasks, such as weed abatement and general maintenance to be deferred or require existing full time employees to complete at the expense of other O&M duties. .

Refinements to the organizational structure continued to be implemented to better serve the changing operational needs and address gaps in high priority areas. Focus areas include asset management and maintenance management processes, CRA reliability and rehabilitation efforts and aging infrastructure needs.

Salaries and Benefits reflect negotiated labor increases and merit increases for qualified employees.

Materials & Supplies

The budget reflects inflationary pressures anticipated on chemicals, fuel pricing and other materials and supplies.

Non-Professional Services

The budget reflects inflationary increases in labor and fuel costs for services provided in this category such as janitorial, pest control, and inspection services. In addition, costs for compliance-related contract services increased for environmental and safety equipment.

Utilities Charges

The budget reflects an increase in waste disposal costs from facility R&R projects and an increase in expected electrical rates. The overall decrease in utilities is due to pumping at the Greg Avenue facility anticipated for only half of the year.

Other

Includes a reduction in consultant services required to support demonstration testing and technical studies as the environmental planning phase for the Regional Recycled Water Program nears completion.

Operating Equipment – FY 2022/23 and FY 2023/24

The operating equipment budget is maintained to replace aging fleet, construction equipment, laboratory instruments, and other equipment to support the safe and reliable delivery of water. Increased amount reflects inflationary pressures in pricing and the culmination of aging equipment that is at the end of its useful life.

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INFORMATION TECHNOLOGY

Information Technology provides innovation and outstanding value to its customers for a wide range of technical services and enterprise business solutions.

PROGRAMS

Information Technology provides innovation and value to its customers for a wide range of technical services and enterprise business solutions. The group collaboratively works with customers to deliver information technology options, services, and solutions in the areas of enterprise and business applications, Engineering Services and Water System Operations applications, data analytics, mobile/wireless computing, telecommunications, network services, cybersecurity, project management and personal computing.

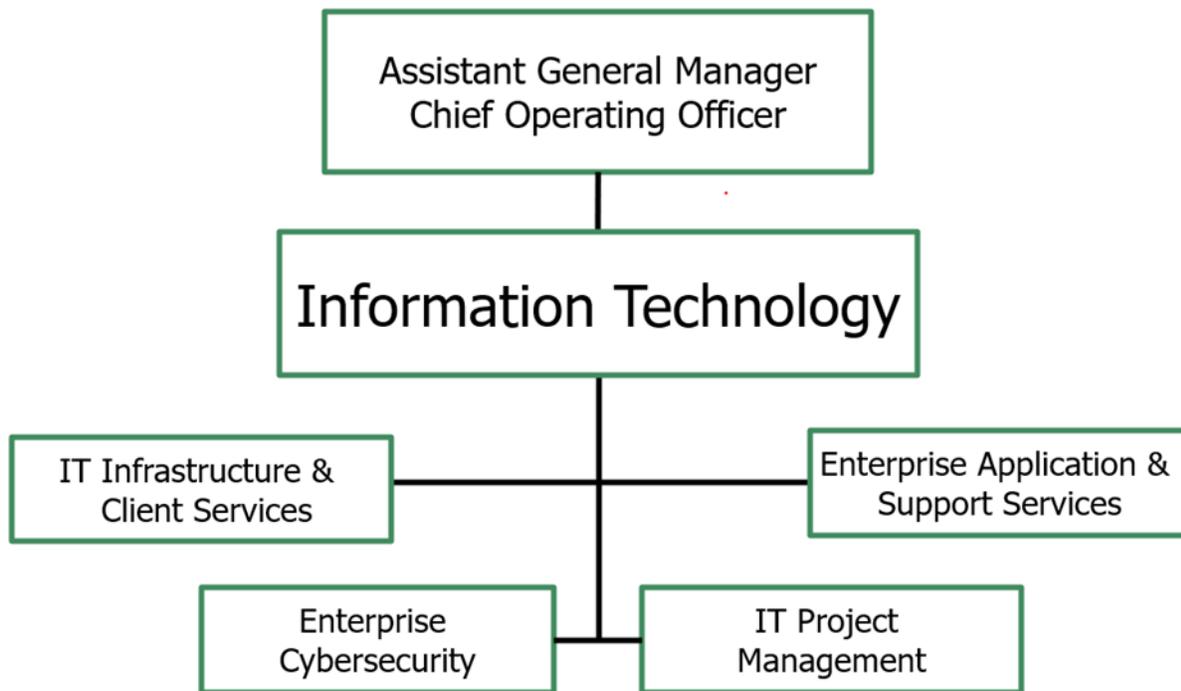
Office of Group Manager oversees the management of the Information Technology (IT) group by providing strategic leadership on initiatives and capital investments to improve operational efficiencies, enhance reliability & cybersecurity capabilities, and deliver innovative options and solutions.

Cybersecurity focuses on security standards and policies to enhance Metropolitan's cybersecurity posture and to ensure protection against evolving and increasing cyber threats.

Project Management Office is responsible for the overall governance and project management of the IT program and project portfolio.

Office of IT Section Manager (IT Infrastructure & Client Services) manages and supports IT business and service areas related to IT infrastructure, and maintains Metropolitan's enterprise-wide infrastructure services related to telecommunications, networks, servers, data center operations, and related client services.

Office of IT Section Manager (Enterprise Applications & Support Services) develops and supports enterprise, business software applications, business intelligence systems, and provides services, innovative solutions, and systems that support business functions in Engineering Services and Water Systems Operations.



GOALS AND OBJECTIVES

In FY 2022/23 and FY 2023/24, IT will focus on initiatives and projects that will enhance service reliability, improve resiliency, and improved workplace efficiency.

Key projects in support of strategic priorities include:

- Complete Data Center Modernization
- Implement Cybersecurity Operations Center
- Continue Cloud First Technology
- IT Capital Investment Plan
 - SCADA Control System
 - Replace end-of-life systems
 - IT Infrastructure Upgrades

Business Technology & Process Enhancement

In the prior biennium, the IT Group completed a number of key projects and initiatives providing the foundation for Metropolitan’s move to the cloud. This transformation to cloud computing will enhance productivity, streamline business

processes, enhance resiliency, reliability and security, and mitigate costs for the organization.

During the FY 2022/23 and FY 2023/24 biennium, IT will continue to implement projects in support of Metropolitan’s strategic initiatives, including strengthening Metropolitan’s cybersecurity capabilities by deploying new and emerging technologies and implementing a new security operations center, along with completing the data-center modernization project which will mitigate risks while enhancing IT infrastructure to support critical operations and deliver greater resiliency.

In addition, the planned technology upgrades will provide greater visibility and consolidation of IT costs and performance.

Information Systems Upgrades and Projects

IT continues to collaborate with business areas to enhance the capabilities of systems that achieve Metropolitan’s operational goals and objectives. The following key projects include IT deliverables

that add value to the enterprise while delivering innovative solutions.

Data Center Modernization Project

Provides an upgrade of Metropolitan's data center(s) to meet current and future needs while enhancing our resiliency and redundancy capabilities.

Water Information Systems (WINS)

The WINS upgrade will include much needed enhancement features to Metropolitan's water billing system to allow for automation and increased mobile functionality.

The Enterprise Data Analytics Project

The Enterprise Data Analytics Project will develop a data and analytics strategy, implement best practices, and engage Metropolitan stakeholders on a technology blueprint to serve the data analytics needs of Metropolitan business groups.

Water Systems Control Master Plan

The Water Systems Control Master Plan provides a road map to fully coordinate and further protect the operational and business investments of Metropolitan's SCADA systems. The master plan defines a multi-phased approach for replacing/upgrading the control system critical to Metropolitan's operations, water delivery, water quality, and infrastructure monitoring.

AMR System RTUs and Radio Modem Upgrade

Project phases include the upgrade of the Automatic Meter Reader (AMR) system, implementation of radio modems, and replacement of the Remote Terminal Units (RTUs) in support of updating obsolete equipment.

Enterprise Content Management (ECM)

Continue to partner with Administrative Services on the ECM project for the implementation of an ECM application and for the optimization of digital assets on Metropolitan's network storage devices.

Once fully implemented, the ECM system will provide a framework for collaboration, automation, and enhancements of core business processes.

Wireless Network Infrastructure

Continue deployment of upgrades to improve the reliability, performance, and capacity of Metropolitan's wireless network infrastructure comprising microwave radio wide-area networks (WANs) and wireless access point local-area-networks (LANs).

Fuel Management System Upgrade

Fuel Management System Upgrade seeks to upgrade the system that enables management controls over fuel inventories, dispensing, and security to ensure operability, vendor support, and system reliability at Metropolitan facilities as a continuation of the refurbishment initiative.

Maximo Mobile Computing Upgrade

Maximo Mobile Computing Upgrade aims to replace existing mobile devices, used in Water Systems Operations, with new mobile technology. This effort will enhance access to business information and vastly increase the functionality of the existing equipment.

Cybersecurity Project

The Cybersecurity Project will assess and remediate potential vulnerabilities and evolving cyber threats with an emphasis on implementing a security operations center (SOC) at Metropolitan.

Asset Monitoring and Management System

As part of the infrastructure reliability objective, the Asset Monitoring and Management System project seeks to develop a common framework to manage condition monitoring across Metropolitan's operations.

Payroll/Timekeeping

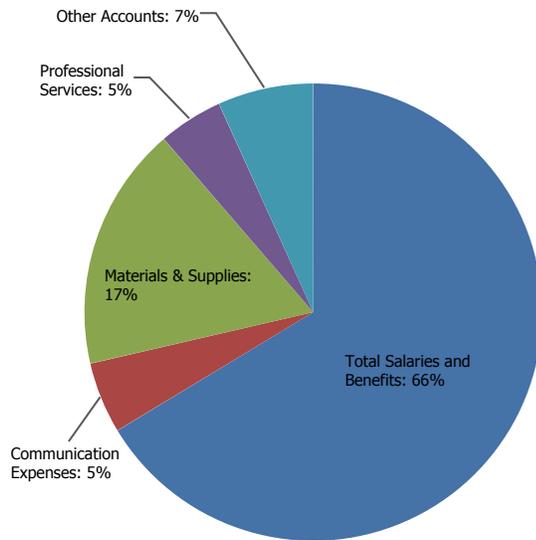
The Payroll/Timekeeping project seeks to upgrade and enhance PeopleSoft payroll and replace the current timekeeping software with a package that integrates with the payroll system and provides for ease-of-use interface for customers.

O&M FINANCIAL SUMMARY

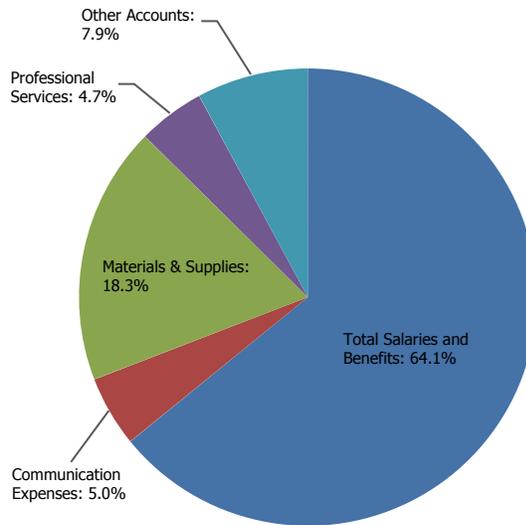
	2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Total Salaries and Benefits	32,243,835	33,340,537	34,215,261	874,724	35,355,260	1,139,999
Direct Charges to Capital	(2,603,182)	(1,490,986)	(1,675,060)	(184,074)	(1,731,640)	(56,580)
Total Salaries and Benefits	29,640,653	31,849,551	32,540,201	690,650	33,623,620	1,083,419
% Change		7.5%		2.2%		3.3%
Communication Expenses	2,190,086	2,060,370	2,477,800	417,430	2,629,200	151,400
Materials & Supplies	7,036,299	9,117,200	8,469,681	(647,519)	9,569,481	1,099,800
Outside Services - Non Professional / Maintenance	290,236	1,080,300	1,137,000	56,700	1,211,400	74,400
Professional Services	988,543	2,864,126	2,246,000	(618,126)	2,477,954	231,954
Repairs & Maintenance - Outside Services	941,092	1,643,700	1,766,500	122,800	2,324,500	558,000
Other Accounts	1,282,438	1,024,760	406,224	(618,536)	589,624	183,400
Total O&M	42,369,348	49,640,007	49,043,406	(596,601)	52,425,778	3,382,373
% Change		17.2%		(1.2%)		6.9%
Operating Equipment	589,989	528,100	244,013	(284,087)	181,385	(62,629)
Total O&M and Operating Equipment	42,959,337	50,168,107	49,287,419	(880,688)	52,607,163	3,319,744
% Change		16.8%		(1.8%)		6.7%

Totals may not foot due to rounding.

FY 2022/23 BUDGET BY EXPENDITURE



FY 2023/24 BUDGET BY EXPENDITURE



PERSONNEL SUMMARY

		2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Regular	Total	120	130	131	1	131	—
	O&M	112	123	125	2	125	—
	Capital	8	7	6	(1)	6	—
Temporary	Total	8	2	4	2	4	—
	O&M	6	2	4	2	4	—
	Capital	2	—	—	—	—	—
Total Personnel	Total	128	132	135	3	135	—
	O&M	119	125	129	4	129	—
	Capital	10	7	6	(1)	6	—

Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

The Information Technology O&M biennial budget supports the need for Metropolitan to remain resilient, sustainable and innovative. This budget includes key investments in risk mitigation (cybersecurity), infrastructure replacement and refurbishment (data center relocation and modernization), transition to cloud-based computing and deployment of innovative technologies to support business process improvements.

Information Technology's biennial O&M and Operating Equipment budget is \$49.3 million in FY 2022/23 and \$52.6 million in FY 2023/24 or a decrease of 1.8% and an increase of 6.7% respectively from the prior budget years. The changes are due primarily to the following key factors:

- Salaries and Benefits reflect negotiated labor increases and the increase of one position in FY 2022/23 to support key cybersecurity initiatives.
- Services within this biennial budget include costs associated with datacenter modernization to mitigate risk to Metropolitan while providing greater redundancy and resiliency capabilities.
- As part of the Cloud First strategy, this biennial budget includes on-going cloud services and consulting to facilitate the transforming of IT services to the cloud environment.
- Increases in communication expenses include co-location (for redundancy and resiliency), cloud-based connections, and new redundant circuits for field locations and increased capacity (bandwidth) to support Metropolitan's operational needs.
- Strengthen Metropolitan's cybersecurity capabilities by implementing a new security operations center and deploy new and emerging technologies to enhanced Metropolitan's cybersecurity countermeasures capabilities.
- Initiate end-of-life replacement/upgrade of the control system critical to Metropolitan's operations, water delivery, water quality, and infrastructure monitoring.

The following are significant changes by budget year:

FY 2022/23

Personnel-Related matters

Total personnel count increased from 130 to 131 FTEs for the FY 2022/23 budget, reflecting the increase of one FTE. to support key cybersecurity initiatives. District temporary increased by 2 FTEs to support cloud security administration, server administration, and increasing demand for IT services (UAV / drone missions).

Salaries and Benefits reflect negotiated labor increases and merit increases for qualified employees.

Professional Services

Reductions were made in professional services by re-prioritization of workloads and support services.

Communication Expenses

The budget reflects increases in communication expenses including co-location (for redundancy and resiliency), cloud-based connections, and new circuits for field locations and increased capacity (bandwidth) to support Metropolitan's operational needs.

FY 2023/24

Personnel-Related issues

Total regular personnel for O&M remained at 131 for the FY 2023/24 budget. Salaries and Benefits reflect negotiated labor increases.

Professional Services

Increases in professional services for FY 2023/24 reflects IT support for critical on-call services for application enhancements, transition to cloud-based computing and other strategic IT priorities.

Equipment Expensed

The budget decrease from FY 2021/22 reflects the completion of the PC Replacement Project.

Materials and Supplies

Reductions in materials and supplies for FY 2022/23 reflect re-prioritization of software maintenance expenses associated with new capital projects.

Repairs and Maintenance

Increases to the budget for repairs and maintenance are attributed to hardware equipment (servers) coming off warranty, new Board Room A/V equipment, and expansion of Metropolitan network infrastructure.

Non-Professional Services

No significant change in non-professional services for FY 2022/23.

Communication Expenses

The budget increase in communication expenses includes inflationary factors and new circuits to improve Metropolitan's operational resiliency.

Equipment Expensed

No significant change in equipment expensed for FY 2023/24.

Materials and Supplies

The budget reflects inflationary increases for software licensing/support agreements, and continued transformation to cloud computing and the increased consumption of cloud services.

Repairs and Maintenance

Increases to the budget for repairs and maintenance are attributed to in-region and out-of-region datacenters, and associated hardware maintenance for servers, networking equipment, routers and switches supporting the business and SCADA networks.

Non-Professional Services

No significant change for FY 2023/24.

Operating Equipment - FY 2022/23 and FY 2023/24

The operating equipment budget reflects the critical replacement of IT equipment that has reached end-of-life, including hardware (servers and storage devices), and GIS-Workstations to supporting Metropolitan operations.

The operating equipment budget continued to decrease in FY 2022/23 and 2023/24 and is primarily attributed to fewer server replacements due to the Cloud First Technology approach. In addition to the reduction of physical servers, corresponding reductions of storage (SAN) requirements also reduces operating equipment expenses.

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REAL PROPERTY

Real Property applies strategic approaches to the acquisition, management and protection of Metropolitan's real property assets, and seeks to effectively optimize revenues and control land management costs.

PROGRAMS

Real Property accomplishes its mission through the following programs or organizations:

Office of the Group Manager includes Business Management, Planning & Acquisition, Property Management, and Asset Management. The Group Manager directs the group's efforts in planning acquiring, and managing Metropolitan's real property assets; is responsible for the development of real property policies and strategies to centralize Metropolitan's land activities to ensure properties are maintained, secured, and protected for present and future needs.

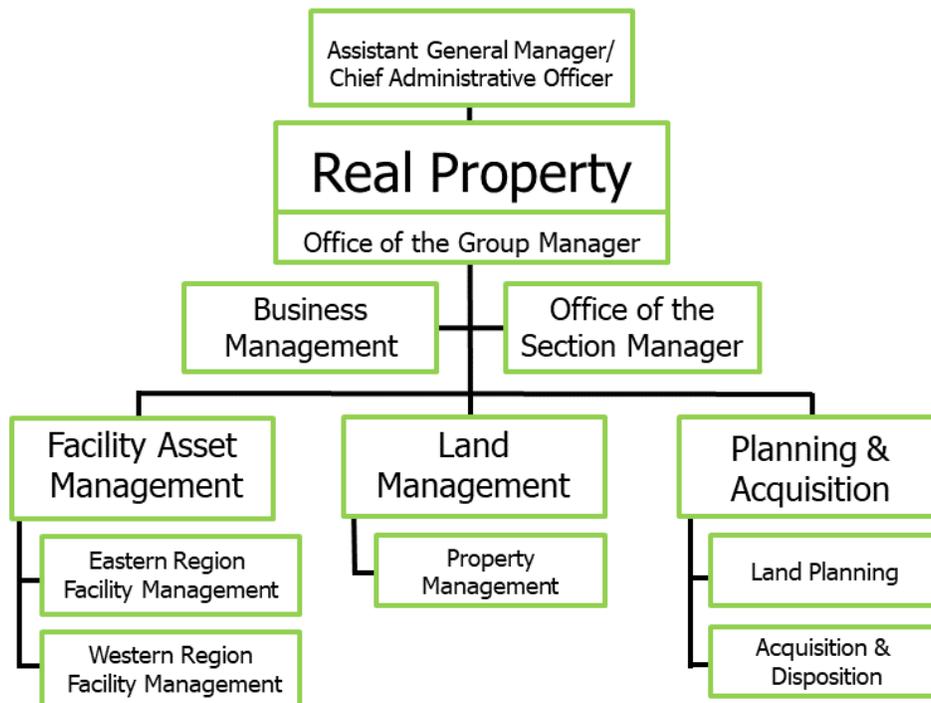
Business Management monitors and tracks the group's business plan, financial and budgetary initiatives; and provides administrative and business process support. In addition, the Team handles property tax payments, lease payments, provides contract support, and board letter and report coordination.

Planning & Acquisition is responsible for right of way planning, acquisition, and valuation of real

property and real property rights for future conveyance and distribution programs and existing infrastructure rehabilitation programs. The unit is also responsible for the disposition of surplus properties.

Land Management is responsible for the stewardship of Metropolitan's real property assets, managing secondary uses of real property and identification of properties that are excess to Metropolitan's needs. In addition, the Unit is responsible for the protection of Metropolitan's real property including site inspections, trespass and encroachment resolution.

Facility Asset Management is responsible for management and maintenance of Metropolitan's headquarters facility, the DVL office buildings and employee housing and recreational facilities..



GOALS AND OBJECTIVES

In FY 2022/23 and FY 2023/24, Real Property will focus on the following key issues:

Centralized Management of Metropolitan's Real Property Assets

Continue with a centralized management approach of Metropolitan's real property assets to ensure properties are regularly maintained, secured and protected for present and future needs.

Implement a maintenance/replacement schedule for the property management of approximately 100 desert housing units.

Continue to budget, administer, and provide property and facility management services for the leased office space in Sacramento, Washington DC, and San Diego.

Continue facility management direction and logistical support throughout the Union Station Headquarters Improvement Project.

Real Property Asset Protection & Stewardship

Monitor legislation regarding eminent domain, relocation assistance, and public agency real estate acquisition and appraisal practices.

Provide timely and suitable responses to property adjacent projects, land developments, and environmental proceedings.

Complete property management and right-of-way operating policies to reflect best practices.

Complete testing and deployment of a new comprehensive cloud-based solution to manage all aspects of the real property lifecycle. The software will assist staff to manage leases, licenses, and the acquisition and conveyance of fee, easements, permits, rights transfers and disposition. The software will also improve accounting processes and enhance reporting of revenue and key performance measures across Metropolitan's land

and rights holdings.

Develop and implement a plan to detect and address right-of-way encroachments upon Metropolitan properties with a collaborative cross-functional approach to prioritize and remediate the highest risk conditions.

Complete annual reviews to identify properties that are excess to Metropolitan's needs and bring information to the Board for action to declare those properties surplus.

Lead a monthly cross-functional, interdepartmental Property Review Council meeting to review secondary land-use requests by public and private entities and ensure Metropolitan's real property, operational, environmental, and water quality interests are protected.

Complete annual site inspections of secondary uses to identify and correct any conditions in conflict with terms and conditions of the conveyance agreements.

File possessory tax reports and tax payments to appropriate counties on time.

Bay Delta Properties

Collaborate with the Bay Delta Initiative team to implement a comprehensive Land Management Plan that optimizes and balances environmental, sustainability, revenue generation, water delivery and water quality priorities.

Identify opportunities to improve farming practices through lease incentives and enhance lease revenue, for the currently leased 20,000 acres, through enhanced partnership with existing tenants and establishing new tenant relationships.

Ensure Water Reclamation District assessments, local property taxes and coalition fees are paid on time.

Provide support to the Delta conveyance and habitat rehabilitation efforts.

Palo Verde Valley Properties

Collaborate with the Water Resources Management Group to implement improvements in farming practices, performance metrics, water

measurements and conservation.

Manage agricultural leases of approximately 22,000 acres to achieve water conservation and farming objectives. Continue to identify ways to incentivize tenant farmers to implement best practices including regenerative agriculture.

Ensure Palo Verde Irrigation District water tolls, local property taxes, and coalition fees are paid by the farmers and leaseholders on time.

Diamond Valley Lake Recreation and Management

Identify infrastructure improvements as part of the Diamond Valley Lake Recreation capital appropriation. These projects will enhance recreational opportunities and promote economic self-sustainability.

Explore marina and other recreational opportunities to expand lease revenues, and collaborate with the stakeholders of the DVL Recreation Area Memorandum of Intent.

Identify additional DVL land considered excess to Metropolitan's needs, and bring to the Board for action to declare those properties surplus.

Right of Way Planning, Acquisition & Disposition

Provide right-of-way planning and acquisition of real property and real property rights, including appraisal and relocation services, for future conveyance and distribution programs and infrastructure rehabilitation programs. These include the Regional Recycled Water Program, Right of Way & Infrastructure Protection Program and the Prestressed Concrete Cylinder Pipeline Rehabilitation Program.

Other projects include the Colorado River Aqueduct (CRA) Reversionary Interest to protect Metropolitan's legal title to the 1932 Act lands and CRA infrastructure by releasing any remaining federal interest in these lands and to provide recordation of clear land ownership documents in the local county recorders' offices. Lastly, services include disposition of surplus properties.

Facility & Energy Management

Continue to optimize the cost of maintaining Metropolitan's headquarters building and DVL Office buildings while supporting Metropolitan's sustainability initiatives. Sustainability initiatives and practices are in alignment with the Building Owners and Managers Association and EPA's voluntary ENERGY STAR program.

Execute a multi-year strategic approach to manage critical rehabilitation projects at Metropolitan's Headquarters as the equipment, components, and furnishings reach the end of their useful life cycle.

Complete an architectural plan and begin implementation to paint, carpet, and replace cubicle/modular furniture on all floors of the Headquarters facility.

Perform timely repairs and maintenance of District housing and recreational facilities to ensure decent, safe, and sanitary conditions are met.

Complete a multi-year plan, implemented in the prior budget cycle, to asphalt maintenance at DVL recreation areas and roads.

Workforce Development & Succession Planning

Expand knowledge, skills, and abilities of staff through training, succession planning, and educational workshops.

Engage with local universities and professional societies to promote Metropolitan employment opportunities.

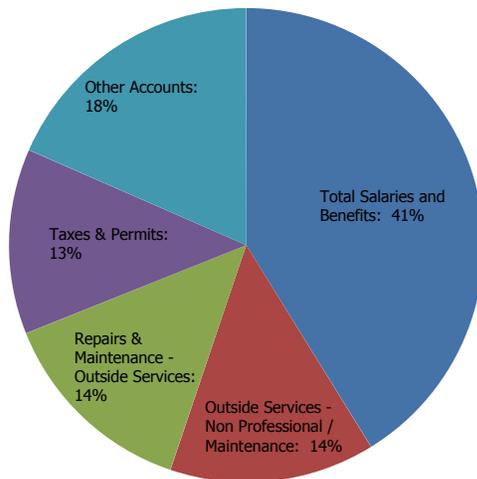
Collaborate with public agencies to identify areas where consistent real property best practices can be applied.

O&M FINANCIAL SUMMARY

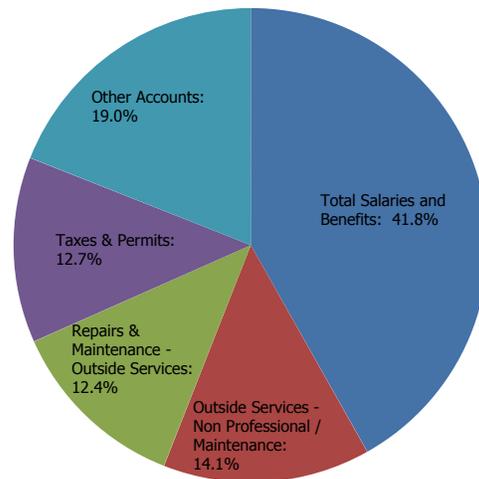
	2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Total Salaries and Benefits	11,092,969	13,521,011	13,031,262	(489,749)	13,639,530	608,268
Direct Charges to Capital	(876,003)	(1,939,027)	(557,084)	1,381,943	(607,753)	(50,669)
Total Salaries and Benefits	10,216,966	11,581,984	12,474,178	892,194	13,031,777	557,599
% Change		13.4%		7.7%		4.5%
Materials & Supplies	1,180,954	788,900	1,073,376	284,476	1,118,600	45,224
Outside Services - Non Professional / Maintenance	3,136,346	4,149,200	4,241,100	91,900	4,402,300	161,200
Professional Services	601,769	1,311,600	1,221,025	(90,575)	1,394,251	173,226
Rent & Leases	1,008,396	1,138,851	1,179,700	40,849	1,226,500	46,800
Repairs & Maintenance - Outside Services	2,437,276	3,492,000	4,165,330	673,330	3,854,019	(311,311)
Taxes & Permits	5,724,132	6,346,718	3,828,000	(2,518,718)	3,943,000	115,000
Utilities Charges	1,254,298	1,834,800	1,742,000	(92,800)	1,742,000	—
Other Accounts	300,587	469,980	395,056	(74,924)	425,990	30,934
Total O&M	25,860,722	31,114,033	30,319,765	(794,268)	31,138,437	818,672
% Change		20.3%		(2.6%)		2.7%
Operating Equipment	7,122	21,000	503,170	482,170	—	(503,170)
Total O&M and Operating Equipment	25,867,844	31,135,033	30,822,935	(312,098)	31,138,437	315,502
% Change		20.4%		(1.0%)		1.0%

Totals may not foot due to rounding.

FY 2022/23 BUDGET BY EXPENDITURE



FY 2023/24 BUDGET BY EXPENDITURE



PERSONNEL SUMMARY

		2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Regular	Total	48	53	55	2	55	—
	O&M	44	46	52	7	52	—
	Capital	4	8	3	(5)	3	—
Temporary	Total	2	7	5	(2)	5	—
	O&M	2	5	5	—	5	—
	Capital	—	2	—	(2)	—	—
Total Personnel	Total	51	60	60	0	60	—
	O&M	46	50	57	7	57	—
	Capital	4	10	3	(7)	3	—

Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

Real Property’s O&M and Operating Equipment Biennial Budget is \$30.8 million in FY 2022/23 and \$31.1 million in FY 2023/24 or an decrease of 1.0% and a increase of 1.0%, respectively from the prior budget years. The main factors affecting these changes:

- Expanded responsibilities for the group, including the management, maintenance and construction of Employee District Housing and recreation areas throughout the service area.
- Large maintenance and repair projects at Metropolitan's USHQ Facility, DVL Visitor Center and property structures in the Bay Delta and Palo Verde Valley.
- Significant efforts related to encroachment remediation, appraisal and marketing of surplus properties, and office relocation services during the Union Station Headquarters Improvement Project.

The following are the significant changes by budget year:

FY 2022/23

Personnel-Related Issues

Total personnel count is increasing by two regular full time positions offset by a reduction of 2 temporary FTEs from the FY 2021/22 budget. These positions are necessary to support critical district housing projects and land protection projects.

Capital labor allocation reflects a decrease from FY 2021/22 as a result of the completion of some projects related to the Union Station Headquarters Improvement Project, the USHQ Fire Alarm replacement, and Desert Village enhancements.

Salaries and benefits reflect negotiated labor increases and merit increases for qualified employees.

Non-Professional Services

The budget reflects an increase from the FY 2022/23 budget as a result of an increase in necessary contracts needed to support: weed abatement, pool services, pest control, and a new wellness center for our desert housing facilities.

Repairs and Maintenance - Outside Services

The budget reflects an increase in FY 2022/23 due to repairs of structures at our desert housing and in-town housing. In addition, the increase will support our role in encroachments and trespassing remediation efforts.

Taxes & Permits

The budget reflects decrease to annual property tax payments, due to this responsibility being allocated to the Bay Delta Initiatives group.

FY 2023/24

Personnel-Related Issues

Total personnel count is is not changing in FY 2023/24.

Salaries and Benefits reflect negotiated labor increases and merit increases for qualified employees.

Non-Professional Services

The budget reflects an increase in FY 2023/24 in order to provide additional security for the DVL trail system which is expected to open in FY 2023/24, along with adding portable restrooms for the trails and cost of living increases for our janitorial and building engineer contracts.

Repairs and Maintenance - Outside Services

The budget decrease in FY 2023/24 reflects the completion of certain projects, including the DVL Visitor's Center parking lot resurfacing, partial carpet replacement and courtyard recaulking at USHQ, and demolition of select structures.

Operating Equipment - FY 2022/23 and FY 2023/24

The operating equipment budget for Operations Administration reflects the need for two trucks. These vehicles, outfitted with specialized packages not available to the general public, will provide additional protection and personal safety for our security personnel and support them as they keep Metropolitan's facilities secure.

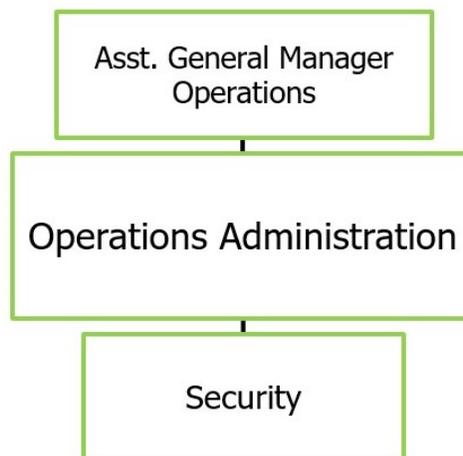
OPERATIONS ADMINISTRATION

Operations Administration provides security management services which protect Metropolitan's Board of Directors, executive management, employees, and physical assets and keep Southern California's critical infrastructure secure.

PROGRAMS

The newly established Operations Administration group accomplishes its mission through the following program or section:

Security Management provides cost-effective and innovative protection of Metropolitan's employees, patrons, infrastructure and equipment.



GOALS AND OBJECTIVES

In FY 2022/23 and FY 2023/24, Operations Administration will focus on the following key issues and initiatives:

Security Management

Implement a Security Strategic plan that is aligned with District goals and objectives and provides for an incremental and phased approach for obtaining resources, including staff, equipment and technology.

Publish specifications for security infrastructure, based on regulatory requirements and industry best practices.

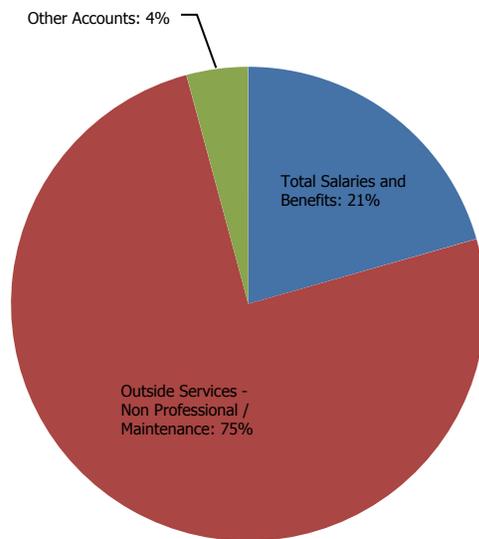
Formalize conceptual approval on capital project plans and specifications to ensure security opportunities and considerations are incorporated.

O&M FINANCIAL SUMMARY

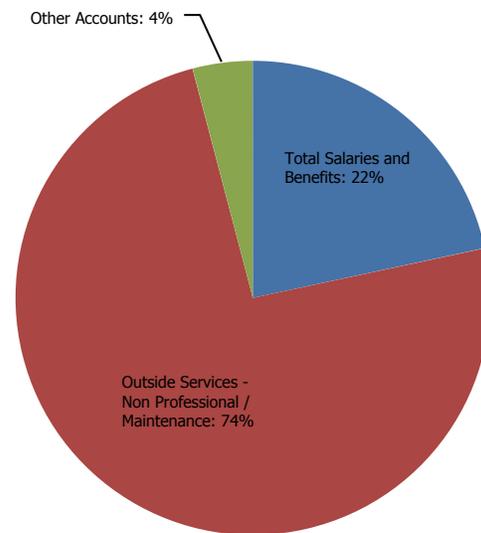
	2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Total Salaries and Benefits	2,415,526	2,860,476	3,148,410	287,934	3,352,186	203,776
<i>Direct Charges to Capital</i>	—	—	—	—	—	—
Total Salaries and Benefits	2,415,526	2,860,476	3,148,410	287,934	3,352,186	203,776
% Change		18.4%		10.1%		6.5%
Outside Services - Non Professional / Maintenance	9,610,741	10,059,000	11,495,730	1,436,730	11,502,450	6,720
Other Accounts	545,944	633,200	641,150	7,950	631,850	(9,300)
Total O&M	12,572,211	13,552,676	15,285,290	1,732,614	15,486,486	201,196
% Change		7.8%		12.8%		1.3%
Operating Equipment	—	—	68,421	68,421	67,343	(1,079)
Total O&M and Operating Equipment	12,572,211	13,552,676	15,353,711	1,801,035	15,553,829	200,118
% Change		7.8%		13.3%		1.3%

Totals may not foot due to rounding.

FY 2022/23 BUDGET BY EXPENDITURE



FY 2023/24 BUDGET BY EXPENDITURE



PERSONNEL SUMMARY

		2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Regular	Total	9	11	11	—	11	—
	O&M	9	11	11	—	11	—
	Capital	—	—	—	—	—	—
Temporary	Total	—	—	1	1	1	—
	O&M	—	—	1	1	1	—
	Capital	—	—	—	—	—	—
Total Personnel	Total	9	11	12	1	12	—
	O&M	9	11	12	1	12	—
	Capital	—	—	—	—	—	—

Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

The Operations Administration group's Biennial Budget is \$15.4 million in FY 2022/23 and \$15.6 million in FY 2023/24 or an increase of 13.3% and an increase of 1.3% respectively from the prior budget years. The increase is due primarily to the following:

- The development and implementation of Metropolitan's Security Strategic Management Plan requires additional labor and non-labor resources in order to meet vulnerability assessment recommendations.

The following are the significant changes by budget year:

FY 2022/23

Personnel-Related Issues

Total personnel count is increasing by one district temporary position from the FY 2021/22 budget. The increase in district temporary labor is necessary to provide ongoing coverage for each of the treatment and pump plants. The added position can be rapidly deployed to resume security coverage and functions in the impacted area or responsibility should any of the security specialists be on leave, in training, or have circumstances that prevent them from fulfilling their duties.

Salaries and benefits reflect negotiated labor increases and merit increases for qualified employees.

Non-Professional Services

The budget increase from FY 2021/22 is associated with increased security staffing and coverage, as well as an increase in certified security services, in order to provide enhanced security at headquarters and other facilities to meet vulnerability assessment recommendations..

FY 2023/24

Personnel-Related Issues

Total personnel count remains flat with the FY 2022/23 budget.

Salaries and benefits reflect negotiated labor increases and merit increases for qualified employees.

Non-Professional Services

Non-Professional services remains flat with the FY 2022/23 budget.

Operating Equipment – FY 2022/23 and FY 2023/24

The operating equipment budget for Operations Administration reflects the need for two trucks. These vehicles, outfitted with specialized packages not available to the general public, will provide additional protection and personal safety for our security personnel and support them as they keep Metropolitan’s facilities secure.

EXTERNAL AFFAIRS

External Affairs builds awareness and support for Metropolitan's mission and programs by directing media and stakeholder communications, public outreach and education projects, legislative activities, and member agency support services.

PROGRAMS

External Affairs is responsible for advancing Metropolitan's policy objectives and communicating with large and diverse audiences on behalf of the district. A strong portfolio of communication tools, media services, public outreach and sponsorship programs, education and legislative activities is used to build positive working relationships and increase awareness of Metropolitan's programs and initiatives with the public, news media, legislators, regulators, educators, community groups, businesses, labor organizations, Metropolitan's public member agencies and other stakeholders.

Staff at the Union Station headquarters and regional representatives give voice to Metropolitan's policy priorities and projects throughout Southern California. External Affairs also manages strategic activities and regional outreach from Metropolitan's offices in Sacramento, Washington, D.C. and San Diego.

Office of Group Manager directs the activities of Conservation and Community Services, Legislative Services, Media and Communications and the Member Services and Public Outreach sections, and the Business Management team. The Group Manager leads policy objectives and program initiatives in coordination with the board, executive management and other groups within the organization.

Legislative Services promotes and protects the interests of Metropolitan and its member agencies before executive, legislative, and regulatory agencies of the state and federal governments. The section advances Metropolitan's policy objectives and board-adopted legislative priorities and principles

with legislators and other water policymakers, and engages with member agencies and diverse community partners to mobilize and sustain regional support for Metropolitan's key initiatives.

Conservation and Community Services

advances public awareness of Metropolitan and important water and conservation issues through advertising, education and community outreach. The section promotes and helps market conservation programs and activities, and manages Metropolitan's sponsorships for education and research programs, water forums, events and community partnerships.

The Education Team supports standards-based water education curriculum and works with educational associations, institutions and teachers to provide water education resources for elementary and secondary schools, colleges and universities.

Member Services and Public Outreach

provides support services to Metropolitan's member agencies and manages outreach efforts for Metropolitan's facility operations, construction activities and other water resource initiatives. The section works with and supports local government, business, agriculture and community organizations, and directs research efforts to support Metropolitan programs.

The Inspection Trip Team conducts board-sponsored and other special inspection trips that offer firsthand knowledge of Metropolitan's operations, introduce current water issues, and communicate Metropolitan's role in responding to

those issues through its facilities, infrastructure, policies, and programs.

The Community Relations Team manages communications and outreach to support Metropolitan's initiatives for new and existing in-region water infrastructure projects. Working in cooperation with Engineering Services, Water System Operations, Real Property and Environmental Planning, the team plans and conducts external outreach for Metropolitan's capital and O&M projects, including the Regional Recycled Water Program. The Community Relations Team serves as a liaison between Metropolitan and the community. The team works with residents, businesses and communities to inform them of upcoming activities and resolve issues. The team helps gain support of projects, manages expectations, and develops trusted relationships to ensure that Metropolitan projects move forward.

Media and Communications develops, coordinates, produces and communicates messages, information and achievements to support Metropolitan's key objectives and programs. The section comprises Media Services, Graphic Design and Creative Design teams.

Media Services is responsible for handling media inquiries, drafting and issuing press releases, hosting press conferences and other media events,

and producing informational resources and materials, including fact sheets, talking points, brochures and opinion pieces. Media Services also manages Metropolitan's websites, maintains Metropolitan's growing presence on social media platforms and digital platforms, and produces e-newsletters and blogs.

The Graphic Design Team provides Metropolitan's centralized, in-house graphic communication services. Areas of responsibility include all phases of desktop publishing and design and press-ready artwork using traditional and/or digital media; commercial art and technical illustration.

The Creative Design Team was recently established in response to Metropolitan's growing in-house execution of professional media assets, including internal and external video projects and digital advertisements. The team conceptualizes the priorities in visually compelling ways and devises complex plans using print, video, web, social media, and other similar platforms to communicate to Metropolitan's diverse public audiences and vested stakeholders. Based on Metropolitan service area needs and internal client requests, the team uses project specifications to translate messaging designs.



GOALS AND OBJECTIVES

In FY 2022/23 and FY 2023/24, External Affairs will focus on the following key issues and objectives:

Communications and Outreach Efforts

Expand and continue to improve the use of strategic, impactful and creative communication plans and programs to inform the public, businesses, environmental and other stakeholder groups about Metropolitan’s initiatives and leadership to ensure safe, reliable and sustainable water supplies now and into the future.

Maintain content and informational resources on the newly redesigned mwdh2o.com website, manage development of redesigned microsites as needed to improve the functionality, content management, security and end-user experience.

Develop in- house management of social media outreach and marketing activities, search engine optimization and marketing functions to meet business and outreach goals.

Strengthen the capacity of sponsorship and partnership programs, including the Community Partnering Program, legislative sponsorships and

memberships, and enhance information sharing on water issues and stewardship, and maintain strong relationships with non-governmental organizations, business groups, local elected officials, community organizations and other stakeholder groups throughout Southern California.

Engage in research and related activities that provide accurate and timely information on public opinions, consumer attitudes and awareness to inform future outreach activities with member agencies, stakeholders and the public.

Water Supply Reliability, Conservation and Sustainability

Develop and implement an effective and well-managed multimedia, multilingual advertising and outreach campaign to increase public awareness of water supply conditions, Metropolitan and member agency rebate programs, and support for long- term conservation strategies.

Provide communication support for Metropolitan programs, planning activities and projects that ensure water supply reliability, including existing

water operations, imported supplies from the Colorado River and State Water Project, the Integrated Resource Plan and local resource programs that diversify the region's water portfolio, conservation actions and innovative water technologies.

Increase awareness of Metropolitan's long-standing efforts to promote environmental stewardship through actions and investments for projects, programs, research and collaborative activities that promote the use of native plants, protect and enhance habitat and ecosystems, watersheds, and water quality.

Promote public awareness of climate change impacts on water supply conditions and reliability using a range of community and outreach tools to support Metropolitan's current and future initiatives, including the Climate Action Plan.

Bay-Delta and Local Supply Initiatives

Provide information and secure support of stakeholders, the public and legislators for Metropolitan's positions on policies that promote water supply reliability and an environmentally sustainable Bay-Delta. This includes programs and policies related to Delta conveyance, EcoRestore and Metropolitan-owned properties and science investments in the Delta.

Ensure strong coordination and consistent messaging with state and federal agencies, State Water Contractors, JPA-participating agencies, and member agencies on activities related to Delta conveyance.

Provide communication and community outreach to increase public awareness of and support for projects to advance local supply development, including the Regional Recycled Water Advanced Purification Center.

Legislative Policy Objectives

Work with the board, member agencies and executive management to secure support for and/or sponsorship of federal and state legislation and regulatory policies that advance Metropolitan's policy objectives, including strategic water quality and supply initiatives, conservation, Delta solutions, regional water resource projects, and sustainable water and energy management.

Conduct briefings, presentations and tours for elected officials, government leaders, and community-based environmental and business organizations to increase understanding of key water infrastructure systems, investments and key legislative and regulatory policies.

Board and Member Agency Support

Facilitate ongoing communication and coordination between Metropolitan and its member agencies through regular meetings with general managers, legislative and education coordinators, and public information officers.

Effectively manage the inspection trip program in coordination with the Board to educate the public, business and community leaders, elected officials, news media, and members of the public about Metropolitan and encourage a dialogue about the state's water supply and infrastructure, environmental issues and climate change impacts, agriculture and urban water interface and future challenges.

Provide primary support to the Board's Communications and Legislation Committee, the Agriculture and Industry Relations Committee, and the ad hoc Facilities Naming Committee, ensuring that committee presentations, Board letters and associated activities provide timely, accurate and relevant information on programs, trends and activities to help inform Board actions and ensure transparency.

Educational Programs

Update and expand distribution of Metropolitan's K-12 water education materials in the areas of science, math, language arts and social studies.

In coordination with member agencies and the educational community, explore opportunities to expand educational services through the use of new technologies and strategic partnerships to reach more students, teachers and classrooms, including underserved and culturally diverse populations. Support and manage Metropolitan's unique educational programs, including water education grants and sponsorship opportunities, and the annual Student Art Contest.

Emergency Management and Crisis Communication

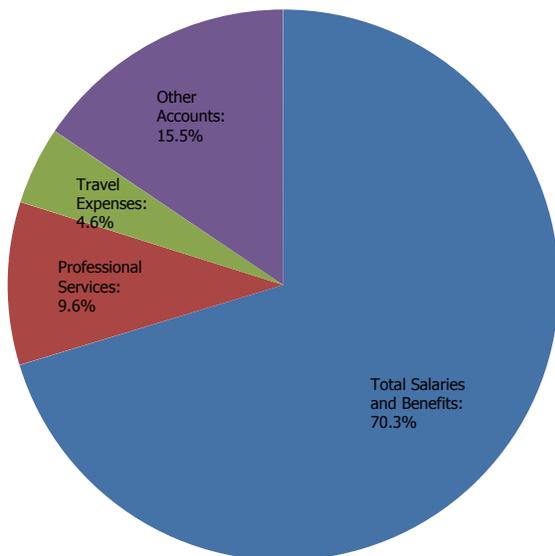
Support Metropolitan's emergency preparedness with a responsive crisis communications plan, well-trained staff, and the use of social media and other communications technologies to provide essential services during times of emergency and in response to disasters.

O&M FINANCIAL SUMMARY

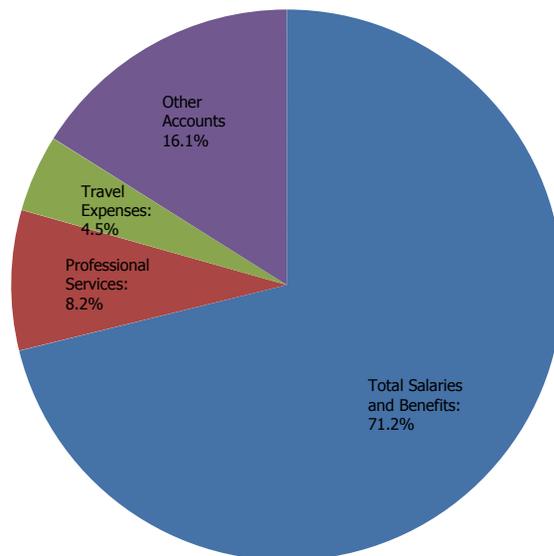
	2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Total Salaries and Benefits	16,693,465	17,666,236	17,285,302	(380,934)	17,891,024	605,722
Direct Charges to Capital	(28,090)	—	—	—	—	—
Total Salaries and Benefits	16,665,375	17,666,236	17,285,302	(380,934)	17,891,024	605,722
% Change		6.0%		(2.2%)		3.5%
Advertising	243,565	610,000	455,000	(155,000)	555,000	100,000
Community Outreach Activities	183,000	400,000	474,000	74,000	550,000	76,000
Memberships & Subscriptions	549,813	653,395	774,394	120,999	778,544	4,150
Outside Services - Non Professional / Maintenance	169,134	605,800	832,600	226,800	848,800	16,200
Professional Services	1,699,917	2,967,050	2,351,771	(615,279)	2,068,744	(283,027)
Sponsorships	85,250	514,000	495,000	(19,000)	522,188	27,188
Travel Expenses	541	1,929,500	1,125,000	(804,500)	1,140,500	15,500
Other Accounts	245,684	861,419	791,829	(69,590)	888,929	97,100
Total O&M	19,842,279	26,207,400	24,584,896	(1,622,503)	25,243,729	658,833
% Change		—		—		—
Operating Equipment	—	—	152,673	152,673	—	(152,673)
Total O&M and Operating Equipment	19,842,279	26,207,400	24,737,569	(1,469,831)	25,243,729	506,160
% Change		32.1 %		(5.6)%		2.0 %

Totals may not foot due to rounding.

FY 2022/23 BUDGET BY EXPENDITURE

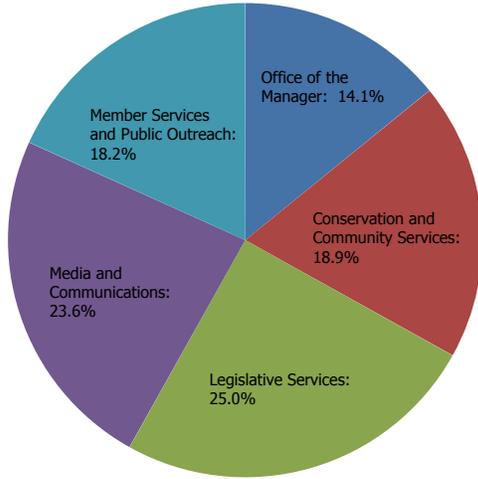


FY 2023/24 BUDGET BY EXPENDITURE

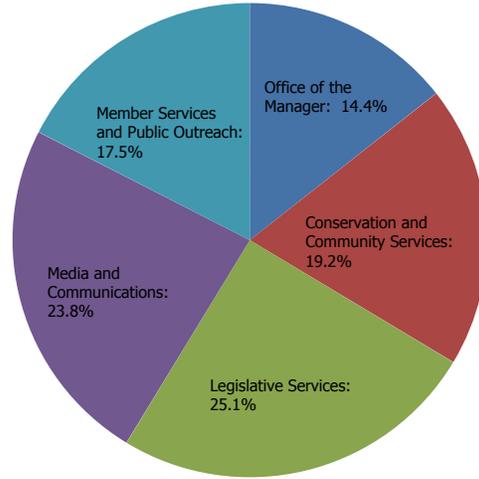


O&M BUDGET BY SECTION

FY 2022/23 BUDGET BY SECTION



FY 2023/24 BUDGET BY SECTION



	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23	Personnel Budget		
						21/22	22/23	23/24
Office of the Manager	4,094,600	3,477,300	(617,300)	3,631,600	154,300	9	9	9
Conservation and Community Services	4,929,500	4,655,400	(274,100)	4,853,000	197,600	11	12	12
Legislative Services	6,590,800	6,157,000	(433,700)	6,336,900	179,900	13	13	13
Media and Communications	5,385,000	5,813,800	428,800	6,014,300	200,400	19	20	20
Member Services and Public Outreach	5,207,500	4,481,300	(726,300)	4,407,800	(73,400)	10	10	10
Total O&M	26,207,400	24,584,900	(1,622,500)	25,243,700	658,800	62	64	64

Totals may not foot due to rounding.

PERSONNEL SUMMARY

		2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Regular	Total	63	62	63	1	63	—
	O&M	63	62	63	1	63	—
	Capital	—	—	—	—	—	—
Temporary	Total	0	—	1	1	1	—
	O&M	0	—	1	1	1	—
	Capital	—	—	—	—	—	—
Total Personnel	Total	63	62	64	2	64	—
	O&M	63	62	64	2	64	—
	Capital	—	—	—	—	—	—

Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

External Affairs' O&M and Operating Equipment Biennial Budget is \$24.7 million in FY 2022/23 and \$25.2 million in FY 2023/24 for a decrease of 5.6% in FY 2022/23 and an increase of 2.0% in FY 2023/24, due to increased costs for salaries and benefits.

In an effort to achieve savings for non-labor activities, the External Affairs budget incorporates efficiencies while maintaining the core programs to support communication and outreach through a wide range of programs, business and community partnerships, education initiatives, legislative activities and media presence.

- **Advertising:** In FY 2021/22, spending for advertising was reduced to \$610,000, from the prior year's \$1.3 million. By utilizing in-house resources for video services, design, social media marketing and member agency partnerships, External Affairs was able to continue its award-winning outreach and marketing efforts to promote rebates, native plants and water-use efficiency with cost savings over outsourcing. For FY 2022/23 and FY 2023/24, External Affairs has budgeted \$455,000 for FY 2022/23 and \$555,000 for FY 2023/24. This 25.4% decrease from FY 2021/22 is driven by the shift to a new media placement contract approved by the Board in March 2022, to address ongoing drought conditions. For FY 2023/24 External Affairs has budgeted \$555,000. This additional 22% over FY 2022/23 will allow advancement of Board-directed conservation messaging through multilingual multimedia advertising to diverse audiences and will provide for new community outreach activities to support the Regional Recycled Water Program.
- **Community Outreach:** External Affairs will continue to provide a full range of communications and public outreach support for local supply development, capital projects and other major initiatives to promote water supply reliability, drought response, conservation and sustainability. Outreach priorities include infrastructure and rehabilitation projects, such as Delta Conveyance and Colorado River Aqueduct refurbishment. External Affairs also continues to budget for partnerships with community and environmental organizations that expand outreach consistent with direction from the general manager and Board, including the outreach efforts that support construction activities expand job development and contracting opportunities.
- In FY 2022/23 and FY 2023/24, External Affairs will increase investments in Regional Recycled Water Program outreach with consultant support services, purchase of the Learning Center trailer, and support for regional recycled water communications with member agencies, impacted communities and organizations. This is in alignment with the Board-approved \$900,000 for outreach during the environmental planning phase of the Regional Recycled Water Program.
- Other outreach efforts include travel funding for a gradual post-pandemic return to operational inspection trips and funding for public attitudes and awareness research to support conservation campaigns and other outreach priorities.
- **Board Outreach Support:** Resources are provided to support outreach activities by Metropolitan's Board and the general manager, including participation at conferences and community events, media support and training, coordination with member agencies for education, communication and legislative services, and logistical support. External Affairs will manage and monitor expenditures for professional services funding and for partnerships, sponsorships and memberships to support and communicate Metropolitan's mission, enhance collaboration with current and new organizations as directed by the general manager and executive management, and to partner on projects that reach diverse audiences throughout the region.

The following are the significant changes by budget year:

FY 2022/23

Personnel-Related Issues

The total personnel count has been reduced from 70 FTEs to 63 FTEs, which reflects one new position to support added media and communications demands; the reorganization of the Business Outreach Program and its 7 FTEs to the Office of Diversity, Equity and Inclusion; and the transfer of one Special Projects Manager to the Office of the General Manager -Colorado River Resources. Additionally, there was one FTE transferred into External Affairs from Administrative Services and one FTE transferred out to support workforce development in the Diversity, Equity and Inclusion program for zero additional impact, leaving the total number of FTEs at 63.

In support of the Education Team and Metropolitan's commitment to advancing career technical education, District Temporary staff funding has been requested for one part-time teacher and one part-time student intern to staff the career technical education efforts.

Other

The External Affairs Group's FY 2022/23 total O&M budget of \$24.58 million reflects a reduction of 6.1% over FY 2021/22.

Memberships and Subscriptions funding have been increased from FY 2021/22 level of \$653,395 to \$774,394 in FY 2022/23. This 18.5% increase will allow for new and continued partnerships that align with priorities of the Board and executive management and will advance Metropolitan's programs and initiatives.

Other non-labor planning and budgeting for External Affairs includes the return of one annual legislative inspection trip and 10 in-person community leader briefings throughout the service for FY 2022/23.

The FY 2022/23 budget allows for development of curriculum and new partnerships in support of diversity, equity and inclusion, career technical education programs and distance learning, including new programs focused on climate change and environmental justice.

Operating Equipment

The budget reflects operating equipment requests for FY 2022/23 to replace two vehicles being aged out pursuant to Operations/Fleet policy. The aging vehicles are assigned to inspection trip managers for the purpose of conducting inspection trips for the Board of Directors, as well as other educational trips and tours of the California water system and of Metropolitan facilities.

In addition to replacing two aging inspection trip vehicles at a cost of \$85,648, External Affairs is also requesting one specialized van to support the increased demand for in-house communications, media, photography and video services. At a cost of \$67,025, this vehicle will safely secure and transport Metropolitan's Creative Design Team's expensive and specialized equipment and allow for more streamlined and real-time logistical support for the general manager, executive staff, Board of Directors.

FY 2023/24

Personnel–Related Issues

In FY 2023/24, the labor budget for External Affairs remains flat with the FY 2022/23 budget at a total of 63 FTEs. Salary and Benefit dollar increases reflect negotiated labor increases and merit increases for qualified employees.

Other

The FY 2023/24 total O&M budget of \$25.24 million for External Affairs reflects a nominal increase of 2.68% over FY 2022/23.

In FY 2023/24, External Affairs has budgeted for the purchase of the Regional Recycled Water Learning Center trailer at the Carson site. This end-of-lease purchase is budgeted at an increase of \$60,000.

Memberships and Subscriptions would see a slight increase from \$774,394 to \$778,544 in FY 2023/24. This additional 0.54% will help fund new and continued partnerships to advance Metropolitan’s programs and initiatives, as well as anticipated cost increases from established long-term partnering organizations.

Other non-labor planning and budgeting for External Affairs includes the return of one annual legislative inspection trip and 12 in-person community leader briefings throughout the service area for FY 2023/24.

The FY 2023/24 budget allows for further development of curriculum and new partnerships in support of diversity, equity and inclusion , career technical education programs and distance learning, including new programs focused on climate change and environmental justice.

Operating Equipment

The budget reflects no operating equipment requests for FY 2023/24.

OFFICE OF GENERAL COUNSEL

The Office of General Counsel provides a full range of legal services in a professional, timely, cost-effective, and creative manner.

PROGRAMS

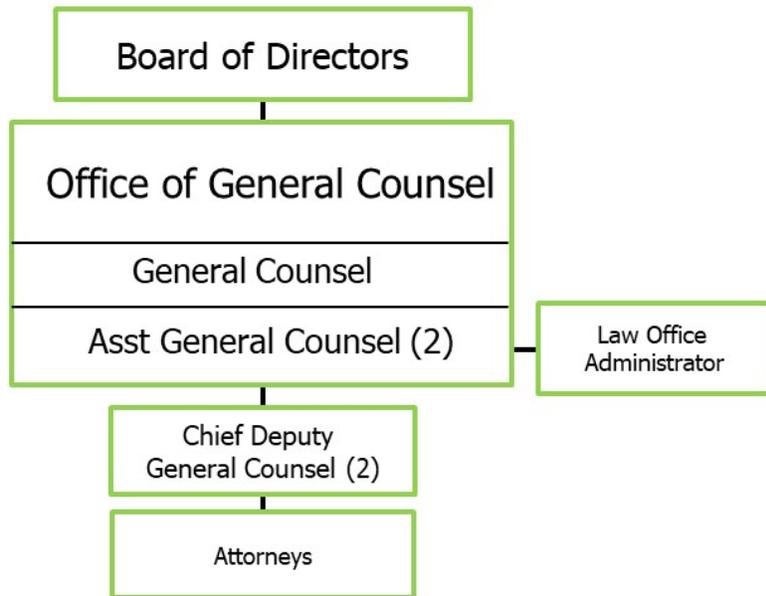
The General Counsel is the chief legal spokesperson for Metropolitan and the Board of Directors and oversees the Office of General Counsel's administrative functions.

The General Counsel represents Metropolitan in litigation and other proceedings to which Metropolitan is a party; provides legal advice to the Board, its committees, and to Metropolitan's staff; drafts, reviews, and negotiates contracts, documents, and other agreements; consults with representatives of other public and private entities on matters of mutual concern; monitors and analyzes pending and enacted legislation and, when appropriate, drafts legislative recommendations.

The Office of General Counsel provides legal services to the Board, its committees, and to Metropolitan staff with regard to the full range of substantive matters addressed by our staff and the Board as well as matters of Board governance.

- Provide support and legal assistance for the Regional Recycled Water Program, water supply, including the impacts of and response to drought conditions, water conservation, water delivery and treatment, and water quality including emerging contaminants.
- Represents Metropolitan's interests with regard to claims and litigation by or against Metropolitan.

- Provides legal advice with respect to the acquisition, management, and disposal of Metropolitan property.
- Provides legal assistance in Metropolitan's procurement and construction contract programs.
- Provides legal advice with respect to Metropolitan's financial activities, including Metropolitan's rates and charges, taxation, disclosure and bond issuance, legality of investments, and fiscal administration.
- Provides legal advice and assistance related to labor and personnel matters.
- Reviews, analyzes, and monitors pending state and federal legislation and drafts legislative recommendations.



GOALS AND OBJECTIVES

The role of the Office of General Counsel is to support the priorities established by the Board of Directors and the General Manager. The goal of the Office of General Counsel is to provide a full range of legal services in a professional, timely, cost-effective and creative manner that minimizes risk to Metropolitan.

In FY 2022/23 and FY 2023/24, the Office of General Counsel will focus on the following key issues:

Water Supply Reliability

Pursue a comprehensive legal strategy that pro-actively addresses legal issues associated with the operation of the SWP and the related permits and environmental matters while vigorously asserting and defending Metropolitan’s interest in litigation and administrative proceedings regarding the SWP.

Provide legal advice in support of the development and implementation of the anticipated Department of Water Resources (DWR) proposal to improve the Delta conveyance facilities including the associated environmental documentation, implementing agreements and litigation in a manner supportive of Metropolitan’s goals and objectives.

Develop and implement a legislative and regulatory strategy addressing the Governor’s Water Resilience Portfolio.

Assist with the preparation of the SB 60 Report to the California State Legislature regarding Metropolitan’s achievements in conservation, recycling and groundwater recharge.

Provide legal advice regarding permitting, implementation and financing, of any proposed improvements to the Delta conveyance facilities including agreements with DWR and other state water contractors.

Provide legal advice and support relative to the continuing litigation relating to the Oroville spillway litigation and other matters potentially impacting Metropolitan.

Provide legal advice and support for water transfers and exchanges and development of local resources, desalination and conservation projects and programs.

Provide legal support for capital projects required to upgrade, repair and provide additional flexibility in the operation of Metropolitan's distribution system.

Provide legal advice and support for update and implementation of Metropolitan's Integrated Water Resources Plan Update and Urban Water Management Plan, including development of the Long-Term Conservation Plan.

Provide legal advice and support in connection with the extension and amendments of the SWC including preparation of supporting environmental documents under CEQA litigation relating to the proposed amendments.

Continue to defend and enforce the terms of the Quantification Settlement Agreement and related agreements among the participating agencies and other agencies with Colorado River contracts.

Assist in developing, negotiating and documenting new water conservation and augmentation projects and implement the Drought Contingency Plan (DCP). Collaborate with policy staff and other agencies to develop and implement programs to protect Lake Mead.

Provide legal support for Metropolitan's efforts to protect and make optimal use of its Colorado River rights and related water transfer, storage, and exchange programs. Provide legal support for initiatives to identify and obtain new water supplies on the Colorado River, and to protect existing Colorado River water supplies against erosion by unlawful or unreasonable uses.

Finance

Provide legal advice regarding adoption of rates and charges. Work to resolve challenges to Metropolitan's rate structure.

Provide legal advice and assist with issuance of bonds and other debt instruments.

Operations

Negotiate and prepare new and amended service connection agreements for new or modified member agency connections. Provide legal assistance on regulatory and real estate issues, including CEQA issues, arising from service connection requests.

District Governance

Continue to provide timely advice to the Board and committees on governance and legal compliance matters.

Serve as the point of contact and coordinate Metropolitan responses to Public Records Act requests.

Corporate Resources/District Infrastructure

Provide legal support for capital investment projects and repair and replacement plans, including professional services and procurement contracts.

Provide legal support for environmental analysis under CEQA of Metropolitan's projects and other discretionary actions, in addition to analyzing potential environmental impacts of other agencies' projects on Metropolitan properties and facilities.

Workforce/Human Resources

Provide proactive counsel, assistance and advice on workforce issues. Continue to defend Metropolitan in EEO and PERB matters, as well as grievance and disciplinary matters. Assist with investigations or engage third party investigators.

Represent Metropolitan in claims and litigation.

Real Property

Assist the Real Property group in the negotiation and documentation of real property acquisitions and the surplusage of real property. Negotiate and provide legal support for the lease and licensing of Metropolitan property. Provide legal support for the grant and acceptance of easements and entry permits.

Represent Metropolitan in real property disputes including landlord tenant issues, condemnation and inverse condemnation issues and other matters.

Technology

Collaborate with Information Technology, External Affairs, and Human Resources groups on Information Governance Policies and the implementation of new technologies and protocols. Assist in educating the staff and Board in matters relating to technology and special media.

Assist with implementation of policies and procedures to enhance cyber-security required to upgrade physical systems including SCADA.

Energy Costs and Management

Assist with implementation of the Energy Management Plan, including providing advice on wholesale energy transactions contracts relating to energy facilities and Hoover Power, renewable energy projects and energy-related contracts and legislation.

Provide assistance including negotiation of and compliance with energy resource adequacy requirements and compliance with NERC standards.

Provide legal support to ensure that SWP energy needs are met in a cost-effective and sustainable manner.

Legal Department Administration

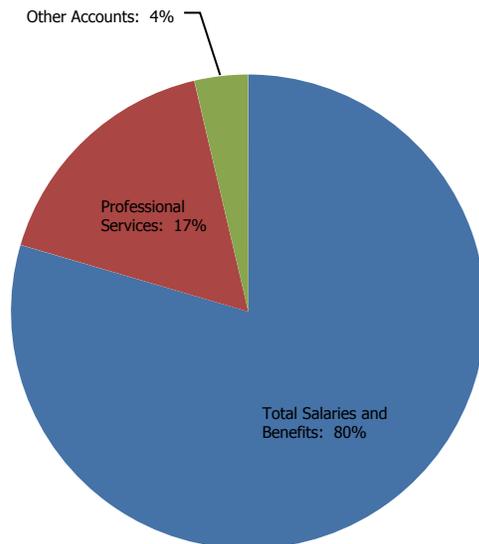
Continue to aggressively manage outside counsel costs, while obtaining effective representation to protect Metropolitan's interests. Provide on-going training opportunities and develop and implement succession planning.

O&M FINANCIAL SUMMARY

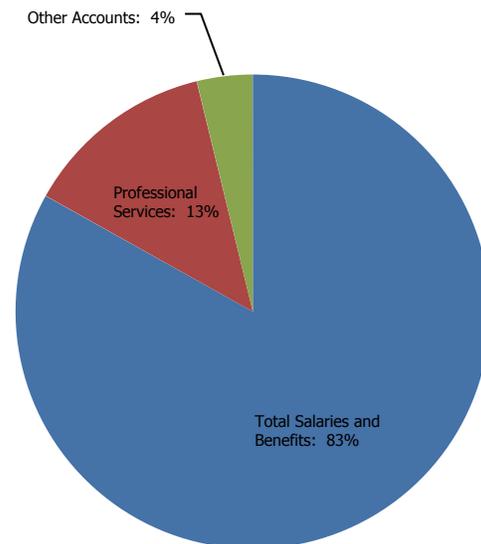
	2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Total Salaries and Benefits	11,738,282	12,775,321	13,057,727	282,406	13,540,273	482,546
<i>Direct Charges to Capital</i>	—	—	—	—	—	—
Total Salaries and Benefits	11,738,282	12,775,321	13,057,727	282,406	13,540,273	482,546
% Change		8.8%		2.2%		3.7%
Professional Services	1,352,384	4,443,000	2,760,000	(1,683,000)	2,130,000	(630,000)
Travel Expenses	871	120,000	170,000	50,000	185,000	15,000
Other Accounts	233,900	414,000	429,000	15,000	434,000	5,000
Total O&M	13,325,437	17,752,321	16,416,727	(1,335,594)	16,289,273	(127,454)
% Change		33.2%		(7.5%)		(0.8%)

Totals may not foot due to rounding.

FY 2022/23 BUDGET BY EXPENDITURE



FY 2023/24 BUDGET BY EXPENDITURE



PERSONNEL SUMMARY

		2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Regular	Total	35	37	37	—	37	—
	O&M	35	37	37	—	37	—
	Capital	—	—	—	—	—	—
Temporary	Total	1	2	2	—	2	—
	O&M	1	2	2	—	2	—
	Capital	—	—	—	—	—	—
Total Personnel	Total	37	39	39	—	39	—
	O&M	37	39	39	—	39	—
	Capital	—	—	—	—	—	—

Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

The Office of General Counsel’s Biennial Budget is \$16.4 million in FY 2022/23 and \$16.3 million in FY 2023/24 or a decrease of 7.5% and a decrease of 0.8% respectively from the prior budget years. The change is primarily due to the following factors:

- Professional services costs decrease reflects anticipated expenses for Delta Conveyance legal costs, water quality litigation, labor and employment issues, general litigation and other legal costs.
- Travel expenses increase reflects anticipated travel regarding Delta Conveyance and other project activities.
- Salaries and Benefits costs reflect negotiated labor increases and merit increases for qualified employees.

OFFICE OF GENERAL AUDITOR

The Office of General Auditor provides independent, professional, and objective assurance and consulting services designed to add value to and improve Metropolitan's operations.

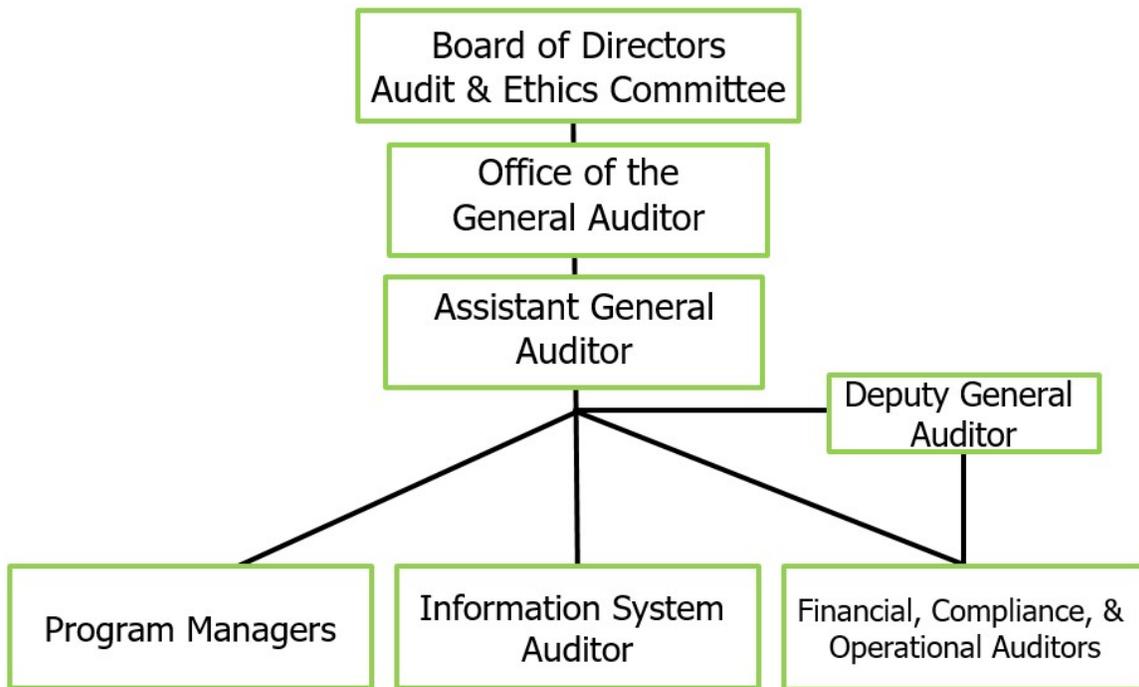
PROGRAMS

The Office of General Auditor helps the organization accomplish its objectives by using a proactive, systematic approach to evaluate and improve the effectiveness of risk management, control, and governance processes.

The scope of work of the Office of General Auditor is to determine whether Metropolitan's network of risk management, internal control, and governance processes, as designed and represented by management, is adequate and functioning in a manner to ensure:

- Risks are appropriately identified, managed, and monitored
- Significant financial, managerial, and operating information is accurate, reliable, and timely.
- Employees' actions are in compliance with policies, standards, procedures, and applicable laws and regulations.
- Resources are acquired economically, used efficiently and protected adequately.
- Programs, plans, and objectives are achieved.
- Quality and continuous improvement are fostered in the organization's control processes.
- Significant legislative or regulatory issues impacting the organization are recognized and addressed appropriately.

Opportunities for strengthening internal controls, improving efficiency, and protecting the organization's image may be identified during audits. These opportunities will be communicated to the appropriate level of management.



GOALS AND OBJECTIVES

In FY 2022/23 and FY 2023/24, the Office of General Auditor will focus on the following key issues:

Risk Analysis, Risk Mitigation and Internal Controls

Provide risk perspective and auditing advice and counsel to the Board and management in operational and financial activities.

Publish risk-focused audit reports designed to clearly communicate the General Auditor's opinion regarding the internal control structure, significant control issues, and recommendations to mitigate noted risk.

Improve the completion time for audits and evaluate the adequacy and timeliness of management's responses to, and corrective actions taken on, all significant control issues noted in audit reports.

Emphasize test work of significant projects.

Workforce Development

Encourage training opportunities for Office of General Auditor staff to enhance competencies in risk assessment and broaden knowledge of Metropolitan operations. Utilize this knowledge in fine-tuning the Annual Audit Risk Assessment and Audit Plan.

Management and Leadership

Efficiently manage the department's budget for maximum effectiveness of state budgetary objectives.

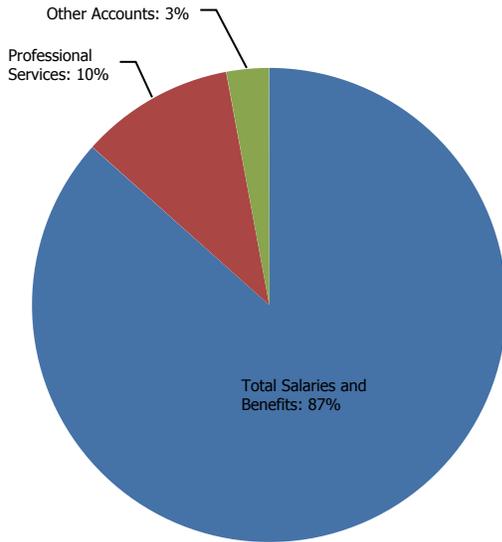
Uphold the mission, roles, and responsibilities of the Office of General Auditor.

O&M FINANCIAL SUMMARY

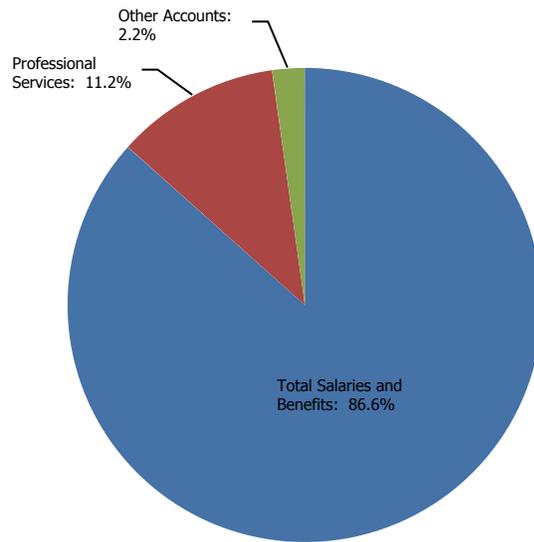
	2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Total Salaries and Benefits	3,750,628	4,159,651	4,130,870	(28,781)	4,256,013	125,143
<i>Direct Charges to Capital</i>	—	—	—	—	—	—
Total Salaries and Benefits	3,750,628	4,159,651	4,130,870	(28,781)	4,256,013	125,143
% Change		10.9%		(0.7%)		3.0%
Materials & Supplies	15,344	35,000	76,000	41,000	43,000	(33,000)
Professional Services	449,100	500,000	500,000	0	550,000	50,000
Other Accounts	29,176	55,500	61,500	6,000	61,500	—
Total O&M	4,244,249	4,750,151	4,768,370	18,219	4,910,513	142,143
% Change		11.9%		0.4%		3.0%

Totals may not foot due to rounding.

FY 2022/23 BUDGET BY EXPENDITURE



FY 2023/24 BUDGET BY EXPENDITURE



PERSONNEL SUMMARY

		2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Regular	Total	12	13	13	—	13	—
	O&M	12	13	13	—	13	—
	Capital	—	—	—	—	—	—
Temporary	Total	—	—	—	—	—	—
	O&M	—	—	—	—	—	—
	Capital	—	—	—	—	—	—
Total Personnel	Total	12	13	13	—	13	—
	O&M	12	13	13	—	13	—
	Capital	—	—	—	—	—	—

Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

The Office of General Auditor’s Biennial Budget is \$4.8 million in FY 2022/23 and \$4.9 million in FY 2023/24 or an increase of 0.4% and an increase of 3.0% respectively from the prior budget years. The main factors affecting these changes:

- Increases in Salaries and Benefits reflect negotiated labor increases, merit increases for qualified employees.
- The increase to the budget for Materials and Supplies reflects an upgrade of Audit software.
- The increase in Professional Services reflects competitive bid process to obtain a new outside firm to perform the annual financial statements audit.

ETHICS OFFICE

The Ethics Office promotes an ethical culture at Metropolitan by administering and advising Metropolitan's ethics policies and reviewing potential ethics violations.

PROGRAMS

Metropolitan's Ethics Office was established by special legislation enacted in 2000. In doing so, it was with a conviction that a strong ethical culture is the foundation of good governance. Moreover, it was based on the belief that an ethical culture is created through a robust ethics program that sets clear expectations for conducting business within the organization and with external parties. This ensures that Metropolitan is transparent, operates with integrity and upholds high ethical standards.

An ethical culture is based on the following: effective board oversight, strong tone-at-the-top, senior management involvement, organization-wide commitment, a customized code of conduct, ethics training, communications, and ongoing monitoring system. It also involves the administration of financial disclosure reports, an anonymous incident reporting system, timely investigation of reported incidents, publication of summary investigation findings, and, where appropriate, referrals to Department managers for consistent disciplinary action.

These processes promote transparency and accountability, allowing the public insight into how the District conducts its business and holding District officials accountable for meeting internal and state ethics standards. The Ethics Office accomplishes its mission through the following programs and services, each of which is critical to achieving the ultimate goal of internal ethics and compliance - maintaining an ethics-centered culture:

Ethics Compliance The Ethics Office serves as the filing officer for state-mandated financial interest disclosure reports for Directors and employees. These filings are required for individuals who make or participate in making decisions in their official capacity that could affect their personal financial

interests. To date, all Directors and over 700 employees have been identified as mandatory filers.

The Ethics Office also maintains and updates Metropolitan's conflict of interest code, designating employee reporting positions and disclosure categories. These requirements are tailored to the unique responsibilities of each designated position and are reviewed on a periodic basis for compliance with evolving standards.

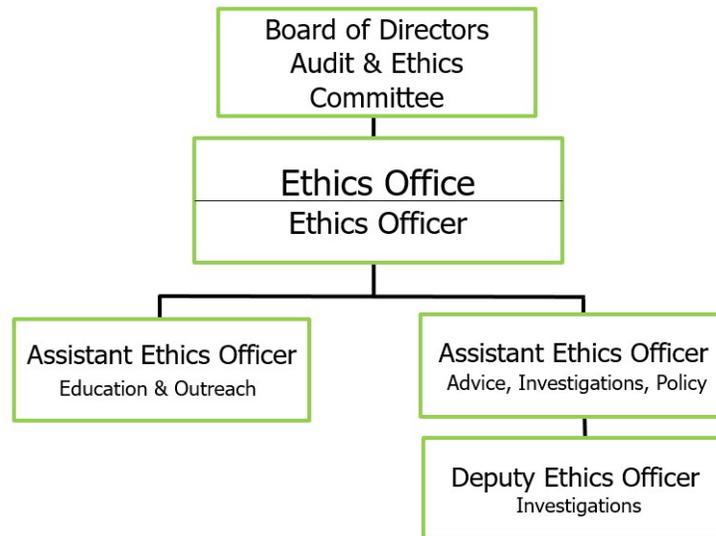
Ethics Advice and Education The Ethics Office advises employees, directors, and contractors on Metropolitan's ethics policies and standards. These include the areas of conflicts of interest and proper use of authority. Advice and education are provided through consultations, training programs, and reference materials. The Ethics Office addresses requests for advice and training and recommends consultations where appropriate.

The Ethics Office also facilitates state-mandated AB1234 training for Directors and provides orientations for new Directors and employees about Metropolitan's internal ethics provisions.

Policy Development and Program Development The Ethics Office proposes ethics rules and modifications to existing rules, performs risk assessment, and analyzes investigation procedures to maintain best practices in the field.

Investigation The Ethics Office conducts investigations to promote accountability and identify systematic changes needed in order to avoid further missteps. Comprehensive investigations, include investigation planning, gathering of evidence, document review, witness interviews, comparative analysis of facts, drafting of reports, and organization and indexing of evidence.

The Ethics Officer reviews the investigation findings, determines whether ethics violations occurred, and makes recommendations to executive management.



GOALS AND OBJECTIVES

In FY 2022/23 and FY 2023/24, the Ethics Office will focus on the following key initiatives:

Education and Outreach

Education and Outreach is a top priority and a cornerstone of our ethics program. We will develop more tailored and focused training for groups of employees like managers or functional areas within Metropolitan and for Directors. Outreach efforts will include visiting field facilities to provide ethics related information and being part of listening sessions. Extensive ethics-related training materials will be updated to reflect administrative code amendments recently approved by the Board, including updates to new employee orientation materials, website content, and online training programs on common ethics topics at Metropolitan.

Ethics Consultation

Provide ethics risk perspective and advisory services to Directors, officers, and employees needing input on ethics-related issues. In specific requests for assistance, provide thorough analysis and prompt responses. Continue to review board agendas and prepare memorandum for directors to help identify potential sources of conflicts of interest in matters coming before them. Review conflict of interest disclosures from potential contractors for the professional services contracting unit and make recommendations for resolving potential conflicts. Perform outreach to Group Managers to proactively engage in the program and project process to help maintain ethics-centered decision-making.

Policy Management and Program Development

Promote transparency by developing and implementing a lobbyist registration program and ensuring data is publicly available. Develop a Contractors Code of Conduct and improve processes and transparency to avoid conflicts of interest. Continue to assess the scope and content of Metropolitan's ethics policies and provisions. Develop new ideas for improvements and work to achieve consensus among stakeholders. Follow developments in legislation and Fair Political Practices Commission proceedings to identify emerging issues that may affect the Metropolitan community.

Investigations

The Ethics Office performs objective and comprehensive investigations of ethics complaints, which entails investigation planning, gathering evidence, document review, witness interviews, comparative analysis of facts, drafting of reports, and organization and indexing of evidence. The Ethics Officer reviews the investigation findings, determines whether ethics violations occurred, and makes recommendations to executive management.

Evaluate opportunities to streamline the investigation process. These efforts include establishing reasonable guidelines to ensure that inquiries proceed in an efficient and responsible manner. Improve the effectiveness and timeliness of communication to interested parties on the progress of investigations. Define accountability standards for investigations that address the need to discontinue or close inquiries when substantiating evidence cannot be obtained within a reasonable time period. Survey best practices in the field and recommend improvements to investigation procedures

Workforce Needs and Development

4 additional FTEs were requested and 2 were approved. The addition of 2 FTEs gives the Ethics Office necessary flexibility for adjusting to new demands and changing circumstances. As planned, the 2 FTEs will support the enhanced Education and Outreach priorities and will support policy and program development in the area of compliance that includes the new lobbyist registration program and database management. If necessary, to meet real-time demands, the FTE resources might also be used to support other operational needs. We will encourage training opportunities for Ethics Department staff to enhance competencies in governmental ethics and to broaden knowledge of Metropolitan operations

Management and Leadership

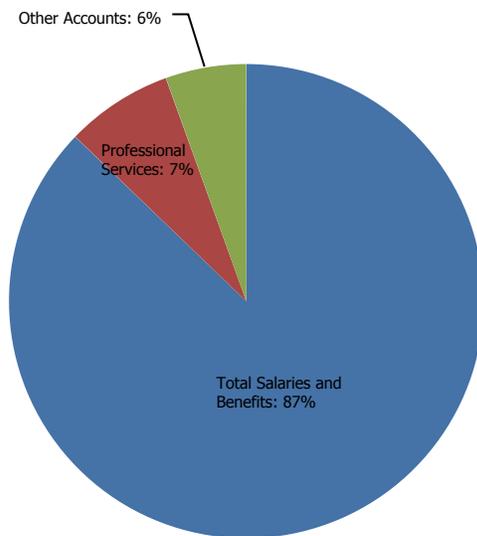
Efficiently manage the Ethics Office's budget for maximum effectiveness. Uphold the mission, roles, and responsibilities of the Ethics Office.

O&M FINANCIAL SUMMARY

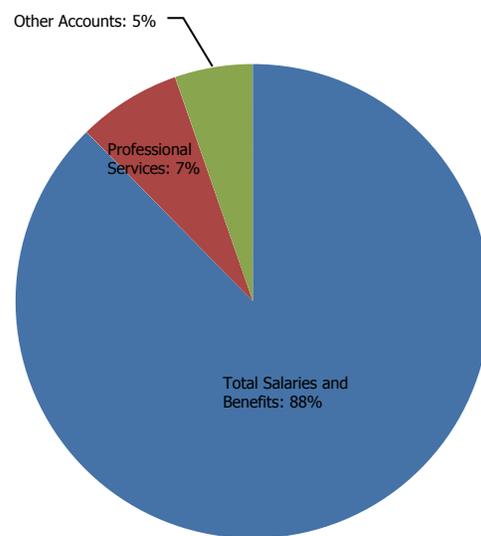
	2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Total Salaries and Benefits	1,522,816	1,518,887	2,388,777	869,890	2,486,982	98,205
<i>Direct Charges to Capital</i>	—	—	—	—	—	—
Total Salaries and Benefits	1,522,816	1,518,887	2,388,777	869,890	2,486,982	98,205
% Change		(0.3%)		57.3%		4.1%
Outside Services - Non Professional / Maintenance	26,523	17,000	70,369	53,369	70,369	—
Professional Services	317,719	85,000	200,000	115,000	200,000	—
Subsidies & Incentives	14,100	13,000	27,660	14,660	27,660	—
Travel Expenses	—	6,000	27,500	21,500	27,500	—
Other Accounts	5,371	40,000	25,300	(14,700)	25,300	—
Total O&M	1,886,529	1,679,887	2,739,606	1,059,719	2,837,811	98,205
% Change		(11.0%)		63.1%		3.6%

Totals may not foot due to rounding.

FY 2022/23 BUDGET BY EXPENDITURE



FY 2023/24 BUDGET BY EXPENDITURE



PERSONNEL SUMMARY

		2020/21 Actual	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Regular	Total	5	5	7	2	7	—
	O&M	5	5	7	2	7	—
	Capital	—	—	—	—	—	—
Temporary	Total	—	—	—	—	—	—
	O&M	—	—	—	—	—	—
	Capital	—	—	—	—	—	—
Total Personnel	Total	5	5	7	2	7	—
	O&M	5	5	7	2	7	—
	Capital	—	—	—	—	—	—

Totals may not foot due to rounding.

BUDGET HIGHLIGHTS

The Ethics Office’s Biennial Budget is \$2.7 million in FY 2022/23 and \$2.8 million in FY 2023/24 or an increase of 63.1% and an increase of 3.6% respectively from the prior budget years. The increase is due primarily to the following:

- Salaries and Benefits reflect negotiated labor increases and merit increases for qualified employees.
- Professional Services and non-labor budgets are increasing to support ethics program development, including case management and software solutions and investigative services.
- The total regular personnel for O&M is increased to 7 FTEs. The additional positions will support the realignment of the Ethics Office’s functions to meet the enhanced education/outreach and compliance expectations and priorities in accordance with Board objectives.

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STAFFING SUMMARY

Group/Department	2020/21 Actual	2021/22 Budget	2022/23 Budget	2023/24 Budget
Regular Employees				
Office of the General Manager	11	13	17	17
Water System Operations	884	940	939	939
Information Technology	120	130	131	131
Engineering Services	338	355	355	355
Real Property	48	53	55	55
Finance	49	51	53	53
External Affairs	63	62	63	63
Water Resource Management	63	68	68	68
Administration	79	81	80	80
Human Resources	41	44	44	44
Operations Administration	9	11	11	11
Bay Delta Initiatives	15	17	16	16
Office of Sustainability, Resilience & Innovation	16	20	25	25
Office of Diversity, Equity & Inclusion	7	7	9	9
Equal Employment Opportunity Office	—	—	6	6
Subtotal - General Manager's Department	1,743	1,852	1,872	1,872
Office of the General Auditor	12	13	13	13
Ethic's Office	5	5	7	7
Office of General Counsel	35	37	37	37
Total - Departmental Regular Employees	1,795	1,907	1,929	1,929
Temporary Employees				
District Temporary	45	37	47	49
Total Authorized Positions	1,840	1,944	1,976	1,978

Totals may not foot due to rounding.

OPERATING EQUIPMENT SUMMARY

Classification	2022/23 Quantity	2022/23 Amount	2023/24 Quantity	2023/24 Amount
Audio Visual	2	52,187	2	60,218
Automobiles	1	42,393	3	168,553
Boats	1	113,138	—	—
Communication Equipment	1	17,211	—	—
Computer Peripherals	3	62,629	—	—
Construction/Shop/Maint Equip	37	1,358,144	1	923,849
CPU's, Laptops & Servers	7	194,634	6	181,385
Equipment Accessories	1	21,900	1	21,905
Heavy Equipment	9	1,678,398	1	2,163,618
Lab Equipment	16	913,465	1	716,991
Monitoring Equipment	6	109,212	1	65,200
Other Equipment	7	132,685	1	661,531
Trucks	66	4,494,741	10	3,846,570
Utility Vehicles	5	204,148	1	26,942
Grand Total	162	9,394,884	28	8,836,761

Totals may not foot due to rounding.

PERFORMANCE MEASURES

Performance Measure	Measurement Intent	FY 20/21 Performance	FY 21/22 Performance*	Target
Delta Islands Management	Perform routine inspections, identify potential hazards, report on structures requiring maintenance or repairs, and participate Reclamation Districts board meetings.	100%	100	95%
	Implement Senate Bill 88 water diversion measurement	100%	100%	100%
Legislation/ Outreach and Policy/ Regulatory Coordination	Support ongoing and future SWP permitting processes	99.3	100	100%
	Provide analysis of key regulations and legislation that may influence SWP supply reliability, Bay Delta water quality and environmental health. - Federal Bills	10	0	Complete all Federal Bills Assigned for Review & Comments
	Provide analysis of key regulations and legislation that may influence SWP supply reliability, Bay Delta water quality and environmental health. - State Bills	6	1	Complete all State Bills Assigned for Review & Comments
	Support Legal Department litigations that may influence Bay Delta and SWP regulations, policies, and operations.	97.5%	100%	100%
Credit Rating	Enable Metropolitan to access capital markets at the lowest borrowing cost.	Moody's Aa1 S&P - AAA Fitch - Aa+2	Moody's Aa1 S&P - AAA Fitch - Aa+2	AA, Aa2 or better
Maintain Reserve Balances	Ensure financial strength by managing reserves to within Board-established policy.	\$594 M	\$672 M	Between \$198.0M and \$473.5M
Fixed Charge Coverage	Demonstrate sufficiency of revenues to cover fixed charges.	1.72	1.48	≥1.2
Public Awareness	Monitor awareness of critical water issues to gauge effectiveness of outreach efforts as a percent of organizations reached with Metropolitan's message.	100%	100%	≥85%

Performance Measure	Measurement Intent	FY 20/21 Performance	FY 21/22 Performance*	Target
Implement Legislative Strategy	Measure passage of Metropolitan-supported legislation as a measure of the effectiveness of efforts in support of water policy issues.	100	85%	≥85%
Unexpected Outages	Monitor water system maintenance and operations reliability to ensure uninterrupted water service.	0	0	0 service shutdowns
Meet All Scheduled Water Deliveries	Monitor reliability of water delivery as an indicator of effectiveness of maintenance activities and replacement and improvement projects.	100%	100%	100%
Complete Preventative Maintenance	Optimize maintenance processes to ensure timely completion of preventative maintenance (PM) work.	90.3%	93.0%	> 90%
CRA Power	Secure economical power for CRA pumping needs.	96.0%	100%	100%
Electrical Reliability	Meet electrical reliability standards to pass all annual audits and inspections.	100%	95%	100%
Complete Regulatory Maintenance	Ensure timely completion of regulatory preventive maintenance work orders.	98.3%	99.0%	>99%
Aqueduct Readiness	Maintain eight-pump flow readiness to ensure conveyance reliability	0	0	One stable test at eight-pump flow (1,750 cfs) annually.
Hydropower Generation	Optimize hydropower generation by minimizing power revenues lost to forced outages.	0.0%	0.0%	< 5% of power revenue lost
Emergency Preparedness	Prepare for emergencies by conducting three emergency response exercises at all operational units annually.	58	5	≥39

Performance Measure	Measurement Intent	FY 20/21 Performance	FY 21/22 Performance*	Target
O&M Training	Ensure O&M employees complete training in accordance with training plans	88.9%	90.0%	≥ 90%
Apprenticeship Program	Ensure sufficient apprentices graduate to meet O&M needs.	13	0	≥15 graduates annually
Compliance with Drinking Water Standards	Ensure that all state, federal, and local water quality standards are met or exceeded.	100%	100%	100%
Total Dissolved Solids (TDS) mg/l	Monitor water quality compliance with the Board of Directors' salinity goals.	565 mg/l	573 mg/l	≤ 500 mg/l
Water Quality Satisfaction	Strive to minimize the number of customer complaints reported from member agencies as an indicator of overall water quality satisfaction.	1	1	< 10 complaints annually
Water Quality Regulatory Process	Actively engage in providing written comments on all applicable water quality regulations and public health determinations.	100%	100%	100%
Source Water Quality	Actively protect source water quality by engaging stakeholders on each recommendation from the 2012 Colorado River sanitary survey	100%	100%	100% completion by 2020
Environmental Compliance	Ensure compliance with all environmental permit requirements	99.5%	100%	100%
Manage SWP, supply programs and demand management program expenditures	Manage SWP, supply program, and demand management program expenditures within budget	89.3%	89.0%	100%
Manage storage resources	Manage storage resources to capture or deliver all available contractual imported supplies	100%	100%	100%

Performance Measure	Measurement Intent	FY 20/21 Performance	FY 21/22 Performance*	Target
Worker Safety	Ensure worker safety by enacting practices that minimize the injury/illness rate.	2.08	3.89	< 6.9 incidents/year/100 employees
Identify and manage supplies and programs	Identify and manage supplies and programs sufficient to meet demands	100%	100%	100%
Final Design Cost as a percentage of Construction Cost	Ensure costs are compatible with industry standards of similar agencies by measuring for cost efficiency and value-added feature	8.1% 9.3%	7.2% 17.0%	9% – 12% (Const. Costs > \$3 M) 9% – 15% (Const. Costs ≤ \$3 M)
Construction Inspection Cost as a percentage of Construction Cost	Ensure costs are comparable to industry standards of similar agencies	11.5% 12.8%	10.3% 0.0%	9% – 12% (Const. Costs > \$3 M) 9% – 15% (Const. Costs ≤ \$3 M)
Number of Leases Negotiated at or above FMV	Monitor number of existing leases and new leases negotiated at or above Fair Market Value.	94.0%	100.0%	100%
Revenue Generated from Real Property Activities	Track total revenue generated from all real property activities including but not limited to permits, licenses, leases, easements or other use fees.	\$6.2 M	\$2.8 M	\$6.8 M
Invoices paid on time	100% of valid invoices paid on time and in accordance with contract	97.7%	95.0%	100%
Departmental O&M Budget Performance	Demonstrate financial control and accountability	88.2%	91.8%	≤ 100%
Significant External Audit Findings	Assess the quality of accounting processes and controls	NA	NA	0

* Actual performance through October 2021

STATE WATER PROJECT

OVERVIEW

Metropolitan participates in the State Water Project (SWP), which is managed, owned and operated by the California Department of Water Resources (DWR) and is an integral part of Metropolitan's conveyance system. The SWP is the largest state-built, multipurpose, user-financed water project in the country. It was designed and built primarily to deliver water, but also provides flood control, generates power for pumping, is used for recreation, and enhances habitat for fish and wildlife. The SWP provides irrigation water to 750,000 acres of farmland, mostly in the San Joaquin Valley, and provides municipal and industrial water to approximately 27 million of California's estimated 39.5 million residents.

The SWP consists of a complex system of dams, reservoirs, power plants, pumping plants, canals and aqueducts to deliver water. SWP water consists of water from rainfall and snowmelt runoff that is captured and stored in SWP conservation facilities and then delivered through SWP transportation facilities to water agencies and districts located throughout the Upper Feather River, Bay Area, Central Valley, Central Coast, and Southern California. Metropolitan receives water from the SWP through the California Aqueduct, which is 444 miles long, and at four delivery points near the northern and eastern boundaries of Metropolitan's service area. The budgeted costs for the SWP are as follows:

SWC Cost Summary, \$ millions¹

	2020/21 Actuals	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Delta Water Charge: Capital	\$57.6	\$59.7	\$80.4	\$20.7	\$85.5	\$5.1
Delta Water Charge: OMP&R	96.1	92.4	110.1	17.7	107.0	(3.1)
Transportation Capital	122.9	148.3	119.4	(28.9)	129.4	10.0
Transportation OMP&R	165.8	182.9	194.1	11.2	198.7	4.6
Power, Variable	127.5	212.7	210.4	(2.4)	257.5	47.1
Power, OAPF	4.3	3.5	5.1	1.6	5.0	(0.1)
Credits	(52.4)	(70.1)	(67.8)	2.4	(56.3)	11.4
CA Water Fix/ Delta Conveyance	—	25.0	30.0	5.0	34.5	4.5
SWC Total	\$521.8	\$654.4	\$681.7	\$27.3	\$761.2	\$79.5
SWC Dues	\$3.6	\$4.7	\$4.1	(\$0.6)	\$4.1	\$0.0
Acre-feet delivered	633,300	1,059,490	511,589	(547,901)	869,076	357,487

¹ Does not include Departmental costs reflected elsewhere in this Budget.

Annually, the DWR reviews and redetermines the water supply aspects of the SWP as required by the SWC, and the financial aspects attributable to the water supply function of the SWP.¹ This results in the annual Statement of Charges to the Contractors for each calendar year. The information that supports the Statement of Charges is published by the DWR as Appendix B to the appropriate Bulletin 132 (i.e., the Statement of Charges for Calendar Year 2022 is supported by Appendix B to Bulletin 132-20). DWR does not charge rates for water service. It does not develop a revenue requirement and then develop rates based on projected billing determinants for a calendar year. Rather, DWR apportions its costs to the Contractors based on their proportionate share of estimated supply costs (Delta Water Charge) and transportation costs (Transportation Charge). All State Water Contractors are obligated to pay all costs incurred by DWR to operate the SWP for water supply delivery, as part of their contractual participation in the project. Therefore, DWR reconciles actual costs for each year and either collects more funds from the Contractors if actual costs exceeded estimated costs, or provides a credit/refund if actual costs were lower than estimated costs.

Metropolitan’s budgeted SWP costs are based on the 2022 Statement of Charges and supporting Appendix B. Power costs are estimated by Metropolitan assuming a 15 percent allocation in 2022, 40 percent allocation in 2023, and 50 percent allocation in 2024 and use of the Central Valley storage programs.

STATE WATER CONTRACT

The State Water Contractors have long-term contracts with DWR for participation in the SWP, through which they receive delivery of SWP water and use of the SWP transportation facilities. Metropolitan signed the first State Water Contract (SWC) on November 4, 1960, and received its first delivery of SWP water in 1972. Metropolitan has a contractual right to a proportionate share of the project water that DWR determines is available for allocation to the Contractors. This determination is made each year based on existing supplies in storage, forecasted hydrology, and other factors. Available project water is then allocated to the Contractors in proportion to the amounts set forth in Table A of their SWCs (Table A Allocation). Under its SWC, Metropolitan is entitled to roughly 46% of the annual Table A Allocation.

All water supply-related capital expenditures and operations, maintenance, power and replacement (OMP&R) costs associated with the SWP conservation and transportation facilities are paid for by the 29 State Water Contractors. Through Calendar Year 2020, Metropolitan has paid about 57 percent of the total payments to DWR by all Contractors. Metropolitan’s financial records show that total accumulated amounts paid under the SWC are \$14.2 billion through fiscal year 2020/21. Metropolitan’s SWC was originally a 75-year contract through December 31, 2035. Although the SWC had been amended for other provisions before, the term of the contract was extended and approved in December 2018. Among other amendments, the Contractors and DWR agreed to an extension to December 31, 2085.

Since inception, the SWC provided Contractors the ability to use the SWP to convey non-SWP water under certain circumstances. Specifically, Article 18(c)(2) of the original SWC addresses situations where there is a shortage in the supply of water made available under the contract and states “[T]he District, at its option, shall have the right to use any of the project transportation facilities which by reason of such permanent shortage in the supply of project water to be made available to the District are not required for delivery of project water to the District, to transport water procured by it from any other source: [p]rovided, [t]hat such use shall be within the limits of the capacities provided in the project transportation facilities for service to the District under this contract”. However, Article 18(c)(2) only applied in the event a permanent shortage was declared by DWR and it was unclear on how costs would be charged for using SWP facilities to transport nonproject water. In 1994, the Contractors and DWR negotiated the Monterey Amendment to the SWC, including Article 55, which made explicit that the Contractors’ rights to use the portion of the SWP conveyance system necessary to deliver water to them (their “Reaches”) also includes the right to convey non-SWP water at no additional cost as long as

¹ The term “supply” is used to distinguish between other functions of the SWP such as recreation and flood control. The term is not used to distinguish between the conservation (supply) and transportation (conveyance) functions of the SWP under the State Water Contracts for participation in the SWP.

capacity exists. Power for the conveyance of non-SWP water is charged at the SWP melded power rate. The Monterey Amendment also expanded the ability to carryover SWP water in SWP storage facilities, allowed participating Contractors to store water in groundwater storage facilities outside a Contractor's service area for later use. These amendments, approved by Metropolitan's Board in 1995, secured the means for individual Contractors to increase supply reliability through water transfers and storage outside their service areas.

The charges to the Contractors include a SWP supply charge (Delta Water Charge) and a SWP transportation charge (Transportation Charge). The Delta Water Charge recovers both Capital and OMP&R costs for those facilities that conserve and create the actual water supply of the SWP. The Delta Water Charge is based on Contractors' cumulative Table A Allocations, and is paid regardless of whether Contractors receive any Table A Allocations in a given year.

The Transportation Charge recovers the costs associated with the various aqueduct reaches that deliver project water to the Contractors. The Capital and fixed OMP&R portions of the SWP Transportation Charge recover costs from the Contractors based on their proportionate use of facilities. Unlike the Delta Water Charge, which is uniform for a unit of Table A water, the allocation of these portions of the Transportation Charge will vary based on the aqueduct segments needed to deliver water to a specific Contractor. The further a Contractor is from the Delta and the greater its capacity in the transportation facilities, the greater its allocation of the Capital and fixed OMP&R Transportation Charges. The capacity of the SWP to deliver water decreases with distance from the Banks Pumping Plant, located in the Sacramento-San Joaquin Delta, as water is delivered to Contractors through the South Bay Aqueduct and the Coastal Branch Aqueduct, and to turnouts in the San Joaquin Valley and Southern California. Payment of the Transportation Charge entitles Contractors to the right to use their capacity in the SWP facilities for transportation of SWP or non-SWP water, on a space available basis, under the SWC. A Contractor that participates in the repayment of a particular reach, or segment of the SWP, has already paid the costs of using that reach for the conveyance of water supplies through the Transportation Charge.

In addition to the charges for supply (the Delta Water Charge capital and OMP&R) and Transportation (Transportation Capital and OMP&R), DWR also charges for the power needed to deliver project water throughout the system. Two charges recover these power costs: the variable OMP&R portion of the Transportation Charge (Variable Charge) and the Off-Aqueduct Power Facilities (OAPF) charge. Because the SWC are cost recovery contracts, DWR invoices Contractors on an estimated basis for any calendar year, and then provides credits in later years once cost true-ups are finished.

The Variable Charge includes the annually estimated cost of purchased power including capacity and energy, cost of SWP power generation facilities, program costs to offset annual fish losses at the Banks Pumping Plant, purchased transmission services, and credits for sales of ancillary services and excess SWP system power sales. The Variable Charge is calculated on the basis of the energy required to pump an acre-foot of water to its take-out point multiplied by the system energy rate, less energy from the recovery generation plants. The system energy rate is a system-wide average rate calculated as the net cost of energy--total costs less revenues--divided by the net energy required to pump all water. That rate is applied to each acre-foot of water delivered to SWP customer based on the power required to pump the water to designated delivery points on the system. DWR can adjust the system energy rate as the calendar year progresses in order to reflect actual costs.

The OAPF charge recovers environmental remediation costs of power generation facilities not on the aqueduct, namely Reid Gardner Unit 4, and is negligible at this time.

The SWP uses low-cost hydroelectric and recovery generation resources, but they only provide about 50 percent of the SWP energy needs in an average water year. The SWP relies on the wholesale market and contractual resources with exposure to market price volatility for as much as 30 to 35 percent of its needs, using other contractual resources to fill in the difference.

The SWP energy required to move water to Metropolitan is related to the transportation on the East Branch through Devil Canyon and on the West Branch through Castaic.

Cost of SWP Power for Metropolitan Terminal Delivery Points, \$ per Acre-Foot

	CY 2017 DWR	CY 2018 DWR	CY 2019 DWR	CY 2020 DWR	CY 2021 Estimated	CY 2022 Estimated	CY 2023 Estimated
East Branch	\$149.60	\$173.92	\$157.28	\$171.47	\$287.46	\$369.32	\$307.83
West Branch	\$148.70	\$161.50	\$144.89	\$167.40	\$274.45	\$395.45	\$329.61

The SWP energy costs are impacted by two factors. First, the annual hydrology, and second, the energy policies of the state of California. The SWP has invested heavily in hydroelectric power generation facilities. The unit cost of operating the power facilities declines as the amount of available water increases. The SWP is acquiring renewable resources, primarily solar to date, to meet its obligation to reduce greenhouse gas emissions. The SWP energy costs are also impacted by the increasing cost of using the California Independent System Operator’s (CAISO) grid to deliver power from its generating sources and the wholesale power market to its pumping loads. The SWP does not own high voltage transmission facilities and must use the CAISO grid to move power. Finally, the SWP has an obligation to acquire and surrender emissions allowances for the generating facilities the SWP owns, primarily the Lodi Energy Center.

BUDGET HIGHLIGHTS

The budget for the SWP is increasing in FY 2022/23 compared to the FY 2021/22 budget due to increased maintenance activity, and substantial capital related expenditures for Oroville Spillway repair not reimbursed by FEMA. Power costs are projected to be higher due to higher market power rates, primarily driven by substantial increases in the natural gas price forecast, along with increased O&M and clean up costs of the Hyatt-Thermalito project.

The Biennial Budget includes Metropolitan’s planned contribution of \$99 million over the budget period for DCP planning activities, which contributes to the increase in SWC expenditures in FY 2023/24. This contribution follows Board policy that staff work with the State to find solutions to improve Delta conveyance. The focus over the next two years will be supporting DWR as it seeks permits for a Delta conveyance project; participating in the Delta Conveyance Design and Construction Authority; and continuing to put forward sound scientific research to help inform and improve Delta management decisions. If staff determines that Metropolitan’s appropriate contribution toward planning activities should exceed the budgeted amount, the General Manager will request authorization from the Board for additional funding. Additionally, at a later date staff will recommend that the Board separately consider Metropolitan’s participation in a new DCP, after project planning has progressed further.

COLORADO RIVER AQUEDUCT

OVERVIEW

Metropolitan was established to obtain an allotment of Colorado River water, and its first mission was to construct and operate the Colorado River Aqueduct (CRA). The CRA consists of 5 pumping plants, 450 miles of high voltage power lines, 1 electric switching station, 4 regulating reservoirs, and 242 miles of aqueducts, siphons, canals, conduits and pipelines terminating at Lake Mathews in Riverside County. Metropolitan first delivered CRA water in 1941 to its member agencies.

Metropolitan owns, operates, and manages the CRA. Metropolitan is responsible for operating, maintaining, rehabilitating, and repairing the CRA, and is responsible for obtaining and scheduling energy resources adequate to power pumps at the CRA’s five pumping stations.

Under its contracts with the federal government, Metropolitan has a fourth priority to 550,000 acre-feet per year of Colorado River water, less certain use by higher priority holders and Indian tribes. Metropolitan also holds a fifth priority for an additional 662,000 acre-feet per year that exceeds California’s 4.4 million acre-foot per year basic apportionment, 38,000 acre-feet under the sixth priority during the term of the Colorado River Water Delivery Agreement, and another 180,000 acre-feet per year when surplus flows are available. Metropolitan can obtain water under the fourth, fifth, and sixth priorities from:

- Water unused by the California holders of priorities 1 through 3;
- Water saved by extraordinary conservation programs, crop rotation, and water supply program; or,
- When the U.S. Secretary of the Interior makes available:
 - o Surplus water, Intentionally Created Surplus water, and/or
 - o Water apportioned to, but unused by, Arizona and Nevada.

Metropolitan also receives water from the Colorado River pursuant to CRA supply programs and water exchanges.

CRA Cost Summary, \$ millions

	2020/21 Actuals	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
CRA Power ¹	\$50.5	\$57.6	\$105.9	\$48.3	\$85.6	(\$20.3)
CRA Dues ²	\$0.7	\$0.8	\$0.8	\$0.0	\$0.8	—
Acre-feet	891,100	732,790	1,006,948	274,158	922,838	(84,110)

¹Does not include Departmental costs reflected elsewhere in this Budget

²Six Agency and Colorado River Authority of California

Budgeted CRA Power costs represent expenditures for the Hoover and Parker contracts and market power purchases to support budgeted CRA water deliveries.

CRA COSTS FOR TRANSPORTATION AND SUPPLY

Metropolitan incurs capital and operations and maintenance expenditures to support the CRA activities. The costs of the CRA activities include labor, materials and supplies, outside services to provide repair and maintenance, and professional services. The CRA activities benefit from Water System Operations support services and management supervision, as well as Administrative and General activities of Metropolitan. Metropolitan finances past, current and future capital improvements on the CRA, and capitalizes those improvements as assets. The costs of Metropolitan’s capital financing activities are apportioned to service functions, such as the CRA.

The costs of the CRA supply portfolio developed by Metropolitan are paid by Metropolitan. The CRA supply portfolio is supported by Water Resource Management labor, materials and supplies. The CRA supply portfolio activities benefit from Water Resource Management support services and management supervision, as well as Administrative and General activities of Metropolitan. Metropolitan finances past, current and future capital improvements associated with the CRA supply portfolio capital assets and has capitalized these investments as Participation Rights.

Accordingly, the CRA costs for transportation and supply are reflected in the Departmental and General District Requirements budgets.

CRA COST FOR POWER

Metropolitan currently has four basic sources of power available to meet CRA energy requirements: Hoover Power, Parker Power, and wholesale power purchases from inside and outside the California Independent System Operator (CAISO). For wholesale power purchases within the CAISO, the appropriate price index is the South Path 15 for Southern California (SP15), whereas wholesale power purchases outside of CAISO utilize the MEAD bi-lateral index. MEAD substation is an import interconnection point for power into CAISO and can be utilized by Metropolitan to import power for the CRA from entities throughout the western United States.

Cost of CRA Power Sources, \$ per Megawatt-hour (MWh)

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Hoover ¹	\$17.86	\$18.46	\$18.33	\$17.64	\$15.76
Parker ¹	\$15.40	\$14.38	\$17.67	\$18.34	\$15.86
SP15, off-peak ²	\$26.48	\$28.27	\$38.52	\$27.29	\$35.73
SP15, on-peak ³	\$33.46	\$38.84	\$49.97	\$38.84	\$46.60
MEAD, off-peak ⁴	\$22.94	\$25.09	\$31.89	\$23.61	\$36.98
MEAD, on-peak ⁵	\$30.25	\$33.16	\$44.31	\$29.01	\$65.89

¹Information from Annual Reports for years 2017, 2018, 2019, 2020, and 2021.

²SP15, off-peak price, is used to determine Metropolitan’s off-peak energy costs.

³SP15, on-peak, is used to determine the market value of Metropolitan’s sales of excess energy, if any. SP15 on-peak is also used to determine the pumping costs associated with pumping non-Metropolitan water through the CRA system, unless otherwise provided by contract.

⁴MEAD, off-peak, is used to determine Metropolitan’s off-peak supplemental energy costs imported at MEAD substation for power outside of the CAISO.

⁵MEAD, on-peak, is used to determine Metropolitan’s on-peak supplemental energy costs imported at MEAD substation for power outside of the CAISO. The market value of Metropolitan’s sales of excess energy, when not all power supply is needed for the CRA pumps, if any, is valued at SP15 index for on and off-peak periods.

Metropolitan’s current basic power resource mix, which is comprised of generation from Hoover and Parker dams, is cost effective but is not sufficient energy to pump Metropolitan’s Colorado River water supplies in all years. For that reason, Metropolitan is required to purchase additional or supplemental power to transport Colorado River water supplies in some years. As a result, Metropolitan requires that any party seeking to transport non-Metropolitan water through its Colorado River Aqueduct to purchase, or arrange for Metropolitan to purchase, the power supplies required to pump that water.

Supplemental power can be purchased and transmitted to Metropolitan to pump non-Metropolitan water through the CRA. The market rate for electric energy prices is regularly tracked and published for various regions in California. Metropolitan uses the CAISO Open Access Same-time Information System (OASIS) Day-Ahead Locational Marginal Price as reflective of the supplemental power costs for electric energy used for its pumping plants on the CRA. The regional index applicable to energy sold for use on the CRA is designated as “South-of-Path 15”, or SP15, and is reflective of Southern California market energy prices.

South-of-Path 15 On-Peak Energy Prices, \$/MWh

	CY 2017	CY 2018	CY 2019	CY 2020	CY 2021
January	\$36.22	\$37.09	\$42.56	\$33.60	\$33.22
February	\$28.52	\$36.84	\$72.73	\$26.85	\$71.09
March	\$23.97	\$32.39	\$35.98	\$25.49	\$29.91
April	\$26.71	\$27.69	\$24.83	\$17.11	\$28.04
May	\$32.08	\$24.12	\$20.25	\$16.81	\$26.59
June	\$38.14	\$31.45	\$24.81	\$23.72	\$56.06
July	\$41.49	\$101.04	\$35.24	\$31.63	\$78.89
August	\$54.96	\$85.22	\$36.39	\$108.05	\$65.08
September	\$43.18	\$38.32	\$40.35	\$46.14	\$72.09
October	\$47.86	\$41.09	\$35.71	\$48.29	\$57.89
November	\$44.82	\$55.50	\$37.44	\$39.32	\$60.14
December	\$44.21	\$57.26	\$37.80	\$40.80	\$63.40

MWh = megawatt-hour, or 1,000 kilowatt-hours

Financial forecast for the budget assumes all supplement energy purchased at SP 15 rates.

BUDGET HIGHLIGHTS

The budget for the CRA power is increasing in FY 2022/23 compared to FY 2021/22 due to increased diversions at Intake resulting in increased use of supplemental power and increased market costs of supplemental power. Additionally, the greenhouse gas charge collected by the California Air Resources Board is increasing and a resource adequacy requirement was added to the budget.

In FY 2023/24, costs are lower due to reduced diversions at Intake.

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SUPPLY PROGRAMS

OVERVIEW

Metropolitan’s principal sources of water supplies are the State Water Project (SWP) and the Colorado River. Metropolitan receives water delivered from the SWP under State Water Contract (SWC) provisions, including contracted supplies, use of carryover storage in San Luis Reservoir, and surplus supplies. Metropolitan also holds rights to a basic apportionment of Colorado River water and has priority rights to an additional amount from the Colorado River depending on availability of surplus supplies. The Supply Programs supplement these SWP and Colorado River supplies. The budgeted costs for the Supply Programs are as follows:

Supply Programs Cost Summary, \$ millions

	2020/21 Actuals	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
AVEK High Desert Water Bank*	\$6.4	\$26.2	\$38.4	\$12.2	\$46.0	\$7.6
IID/MWD Conservation	11.0	13.2	12.0	(1.2)	12.4	0.4
In Basin	9.2	1.6	2.7	1.1	3.6	0.8
Multi Species Conservation Program	4.0	4.1	4.1	0.0	4.2	0.0
Other CRA	8.6	10.5	13.6	3.1	15.6	2.0
Other SWP Programs	11.5	0.2	9.7	9.5	1.4	(8.3)
PVID Program	7.8	5.4	7.4	2.0	9.0	1.6
Sites Reservoir	10.4	0.0	7.0	7.0	8.0	1.0
System Conservation	0.0	0.0	10.0	10.0	10.0	0.0
Total Supply Programs	\$68.9	\$61.2	\$105.1	\$43.8	\$110.1	\$5.0

* The FY 2022/23 and FY 2023/24 expenditures for AVEK High Desert Water Bank program are to be bond funded.

Budgeted Supply Programs costs represent opportunities and actions associated with a 15 percent SWP allocation in 2022, 40 percent allocation in 2023, and 50 percent allocation in 2024, and diversions on the CRA of 923 to 1,007 TAF. On the SWP, Supply Program expenditures support maximizing storage capabilities of the Central Valley storage programs, utilizing transfer and exchange programs recently executed, and bringing the balance into the region. On the CRA, the expenditures support the Palo Verde Irrigation District land fallowing program and the Imperial Irrigation District/Metropolitan Conservation Program, as well as other programs to conserve and develop supplies.

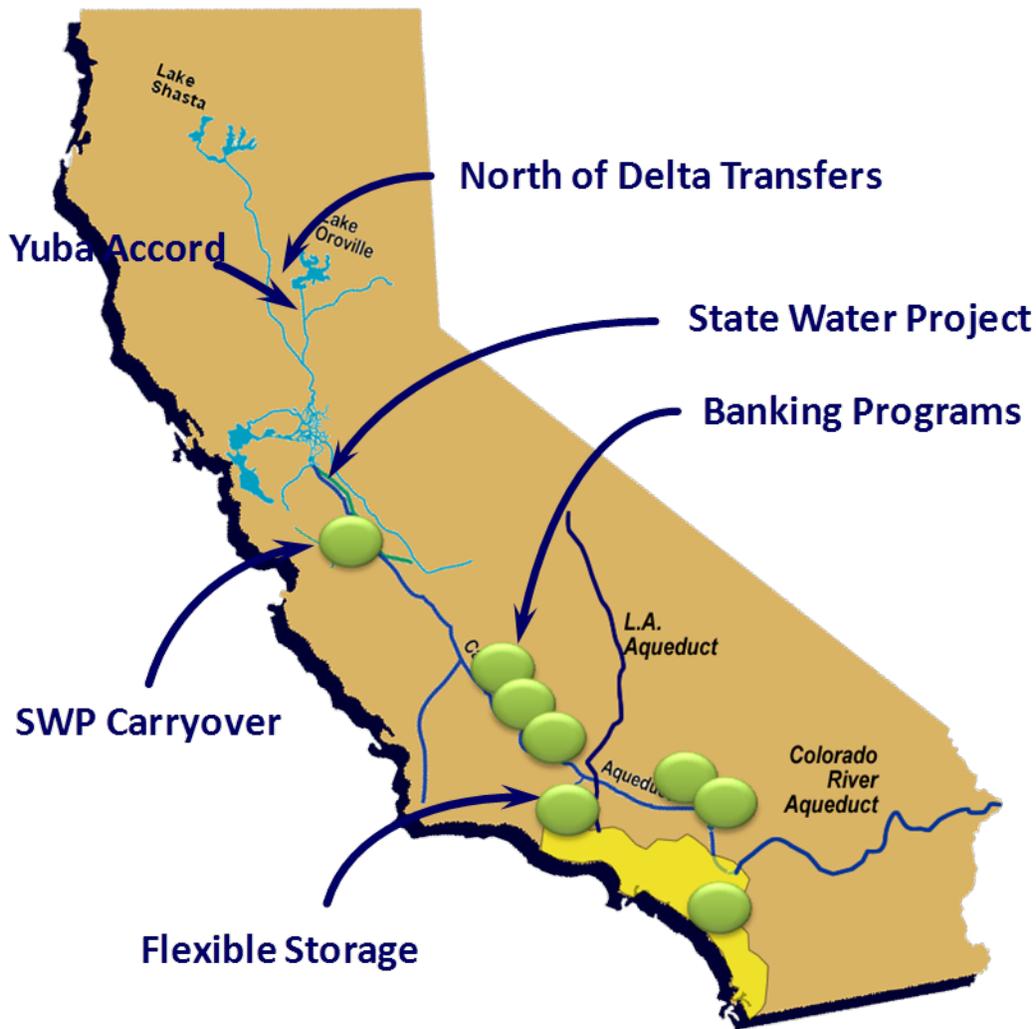
SUPPLY PROGRAMS DEVELOPED ALONG THE STATE WATER PROJECT

Since adoption of the 1996 Integrated Resources Plan (1996 IRP) and subsequent updates, Metropolitan has developed and actively managed a portfolio of supplies to convey through the California Aqueduct, as shown in Figure 10. The geographical locations of the projects are indicated by the green dots; Metropolitan’s service area is designated by the yellow highlighted area. Metropolitan submits delivery schedules to DWR for these supplies, and alters these schedules throughout the year based on changes in the availability of SWP and Colorado River water. The portfolio of supplies that Metropolitan has developed to be conveyed through the SWP since adoption of the Monterey Amendments and the 1996 IRP extend from north of the Delta to Southern California.

Since the Monterey Amendments, Metropolitan has secured one-year water transfer supplies through Metropolitan-only purchases, buyer coalition-purchases, and Governor Drought Water Banks. The most recent years that Metropolitan secured these one-year transactions were 2008 through 2010, and 2015. Metropolitan opted not to pursue these transactions in 2012 through 2014 or 2018. Most of the sellers were Sacramento Valley water users who are not Contractors. Other Contractors obtained one-year water transfers during this time frame as well. There were no single-year transfer programs in 2011, 2016-2017, or 2019 because of favorable water supply conditions and lack of capacity to move transfer supplies through the Delta.

In addition to the above one-year water transfers, Metropolitan purchases long-term water transfer supplies through the Yuba Accord. The Yuba Accord has provided water to enhance SWP and CVP water supply reliability by offsetting Delta export reductions and providing dry year water supplies for participating SWP and CVP contractors. Acting as the intermediary for Yuba Accord transactions, DWR purchases water made available by the Yuba County Water Agency and sells a portion of such water to Metropolitan. Water purchased under the Yuba Accord is not SWP water.

Figure 10: California Aqueduct Portfolio of Supplies



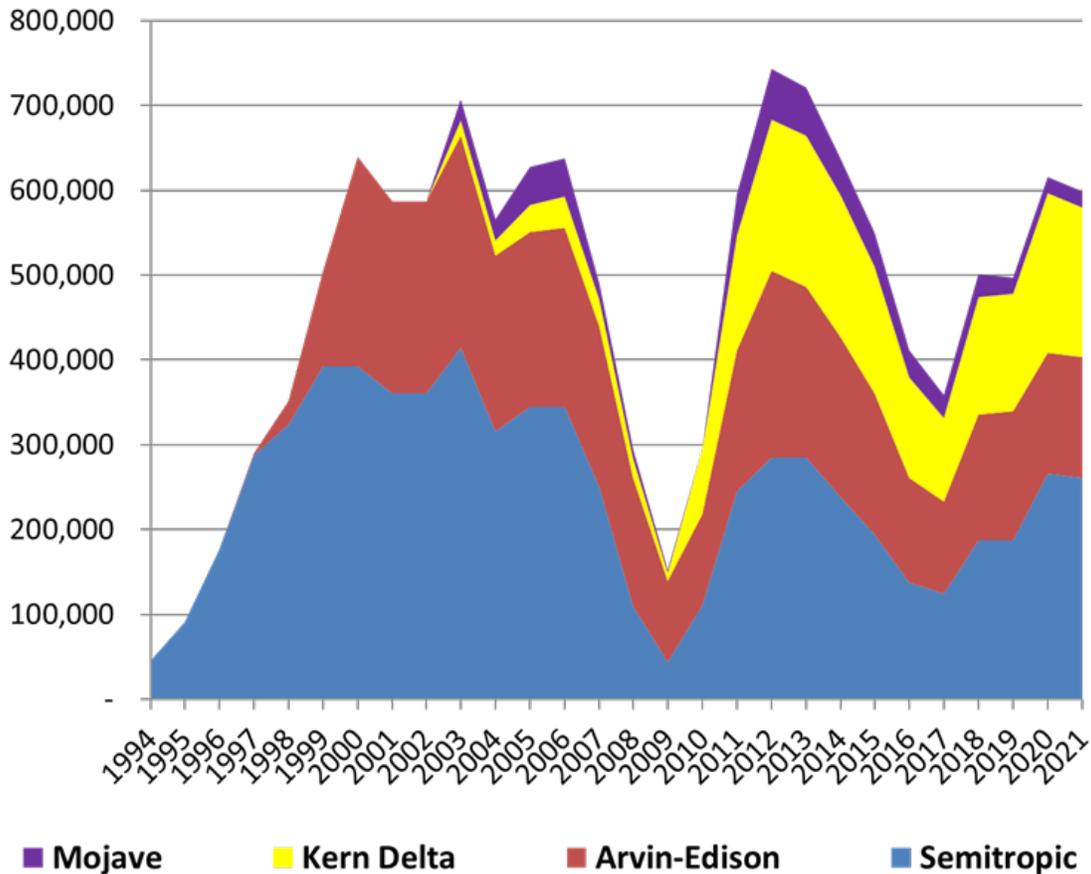
In addition to one-year transfers, and the Yuba Accord water, Metropolitan has developed groundwater storage agreements that allow Metropolitan to store available supplies in the Central Valley for return later. Metropolitan enters into point of delivery agreements with DWR to deliver water supplies from the SWP facilities to these

storage programs. Later, Metropolitan enters into introduction of local supplies agreements to return these water supplies to the SWP system for delivery to Metropolitan's service area. Metropolitan's storage activities are shown in Figure 11. The figure shows how the programs function to store supplies during surplus conditions and return supplies during a drought. The storage programs have demonstrated that they can provide a significant amount of water when needed.

SWP Groundwater Storage Programs year–end balance, acre–feet

- Arvin-Edison Storage Program: under the agreement, Arvin-Edison Water Storage District stores water on behalf of Metropolitan. Up to 350,000 acre-feet can be stored; Arvin-Edison is obligated to return up to 75,000 acre-feet of stored water in any year to Metropolitan, upon request. The water is returned by direct groundwater pump-in and exchange of SWP supplies. A 2017 State Water Resources Control Board (SWRCB) regulation setting a Maximum Contaminant Level (MCL) for trichloropropane (TCP) has temporarily suspended use of this program due to the levels detected in the program groundwater wells. In November 2021, a change in point-of-delivery was initiated to allow Metropolitan access to its stored water through an operational exchange of Friant Division CVP water supplies with SWP supplies in San Luis Reservoir.
- Semitropic Storage Program: under the agreement, Metropolitan stores water in the groundwater basin underlying land within the Semitropic Water Storage District. The maximum storage capacity is 350,000 acre-feet. Currently, the minimum annual yield to Metropolitan is 38,200 acre-feet, and the maximum annual yield is 229,700 acre-feet depending on the available unused capacity and the SWP allocation. The water is returned by direct groundwater pump-in and exchange of SWP supplies.
- Kern Delta Storage Program: under the agreement, Kern Delta Water District provides groundwater banking and exchange transfer to allow Metropolitan to store up to 250,000 acre-feet of SWP water in wet years and take up to 50,000 acre-feet annually during droughts. The water is returned by direct groundwater pump-in or by exchange of surface water supplies.
- Mojave Storage Program: under the agreement, Mojave Water Agency provides groundwater banking and exchange transfers to allow Metropolitan to store up to 390,000 acre-feet for later return. The agreement allows Metropolitan to annually withdraw Mojave Water Agency's SWP contractual amounts, after accounting for local needs. The Mojave storage program returns water only by exchange of surface water supplies.
- Antelope Valley-East Kern (AVEK) Storage Program: under the storage agreement, Metropolitan, at its discretion, would return half of the exchange water to AVEK at the Banks pumping plant. Under the Storage Program, Metropolitan, at its discretion, could store up to 30,000 acre-feet of its SWP Table A amount or other supplies in the Antelope Valley Groundwater Basin in an account designated for Metropolitan. The water is returned by exchange of SWP supplies or direct groundwater pump-in.
- Antelope Valley-East Kern (AVEK) High Desert Water Bank Program: under this agreement, AVEK provides storage for up to 70,000 acre-feet per year of its unused SWP Table A amount to Metropolitan or other supplies for later return. The maximum storage capacity for Metropolitan supplies would be 280,000 acre-feet. The program is designed to return up to 70,000 acre-feet per year by direct pump-in to the East Branch of the California Aqueduct. Water can also be returned by exchange of SWP supplies when available.
- Sites Reservoir: under a participation agreement, Metropolitan is contributing to planning activities for a proposed reservoir project of approximately 1.3 to 1.5 million acre-feet being analyzed by the Sites Reservoir Authority, to be located in Colusa County. Water stored for the proposed project would be diverted from the Sacramento River. The maximum storage capacity for Metropolitan supplies would be 311,700 acre-feet. As proposed, the program would be designed to return up to 50,000 acre-feet per year on average to Metropolitan by direct pump-in to the Sacramento River. Metropolitan's agreement to participate in funding of this phase of project development activities does not commit Metropolitan to participate in any actual reservoir project that may be undertaken in the future.

Figure 11: SWP Groundwater Storage Programs, acre-feet



Metropolitan has developed exchanges and transfers with other Contractors to enhance supply flexibility. Some of these agencies have extensive groundwater supplies and are willing to exchange their SWP supplies.

- San Gabriel Valley Water District:** under this agreement, Metropolitan delivers treated water to a San Gabriel Valley Water District (SGVMWD) sub-agency in exchange for twice as much untreated SWP supplies delivered into the Main San Gabriel groundwater basin. The groundwater basin supplies water to both Metropolitan and SGVMWD sub-agencies. Each year Metropolitan purchases 5,000 acre-feet minus the unbalanced exchange amount. By mutual agreement Metropolitan may purchase more than the 5,000 acre-feet per year should SGVMWD have additional supplies available. This program has the potential to increase Metropolitan’s reliability by providing 115,000 acre-feet through 2035.
- Desert Water Agency/Coachella Valley Water District Advance Delivery Program:** under this program, Metropolitan delivers Colorado River water to the Desert Water Agency (DWA) and Coachella Valley Water District (CVWD) in advance of the exchange for their SWP Contract Table A allocations. In addition to their Table A supplies, the agencies can take delivery of SWP supplies available under Article 21 and the Turn-back Pool Program, and non-SWP supplies separately acquired by each agency. These non-SWP supplies have included Yuba Accord water, drought water bank water, and San Joaquin Valley water. By delivering enough water in advance to cover Metropolitan’s exchange obligations, Metropolitan is able to receive DWA and CVWD’s available SWP supplies in years in which Metropolitan’s supplies are insufficient without having to deliver an equivalent amount of Colorado River water. In December 2019, the exchange agreements were amended to provide more flexibility and operational certainty for the parties involved. Additionally, under

the amended agreement, CVWD and DWA in wet years pay a portion of Metropolitan’s water storage management costs, up to a combined total of \$4 million per year.

SUPPLY PROGRAMS DEVELOPED ALONG THE COLORADO RIVER AQUEDUCT

Since adoption of the 1996 IRP and subsequent updates, Metropolitan has developed and actively manages a portfolio of supplies to convey through the CRA. Metropolitan determines the delivery schedule of those resources throughout the year based on changes in the availability of SWP and of Colorado River water. Figure 12 shows the geographic location of the portfolio of additional CRA supplies, designated by the red dots, which Metropolitan has developed for diversion into the CRA since adoption of the 1996 IRP. These resources extend from Lake Mead to Southern California and provide supply to Metropolitan’s service area, which is shown in the yellow highlighted area.

Figure 12: Colorado River Aqueduct Portfolio of Supplies



- **Bard Following:** Approved by the MWD Board in December 2019, the Bard Water District (Bard) Seasonal Following Program (Program) incentivizes farmers to fallow land irrigated with Colorado River water for the spring and summer months in order to reduce water consumption in Bard and augment Metropolitan’s Colorado River supplies. Metropolitan estimates a water savings of 2.2 acre-feet per irrigable acre. A following call inviting farmers in Bard Unit to participate has been made for the summer of 2022.

- Imperial Irrigation District/Metropolitan Conservation Program: Under a 1988 Conservation Agreement, Metropolitan has funded water efficiency improvements within the Imperial Irrigation District's (IID) service area in return for the right to divert the water conserved by those investments. Metropolitan provided funding for IID to construct and operate a number of conservation projects that have conserved up to 109,460 acre-feet of water per year that is then available to Metropolitan. Execution of the Quantification Settlement Agreement (QSA) and related agreements resulted in changes in the availability of water under the program. As a result of a 2014 IID-Metropolitan letter agreement, the amount of water conserved by IID has been quantified at 105,000 acre-feet per year beginning in 2016. Metropolitan is guaranteed at least 85,000 acre-feet per year, with the remainder of the conserved water being made available to the Coachella Valley Water District (CVWD), if needed under the 1989 Approval Agreement as amended. However, in a recent clarifying agreement, CVWD has agreed to limit its call to 15,000 acre-feet per year through 2026, yielding 90,000 acre-feet annually from the program for Metropolitan, with Metropolitan delivering the remaining 15,000 AF to CVWD at Whitewater.
- N-Drip Irrigation: Metropolitan has agreed to jointly fund a pilot project in Arizona to test the efficacy of a novel drip irrigation technology produced by an Israeli company called N-Drip. The key component of the technology is a drip emitter that resists clogging under relatively low water pressure, which allows for drip irrigation systems without pumps or electricity, significantly reducing the cost of installation and operation. Other funding partners include the Central Arizona Water Conservation District (the project lead), the Southern Nevada Water Authority, the Central Utah Water Conservancy District, and Denver Water. The pilot is primarily a research project expected to yield minimal water savings for Metropolitan (at most, 400 AF in 2022). However, if the technology is widely adopted in the future, it could yield significant additional conservation savings that could increase Metropolitan's Colorado River supplies.
- Palo Verde Land Management, Crop Rotation, and Water Supply Program: Under this program, participating landowners in the PVID's valley service area are paid to reduce water use by not irrigating a portion of their land. A maximum of 35 percent of the participating lands within the Palo Verde Valley can be fallowed in any given year. This program saves up to 133,000 acre-feet of water in certain years, and a minimum of 33,000 acre-feet per year. The term of the program is 35 years. Fallowing began in 2005. In March 2009, Metropolitan and PVID entered into a supplemental emergency fallowing program within PVID that provided for the fallowing of additional acreage in 2009 and 2010. Since 2005, over 1.3 million acre-feet total of Colorado River water has been conserved. The volume of water that becomes available to Metropolitan is governed by the QSA and the Colorado River Water Delivery Agreement. Under these agreements:
 - Metropolitan must reduce its consumptive use of Colorado River water by that volume of consumptive use by PVID and holders of Priority 2 that is greater than 420,000 acre-feet in a calendar year, or
 - Metropolitan may increase its consumptive use of Colorado River water by that volume of consumptive use by PVID and holders of Priority 2 that is less than 420,000 acre-feet in a calendar year.

In both cases, each acre-foot of reduced consumptive use by PVID is an additional acre-foot that becomes available to Metropolitan.

- Quechan Fallowing: Approved by the MWD Board in December 2021, the Metropolitan/Quechan Tribe Seasonal Fallowing Pilot Program (Pilot) incentivizes farmers to fallow land irrigated with Colorado River water for the spring and summer months in order to reduce water consumption in the Quechan tribal land and augment Metropolitan's Colorado River supplies. Since the Quechan Tribe's water supplies have a higher priority than Metropolitan's on the Colorado River, Metropolitan benefits from the reduced water consumption as the saved water will remain in the Colorado River and be made available for diversion.
- Southern Nevada Water Authority and Metropolitan Storage and Interstate Release Agreement: Under this 2004 agreement and a related Operational Agreement, the Southern Nevada Water Authority (SNWA) may offer a portion of its Colorado River water supplies to Metropolitan when there is space available in the CRA

to receive the water. SNWA may call for return of the water in a future year, in which Metropolitan would reduce its Colorado River water order to return this water. In 2009, 2012, and 2015, Metropolitan, the Colorado River Commission of Nevada, and SNWA amended the related Operational Agreement dealing with volumes of water that may be stored or called at various times. The agreements can be terminated upon 90 days' notice following the return of the water stored by Metropolitan.

- Lower Colorado Water Supply Project: This project develops additional water supplies by pumping groundwater into the All-American Canal for delivery to IID. An equal volume of Colorado River water is then made available for other water users along the river. Under a contract among Metropolitan, the City of Needles, and the United States Bureau of Reclamation, Metropolitan receives any excess unused water developed by the project. Metropolitan makes payments to a trust fund to develop a replacement project or to desalt the groundwater should the groundwater become too saline for discharge into the All-American Canal.
- Exchange with the United States (San Luis Rey): 16,000 acre-feet from the All-American and Coachella Canal lining projects is allocated to the San Luis Rey Settlement Parties. The United States furnishes this water at Metropolitan's Colorado River Intake on Lake Havasu. Metropolitan takes possession of the water and by exchange delivers an equal volume of Metropolitan's blended supplies to SDCWA. By separate agreement, SDCWA conveys the water to the San Luis Rey Settlement Parties.
- California ICS Agreement: Under a 2007 agreement and its amendment, Metropolitan may store a portion of IID's excess conservation in Metropolitan's service area, subject to both annual creation and total accumulation limits. IID may call for return of the water in a future year, in which Metropolitan would reduce its Colorado River water order to return the water.
- Lake Mead Storage Program: In December 2007, Metropolitan entered into agreements to set forth the guidelines under which Intentionally Created Surplus (ICS) water is developed, stored in, and delivered from Lake Mead. The amount of water stored in Lake Mead must be created through extraordinary conservation, system efficiency, or tributary conservation methods. ICS is available for delivery in a subsequent year, with Extraordinary Conservation ICS subject to a one-time deduction to benefit the river system and annual evaporation losses. Extraordinary conservation methods used by Metropolitan to date are water saved by fallowing in the Palo Verde Valley, projects implemented with IID in its service area, the Lower Colorado Water Supply Project, All American and Coachella Canal water received under the San Luis Rey Indian Water Rights Settlement Agreement prior to the settlement parties receiving the water, groundwater desalination, groundwater recovery, water conserved from Metropolitan's Landscape Transformation Program, water conserved from implementation of indoor water conservation devices, and water recycling. "System Efficiency ICS" can be created through the development and funding of system efficiency projects that save water that would otherwise be lost from the Colorado River. Metropolitan has participated in two projects to create System Efficiency ICS, and two projects to create ICS by conservation in Mexico:
 - Yuma Desalting Pilot Project: Metropolitan contributed funds toward the 2010-2011 pilot run of the Yuma Desalting Plant in exchange for a portion of the desalinated water produced by the project. The Yuma Desalting Plant treated brackish agricultural drainage that flows into Mexico to the Ciénega de Santa Clara at the terminus of the Colorado River but does not count as deliveries to Mexico under the Mexican Water Treaty. Metropolitan's portion of the desalinated water was 24,397 acre-feet and this water was stored in Lake Mead. Metropolitan can take delivery of up to the entire amount in any single year.
 - Drop 2 (Warren H. Brock) Reservoir: Metropolitan contributed funds toward the Bureau of Reclamation's construction of an 8,000 acre-foot off-stream regulating reservoir near Drop 2 of the All-American Canal in Imperial County. This reservoir conserves about 55,000 acre-feet of water per year by capturing and storing otherwise non-storable flow. In return for its funding, Metropolitan received 100,000 acre-feet of water that was stored in Lake Mead, and has the ability to take delivery of up to 25,000 acre-feet of water in any single year. Besides the additional water supply, the new reservoir adds to the flexibility of Colorado River operations.

- In November 2012, Metropolitan executed agreements in support of a program to augment Metropolitan's Colorado River supply between 2013 and 2017 through an international pilot project in Mexico. Metropolitan's total share of costs was \$5 million for 47,500 acre-feet of project supplies. The costs were paid, and the conserved water was credited to Metropolitan's intentionally-created surplus water account. In December 2013, Metropolitan and IID executed an agreement under which IID paid half of Metropolitan's program costs, or \$2.5 million, in return for half of the project supplies, 23,750 acre-feet.
- In September 2017, Metropolitan executed agreements in support and continuation of a program to augment Metropolitan's Colorado River supply through international pilot projects in Mexico. Under the new set of agreements, Metropolitan's total share of costs are expected to be \$3.75 million for 27,275 acre-feet of project supplies. The costs will be paid in three parts, 2020, 2023, and 2026. Water was and will be received in the year of payment.
- In May 2019, Upper and Lower Basin Drought Contingency Plans (DCP) were executed and became effective. The Lower Basin DCP Agreement requires California, Arizona, and Nevada to store defined volumes of water in Lake Mead at specified lake levels. Pursuant to intrastate implementation agreements, and the September 16, 2021 Settlement Agreement with IID, Metropolitan will be responsible for 93 percent of California's DCP Contributions under the Lower Basin DCP. Implementation of the Lower Basin DCP enhances Metropolitan's ability to store water in Lake Mead, changes the one-time deduction and annual evaporation rates, and ensures that water in storage can be delivered at lower elevation levels. The Lower Basin DCP increases the total volume of water California may store in Lake Mead by 200,000 acre-feet, which Metropolitan will have the right to use. The Lower Basin DCP will be effective through 2026.

In September 2021, Metropolitan and IID executed a settlement agreement. Provisions included Metropolitan's creation of an IID ICS-Sub Account. IID can store water in this sub account, subject to both annual creation and accumulation limits. Terms of IID's ICS Sub-Account mirror those of the Drought Contingency Plan with respect to one-time deductions, annual evaporation rates, and accessibility at various Lake Mead elevations. IID may call for return of the water in a future year, in which Metropolitan would reduce its Colorado River water order to return this water.

In addition to programs that add water to Lake Mead in an ICS account in Metropolitan's name, Metropolitan has entered into various agreements to create system water. System water does not accrue to the benefit of a user, but does increase the elevation of Lake Mead, thereby increasing the reliability of Metropolitan's base and transfer supplies. Programs or agreements that generate system water include:

- PVID System Conservation - In June 2021, Metropolitan board approved entering into a funding agreement with the U.S. Bureau of Reclamation, Central Arizona Water Conservation District, and Southern Nevada Water Authority to fund fallowing additional acres under the Palo Verde Land Management, Crop Rotation, and Water Supply Program. The water conserved from the additional fallowed acres stays in Lake Mead to improve the system storage, thereby reducing risk of future water curtailments. The fallowing of the additional acres started August 1, 2021 and will continue through July 31, 2024. The projected water conserved under the agreement is up to 246,000 acre-feet.
- System Conservation – On July 30, 2014, Metropolitan entered into an agreement with USBR, CAWCD, SNWA, and DW for a Pilot Program for funding the creation of Colorado River system water through voluntary water conservation and reduction in use. While the pilot has ended, it was successful, and Metropolitan expects that a similar structure may be used to fund additional voluntary water conservation and reductions in use in response to the 24 Month Study's minimum probable projection of Lake Mead falling below elevation 1,030 feet within the next two years. While system conservation does not directly generate supplies for Metropolitan, it

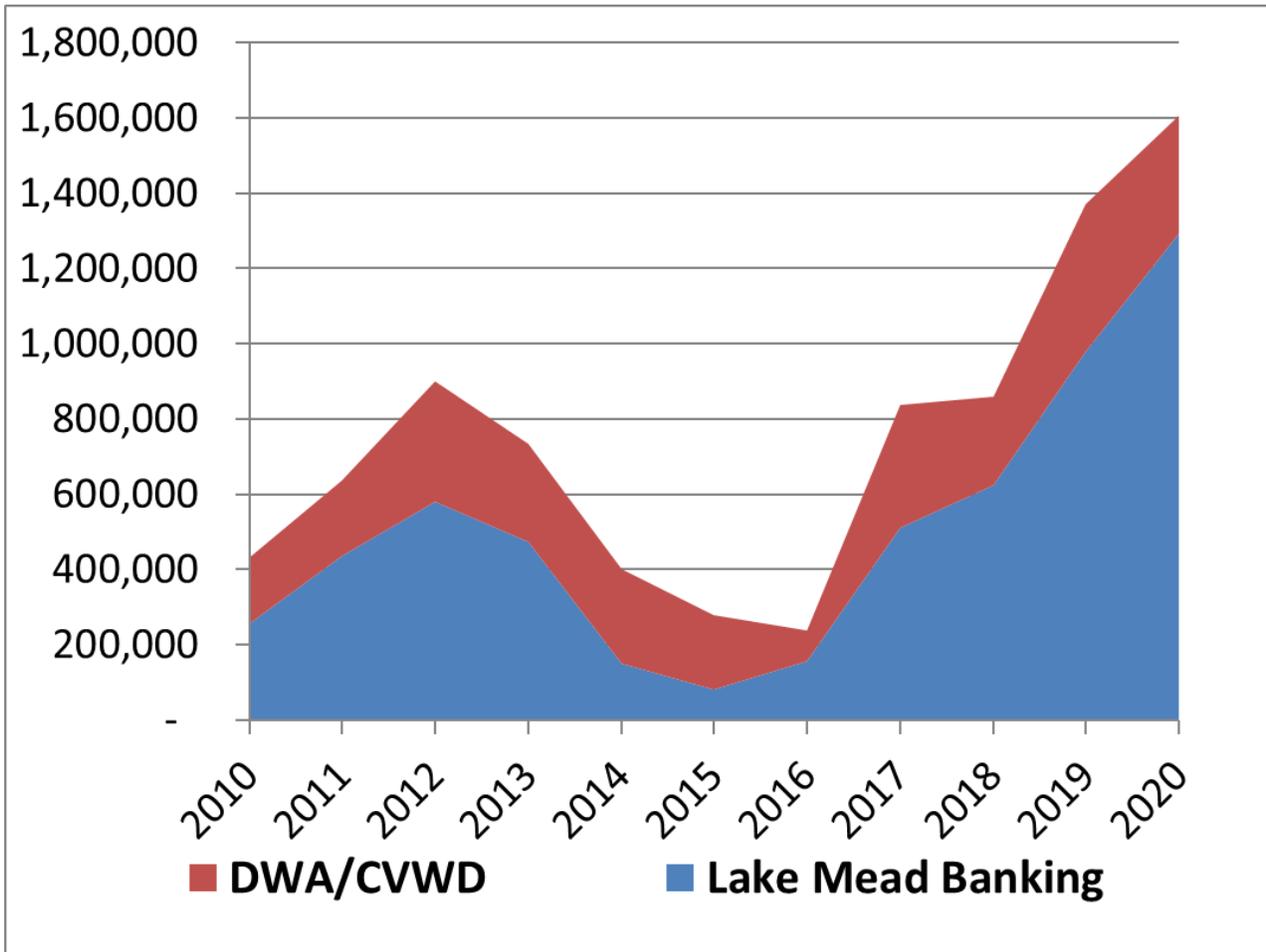
does increase the elevation of Lake Mead, thereby increasing the reliability of Metropolitan's base and transfer supplies.

- Desert Water Agency/Coachella Valley Water District/Metropolitan Water Exchange and Advance Delivery Programs: Under these programs, Metropolitan delivers Colorado River water to the DWA and CVWD, in exchange for future deliveries by DWA and CVWD of an equal volume of their SWP supplies. By delivering enough water in advance to cover Metropolitan's exchange obligations, Metropolitan is able to receive DWA and CVWD's available SWP supplies in years in which Metropolitan's supplies are insufficient to deliver an equivalent amount of Colorado River water. In December 2019, the exchange agreements were amended to provide more flexibility and operational certainty for the parties involved. Additionally, under the amended agreement, Coachella and Desert in wet years pay a portion of Metropolitan's water storage management costs, up to a combined total of \$4 million per year¹.

Figure 13 shows the year-end balance in Metropolitan's Colorado River storage programs. The combined capacity of the Lake Mead Storage program and the DWA/CVWD advance delivery program is 2,300,000 acre-feet. This is inclusive of the amount of water in storage in Lake Mead as a result of the Drop 2 Reservoir and Yuma Desalting Plant system efficiency projects.

¹ DWA has a SWP Table A contract right of 55,750 acre-feet per year and CVWD has a SWP Table A contract right of 138,350 acre-feet per year, for a total of 194,100 acre-feet per year. In addition to their Table A supplies, DWA and CVWD, subject to Metropolitan's written consent may by exchange take delivery of SWP supplies available under Article 21 of their SWP Contracts, the Turn-back Pool Program, and non-SWP supplies they may acquire and convey through SWP facilities. Under the Metropolitan-CVWD Delivery and Exchange Agreement for 35,000 Acre-feet, up to 35,000 acre-feet of Metropolitan's SWP Table A supply can be requested annually by CVWD for delivery by exchange. Through the Second Amendment to this agreement, CVWD can request an additional 15,000 acre-feet annually from 2020 through 2026, for an additional transfer amount of 105,000 acre-feet.

Figure 13: Colorado River Storage Programs, acre-feet



In addition to the supply programs developed by Metropolitan, Metropolitan entered into an exchange agreement with the San Diego County Water Authority (SDCWA) in 1998, which was amended in 2003. The entire agreement, consideration exchanged between the parties, and obligations are found in the Amended and Restated Exchange Agreement and the related QSA Agreements. SDCWA acquires Colorado River water from two sources and exchanges up to 277,700 with Metropolitan for Metropolitan water deliveries. SDCWA makes available to Metropolitan Colorado River water it purchases from IID that is conserved within IID and conserved water from the lining of the All-American and Coachella canals. In exchange, Metropolitan delivers its own blended water to SDCWA in even monthly installments.

BUDGET HIGHLIGHTS

The budget for the Supply Programs increases over the budget period compared to FY 2020/21, primarily due to a lower SWP allocation of 15% in 2022 and 40% in 2023. As a result of lower than average SWP supplies, supply programs are being utilized to ensure adequate supplies are available to Metropolitan's service area. Additionally, as a result of historically low Lake Mead storage levels and a potential future shortage of Colorado River supplies, new and existing supply programs are being utilized to increase levels in Lake Mead.

DEMAND MANAGEMENT

OVERVIEW

Demand Management costs are Metropolitan’s expenditures for funding local water resource development programs, water conservation programs and all the Future Supply Actions Program. These demand management programs incentivize the development of local water supplies, the conservation of water to reduce the reliance on imported water, and funding of programs focused on removing barriers to the development of local water supplies. These programs are implemented after the service connection between Metropolitan and its member agencies and, as such, do not add any water to the quantity Metropolitan obtains from other sources or to Metropolitan’s own supply. Rather, the effect of these downstream programs is to produce a local supply of water for the local agencies, and as a result, Metropolitan avoids and defers the need to deliver more water to its agencies, and accordingly, also avoids and defers additional costs associated with the development and delivery of that additional water .

The budgeted costs for Demand Management are as follows:

Demand Management Cost Summary, \$ millions

	2020/21 Actuals	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Conservation Credits Program*	\$16.9	\$43.0	\$43.0	\$0.0	\$43.0	\$0.0
Local Resources Program	\$16.9	\$20.3	\$22.2	\$1.8	\$21.7	(\$0.5)
Future Supply Actions / Stormwater Pilot	\$1.2	\$7.1	\$3.6	(\$3.5)	\$2.4	(\$1.2)

* In FY2023 and FY2024 \$18 million per year of the expenditures for the Conservation Credits Program are to be bond funded.

Budgeted Demand Management costs reflect the financial commitment for the Conservation Program, conservation messaging, and maintaining the financial incentives for existing contracts under the Local Resources Program.

In addition to Metropolitan’s own objectives, Metropolitan also pursues local water resource development because it has uniquely been directed to do so by the state Legislature. In 1999, then Governor Davis signed Senate Bill (SB) 60 (Hayden) into law. SB 60 amended the Metropolitan Water District Act to direct Metropolitan to increase conservation and local resource development. No other water utility in California, public or private, has been specifically identified by the state Legislature and directed to pursue water conservation and local water resource development.

Metropolitan’s Demand Management programs also support the region’s compliance with the requirements of AB 1668 and SB 606. These bills build on Governor Brown’s efforts to make water conservation a way of life in California and create a new foundation for long-term improvements in water conservation and drought planning. They establish guidelines for efficient water use and a framework for the implementation and oversight of the new standards, which must be in place by 2022. The two bills strengthen the state’s water resiliency in the face of future droughts with provisions that include:

- Establishing water use objectives and long-term standards for efficient water use that apply to urban retail water suppliers; comprised of indoor residential water use, outdoor residential water use,

commercial, industrial and institutional (CII) irrigation with dedicated meters, water loss, and other unique local uses.

- Providing incentives for water suppliers to recycle water.
- Identifying small water suppliers and rural communities that may be at risk of drought and water shortage vulnerability and provide recommendations for drought planning.
- Requiring both urban and agricultural water suppliers to set annual water budgets and prepare for drought.

Metropolitan coordinates closely with its member agencies to achieve these provisions both at a retail agency level in compliance with legislative requirements and as a region.

Demand Management costs also support the Strategic Plan Policy Principles approved by Metropolitan's Board on December 14, 1999. These principles embody the Board's vision that Metropolitan is a regional provider of wholesale water services. In this capacity, Metropolitan is the steward of regional infrastructure and the regional planner responsible for coordinated drought management and the collaborative development of additional supply reliability and necessary capacity expansion. Through these regional services, Metropolitan ensures a baseline level of reliability and quality for service in its service area.

SB 60 DIRECTED METROPOLITAN TO EXPAND DEMAND MANAGEMENT PROGRAMS

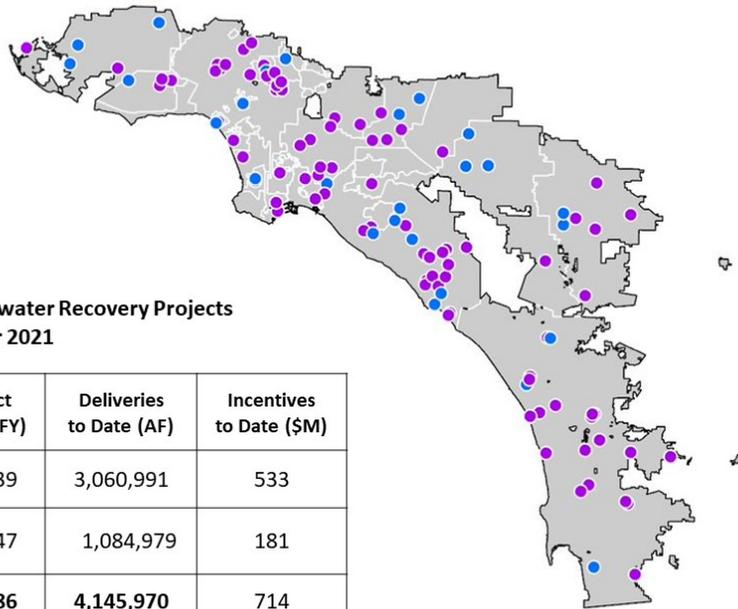
In September 1999, Governor Gray Davis signed SB 60 (Hayden) into law. SB 60 amended the Metropolitan Water District Act to direct Metropolitan to increase "sustainable, environmentally sound, and cost-effective water conservation, recycling, and groundwater storage and replenishment measures." SB 60 also requires Metropolitan to hold an annual public hearing to review its urban water management plan for adequacy in achieving an increased emphasis on cost-effective conservation and local water resource development, and to invite knowledgeable persons from the water conservation and sustainability fields to these hearings. Finally, Metropolitan is required to annually prepare and submit to the Legislature a report on its progress in achieving the goals of SB 60. SB 60 specifically indicated that no reimbursement was required by legislation because Metropolitan, as a local agency, has the authority to levy service charges, fees or assessments sufficient to pay for the program or level of service mandated by SB 60. No other water utility in California, public or private, has been specifically identified by the state Legislature and directed to pursue water conservation and local water resource development.

In FY 2020/21 alone, Metropolitan's service area achieved 1.7 million acre-feet of water savings from conservation, recycled water and groundwater recovery programs. The 1.7 million acre-feet of water savings from water management activities in fiscal year 2020/21 exceeded actual water transactions with member agencies in the same period of 1.57 million acre-feet. These savings derived from programs for which Metropolitan paid incentives, as well as code-based conservation achieved through legislation, building and plumbing codes and ordinances, and reduced consumption resulting from changes in water pricing. Cumulatively, since 1982 Metropolitan has invested more than \$1.5 billion and Metropolitan's service area has achieved 7.6 million acre-feet of water savings.

Metropolitan's Conservation Program provides incentives to residents and businesses for use of water-efficient products and qualified water-saving activities. Rebates have been provided to residential customers for turf removal and purchasing of high-efficiency clothes washers and toilets. Rebates are also provided to businesses and institutions for water-saving devices. In fiscal year 2020/21, the Conservation Program achieved 1.1 million acre-feet of saved water through new and existing conservation initiatives funded with incentives and maintained through plumbing codes. Cumulatively, through fiscal year 2020/21 the Conservation Program has achieved 3.5 million acre-feet of water savings.

Metropolitan provides financial incentives through its Local Resources Program for the development and use of recycled water and recovered groundwater. The Local Resources Program consists of 88 recycling projects and 28 groundwater recovery projects located throughout Metropolitan’s service area. Under the program, there are a total of 116 projects in Operation. Since inception in 1982 through FY 2020/21, Metropolitan has provided about \$528 million in incentives to produce about 3.0 million acre–feet of recycled water and approximately \$181 million to recover 1,099,000 acre–feet of degraded groundwater for municipal use.

Local Resources Program Projects



Recycled Water and Groundwater Recovery Projects
December 2021

Type	Number of Projects	Contract Yield (AFY)	Deliveries to Date (AF)	Incentives to Date (\$M)
● Recycling	88	358,739	3,060,991	533
● Groundwater Recovery	28	124,747	1,084,979	181
Total	116	483,486	4,145,970	714

BUDGET HIGHLIGHTS

The budget for Demand Management decreases when comparing the Biennial Budget to FY 2021/22. Increases in the Local Resources Program are more than offset by reductions in the Future Supply Actions and Stormwater Pilot Programs. The Conservation Program remains unchanged from the FY 2021/22 level, budgeting \$43M in each year of the biennium with \$18 million each year to be bond financed. Historically, conservation activity peaks during years of shortfalls and diminishes during periods of wet years. The Demand Management is budgeted at \$68.8 million for FY 2022/23 and \$67.1 million in FY 2023/24.

The adopted rates and charges for CYs 2023 and 2024 exclude a separate rate or charge to recover demand management costs, as a result of Metropolitan's Board action on November 23, 2021, directing staff to recover 100 percent of demand management costs from Metropolitan's supply rate elements. Accordingly, all demand management costs (regardless of funding source, such as bond financing or current revenues) are functionalized as supply and collected on the Tier 1 and Tier 2 supply rates. However, because there are no projected Tier 2 transactions in the biennium, the demand management costs are recovered entirely by the Tier 1 supply rate.

DEVELOPMENTS

OVERVIEW

Today, Metropolitan finds that its challenges and goals are evolving. The Board of Directors in the 1990s was deeply concerned with member agencies relying too much on importing supplies from Northern California and the Colorado River. Programs to regionalize conservation efforts and to incentivize new local supplies such as the LRP were developed. This approach was developed through regional long-term planning via Metropolitan's Integrated Water Resources Plan (IRP) initiated in 1996.

Today, there is a shifting water landscape. Population growth and water demands, in large part due to tremendous strides in water use efficiency, are far less impactful than once predicted. Metropolitan's water transactions, which include sales, exchanges, and wheeling, in fiscal year 2019 were the lowest in nearly 40 years, and a new generation of larger local supply projects are in the planning stages.

Delivery of imported supplies will always be a foundation to meet ongoing regional demands, even with climate change, and importantly so will storage of imported water for droughts and emergencies. Given the fluctuations in the availability of water resources, maintaining and enhancing system flexibility is a priority for Metropolitan. The evolving mix of Southern California's future water portfolio is still to be determined and will be impacted by future policies and decisions made by Metropolitan's Board.

Delta Conveyance

Within the region's water portfolio, supplies from the SWP remain an essential baseline water source for Southern California. Water from Northern California delivered through the SWP has provided key supplies in wet years to manage against dry years, and it is the only imported supply that can physically reach significant portions of Metropolitan's service area. This water source faces uncertainties due to climate change and the Delta's badly outdated delivery system; these problems are compounded by a declining ecosystem and 1,100-mile levee systems that are increasingly vulnerable.

California WaterFix was a comprehensive science-based solution proposed by the state to modernize critical water delivery infrastructure of the SWP. The California WaterFix proposed construction of new water intakes in the north Delta and two 40-foot diameter tunnels under the Delta terminating at a forebay in the south Delta. This would have fulfilled the requirement of the 2009 Delta Reform Act to contribute toward meeting the coequal goals of more reliably delivering water for California and protecting, restoring and enhancing the Delta ecosystem.

On April 29, 2019, Governor Newsom issued an executive order directing State agencies to develop a comprehensive statewide strategy to build a climate-resilient water system that included consideration of a single-tunnel Delta conveyance facility instead of the approved two-tunnel WaterFix project. In light of this order, DWR and the State Water Contractors deleted the WaterFix cost provisions from the current amendment process leaving only the water management provisions and embarked on a new public process to further negotiate proposed amendments related to cost allocation for a potential new Bay-Delta conveyance project. As a result, the costs of any such new project are yet unknown and Metropolitan's projected up to \$10.8 billion costs for California WaterFix are no longer included in its current or future budgeting or projections.

Consistent with the Governor's direction, the formal environmental review process for a proposed single tunnel Delta Conveyance Project commenced with the issuance by DWR of a Notice of Preparation under CEQA on January 15, 2020. Planning, environmental review and conceptual design work by DWR is expected to be

completed in the 2023-2024 time frame. The Biennial Budget includes Metropolitan's planned contribution of \$99.0 million for Delta conveyance project planning activities. This contribution follows Board policy that staff work with the State to find solutions to improve Delta conveyance. The focus over the next two years will be supporting the DWR as it seeks permits for a Delta conveyance project; participating in the Delta Conveyance Design and Construction Authority; and continuing to put forward sound scientific research to help inform and improve Delta management decisions. If staff determines that Metropolitan's appropriate contribution toward planning activities should exceed the budgeted amount, the General Manager will request authorization from the Board for additional funding. Additionally, the Board will separately consider Metropolitan's participation in a new Delta conveyance project once that proposed project is finalized by DWR. Information regarding the Delta conveyance project is located on Metropolitan's website at <https://www.mwdh2o.com/planning-for-tomorrow/securing-our-imported-supplies/delta-conveyance/>.

Regional Recycled Water Program

The Regional Recycled Water Program (RRWP), is a partnership between Metropolitan and the Sanitation Districts of Los Angeles County. In November 2020, Metropolitan's Board voted to proceed with the Environmental Planning Phase of the Program. This work will prepare the documentation needed for future Board approval of the Program Environmental Impact Report. As it has since its completion in 2019, the RRWP's demonstration facility will produce approximately 500,000 gallons per day and will continue to be operated to generate information needed for regulatory approval and to increase the efficiency of the treatment processes that may be used in a potential full-scale recycled water facility. The potential full-scale project, viewed as a potential third source of water for Metropolitan, would provide a reliable, drought-proof, climate-resilient, local supply for indirect potable reuse (IPR) through groundwater basin recharge, direct potable reuse (DPR) through raw water augmentation at Metropolitan's treatment plants, and direct industrial use. If approved, the full-scale project will produce 150 million gallons per day (mgd), or approximately 168,000 acre feet (AF) per year (AFY), of purified water.

Construction of the 0.5 mgd advanced water treatment demonstration plant was approved in 2017 and was completed in August 2019. Testing and operation of the plant began in October 2019 to confirm treatment costs and provide the basis for regulatory approval of the proposed treatment process and technical recommendations concerning design, operation, and optimization of the RRWP. The initial phase of testing is scheduled for completion in 2021 with future testing phases planned that will form the basis for the design, operation and optimization of, and will inform Metropolitan's Board decision whether to move forward with, a full-scaled advanced water treatment facility. The Board has not yet committed to a full-scale project; however, the planning costs for the RRWP are included in the Biennial Budget in the order of approximately \$20 million over the biennial period. Metropolitan has secured partners in the Southern Nevada Water Authority and Central Arizona Project who have each committed to pay a portion of the planning costs of the project and executed Memorandum of Understandings with Metropolitan to document their commitment to the program's success. Information regarding the RRWP is located on Metropolitan's website at <https://www.mwdh2o.com/planning-for-tomorrow/building-local-supplies/regional-recycled-water-program/>.

CAPITAL FINANCING

OVERVIEW

Capital financing costs are Metropolitan’s expenditures for revenue bond debt service, General Obligation bond debt service, debt administration costs, and the funding of capital expenditures from current operating revenues, or Pay-As-You-Go (PAYGO).

The budgeted costs for capital financing are as follows:

Capital Financing Cost Summary, \$ millions

	2020/21 Actuals	2021/22 Budget	2022/23 Budget	Change from 2021/22	2023/24 Budget	Change from 2022/23
Debt Service	\$275.7	\$292.7	\$283.3	(\$9.4)	\$296.4	\$13.1
GO Bond Debt Service	7.1	8.2	2.0	(6.3)	2.0	0.0
Debt Administration	4.3	6.1	2.8	(3.3)	2.7	(0.1)
PAYGO	110.0	135.0	135.0	—	135.0	—
Total¹	\$397.1	\$442.0	\$423.0	(\$19.0)	\$436.0	\$13.0

¹ Does not include Departmental costs reflected elsewhere in this Budget.

Budgeted amounts for Capital Financing represent the expenditures for existing and future debt service, anticipated debt administration costs to support the debt portfolio, and PAYGO amounts to support the Capital Investment Plan. Metropolitan generally incurs long-term debt to finance projects or purchase assets which will have useful lives equal to or greater than the related debt. Revenue supported debt can be authorized by Metropolitan’s Board of Directors.

CAPITAL INVESTMENT PLAN

The Capital Investment Plan (CIP) expenditures for FY 2022/23 and FY 2023/24 which includes Minor Capital Projects are estimated to be \$600 million. They are funded by current operating revenues (PAYGO) and revenue bond proceeds. The FY 2022/23 CIP expenditures are \$75 million higher than the FY 2021/22 budget, while the FY 2023/24 is unchanged from the FY 2022/23 budget. The largest areas of expenditures in the Biennial Budget are infrastructure refurbishment and replacement and infrastructure upgrades.

PAYGO Percentage of Funding, \$ millions

	2021/22 Budget	2022/23 Budget	2023/24 Budget
CIP	\$225.0	\$300.0	\$300.0
Project Funding:			
Bond Proceeds	90.0	165.0	165.0
Prior Bond Funds/Construction Fund	—	—	—
Grants and Loans Funds	—	—	—
Operating Revenues (PAYGO)	135.0	135.0	135.0
PAYGO Percentage of Funding	60.0 %	45.0 %	45.0 %

In FY 2022/23 and FY 2023/24, the percentage of capital that is funded by operating revenues is set at 45% consistent with the FY 2022/23 and FY 2023/24 ten-year forecast for this time period. The projected percentage of CIP funded from operating revenues will range from 17 percent to 47 percent over the ten years of the long-range forecast.

SUPPLY PROGRAMS

In FY 2022/23 and FY 2023/24, the Supply Programs include capital expenditures related to the development of the AVEK High Desert Water Bank program. These capital expenditures will be recorded as participation rights and funded by debt. Remaining project costs total \$97.9 million and would be covered by a tax-exempt, fixed rate bond issuance in FY 2022/23 assuming a 15-year maturity and interest rate of 1.75%. The 10-year forecast, which is described in detail later in this report, does not assume additional debt issuances to fund Supply Programs beyond the budget biennium period.

CONSERVATION

In FY 2022/23 and FY 2023/24 the Conservation Program is budgeted at \$43 million in each year. Expenditures in excess of \$25 million will be funded by debt. These additional expenditures will be covered by a \$36 million taxable, fixed rate bond issuance in FY 2022/23 assuming a 10-year maturity and interest rate of 2.25%. The 10-year forecast, which is described in detail later in this report, does not assume additional debt issuances to fund Conservation beyond the budget biennium period.

OUTSTANDING DEBT

Metropolitan has total debt outstanding of \$3.9 billion as of December 31, 2021. Metropolitan's debt issues are summarized below and discussed in detail thereafter.

Outstanding Debt, \$'s, as of December 31, 2021

Issue	Debt Outstanding
2000 Authorization, Series B-3, Water Revenue Bonds (1)	\$78,900,000
2011 Series C, Water Revenue Refunding Bonds	29,315,000
2012 Series A, Water Revenue Refunding Bonds	181,180,000
2012 Series F, Water Revenue Refunding Bonds	26,540,000
2012 Series G, Water Revenue Refunding Bonds	88,230,000
2014 Series E, Water Revenue Refunding Bonds	62,835,000
2015 Series A, Authorization Water Revenue Bonds	199,000,000
2016 Series A, Water Revenue Refunding Bonds	239,455,000
2016 Series B-1, Special Variable Rate Water Revenue Refunding Bonds (1)	41,450,000
2016 Series B-2, Special Variable Rate Water Revenue Refunding Bonds (1)	41,455,000
2017 Series A, Authorization Water Revenue Bonds (1)	80,000,000
2017 Series A, Subordinate Water Revenue Refunding Bonds	219,215,000
2017 Series B, Subordinate Water Revenue Refunding Bonds	106,930,000
2017 Series C, Subordinate Water Revenue Bonds (1)	80,000,000
2017 Series D, Subordinate Water Revenue Refunding Bonds (1)	95,630,000
2017 Series E, Subordinate Water Revenue Refunding Bonds (1)	95,625,000
2018 Series A, Subordinate Water Revenue Refunding Bonds	49,990,000
2018 Series A-1, Special Variable Rate Water Revenue Refunding Bonds (1)	45,035,000
2018 Series A-2, Special Variable Rate Water Revenue Refunding Bonds (1)	45,035,000
2018 Series B, Subordinate Water Revenue Bonds	64,345,000
2018 Series B, Water Revenue Refunding Bonds	129,125,000
2019 Series A, Water Revenue Refunding Bonds	218,090,000
2019 Series A, Subordinate Water Revenue Refunding Bonds	228,880,000
2020 Series A, Water Revenue Bonds	207,355,000
2020 Series A, Subordinate Water Revenue Refunding Bonds	152,455,000
2020 Series B, Special Variable Rate Water Revenue Refunding Bonds (2)	271,815,000
2020 Series C, Water Revenue Refunding Bonds	265,680,000
2021 Series A, Water Revenue Bonds	188,890,000
2021 Series A, Variable Rate Water Revenue Refunding Bonds (1)	222,160,000
2021 Series B, Water Revenue Refunding Bonds	98,410,000
Total Revenue Bonds	\$3,853,025,000
2019 Series A, WaterWorks General Obligation Refunding Bonds	13,165,000
2020 Series A, WaterWorks General Obligation Refunding Bonds	13,665,000
Total General Obligation Bonds	\$26,830,000
Total Revolving Note Program	—
Total Debt:	\$3,879,855,000

(1) Outstanding variable rate obligation.

(2) Issued in fixed mode.

DEBT SERVICE

Debt Service payments in FY 2022/23 are budgeted at \$288.0 million and includes \$2.0 million in General Obligation bond debt service, \$283.3 million in revenue bond debt service, and \$2.8 million for debt administration costs.

Debt Service payments in FY 2023/24 are budgeted at \$301.0 million and include \$2.0 million in General Obligation bond debt service, \$296.4 million in revenue bond debt service, and \$2.7 million for debt administration costs. Total debt service costs in FY 2023/24 are expected to be \$13.0 million greater than the FY 2022/23 payments. Interest payments on synthetic fixed rate debt were calculated at their associated swap rates. Interest rates on variable rate debt were calculated at 0.5 percent for FY 2022/23 and 0.75 percent for FY 2023/24.

Outstanding variable rate debt on December 31, 2021 was approximately \$825.3 million, including bonds bearing interest in the Index Mode, variable rate demand obligations, and revolving note programs. Of the \$825.3 million, \$406.0 are treated by Metropolitan as fixed rate debt by virtue of interest rate swap agreements. The remaining \$419.3 million of variable rate obligations represent approximately 8.0 percent of total outstanding water revenue bonds and revolving notes.

Summarized in the table below is the projected debt service payment schedule, grouped by fiscal year and bond type, for existing long-term debt.

Fiscal Year Ending June 30	Revenue Bonds		General Obligation Bonds		Total Debt Service
	Principal	Interest	Principal	Interest	
2023	\$138,960,000	\$140,889,909	\$960,000	\$1,008,750	\$281,818,659
2024	150,245,000	134,582,620	1,005,000	960,750	286,793,370
2025	148,050,000	133,555,227	1,055,000	910,500	283,570,727
2026	156,180,000	130,814,481	1,110,000	857,750	288,962,231
2027	163,915,000	122,310,666	1,160,000	802,250	288,187,916
2028	174,045,000	113,523,783	1,220,000	744,250	289,533,033
2029	185,812,500	106,569,576	1,245,000	683,250	294,310,326
2030	178,022,500	97,099,953	1,300,000	621,000	277,043,453
2031	170,197,500	88,239,159	1,365,000	556,000	260,357,659
2032	186,847,500	80,339,003	1,435,000	487,750	269,109,253
2033	163,282,500	74,654,873	1,510,000	416,000	239,863,373
2034	191,112,500	67,539,389	1,580,000	340,500	260,572,389
2035	208,575,000	60,332,005	1,660,000	261,500	270,828,505
2036	215,285,000	52,871,369	1,740,000	178,500	270,074,869
2037	220,665,000	45,713,108	1,830,000	91,500	268,299,608
2038	204,470,000	40,013,533	-	-	244,483,533
2039	151,885,000	34,824,106	-	-	186,709,106
2040	158,915,000	27,900,452	-	-	186,815,452
2041	166,010,000	20,912,022	-	-	186,922,022
2042	71,035,000	16,273,651	-	-	87,308,651
2043	73,295,000	14,228,258	-	-	87,523,258
2044	38,135,000	12,704,600	-	-	50,839,600
2045	39,725,000	11,165,650	-	-	50,890,650

Fiscal Year Ending June 30	Revenue Bonds		General Obligation Bonds		Total Debt Service
	Principal	Interest	Principal	Interest	
2046	67,580,000	9,160,658	-	-	76,740,658
2047	69,765,000	7,067,744	-	-	76,832,744
2048	71,955,000	4,981,148	-	-	76,936,148
2049	30,810,000	3,442,388	-	-	34,252,388
2050	27,930,000	1,984,500	-	-	29,914,500
2051	12,540,000	972,750	-	-	13,512,750
2052	13,185,000	329,625	-	-	13,514,625
2053	-	-	-	-	-
Total	\$3,848,430,000	\$1,654,996,206	\$20,175,000	\$8,920,250	\$5,532,521,456

Going forward, Metropolitan will finance a portion of its construction program, Supply Program capital expenditures, and additional Conservation Program expenditures through issuance of fixed-rate debt. Metropolitan intends to issue approximately \$463.9 million of new debt over the biennium.

DEBT RATINGS

Credit risk is the risk that a financial loss will be incurred if a counterparty to a transaction does not fulfill its financial obligations in a timely manner. This is measured by the assignment of a rating by a nationally recognized statistical credit rating organization. Strong credit ratings provide tangible benefits to ratepayers in the form of reduced debt service cost. A strong credit rating provides better access to capital markets, lower interest rates and better terms on debt, and access to a greater variety of debt products. Prudent financial management policies have resulted in Metropolitan's senior lien bond ratings of AAA from Standard & Poor's, Aa1 from Moody's, and AA+ from Fitch.

DEBT POLICY AND COVERAGE

Metropolitan is subject to limitations on additional revenue bonds. Resolution 8329 (the "Master Revenue Bond Resolution"), adopted by Metropolitan's Board in 1991 and subsequently supplemented and amended, provides for the issuance of Metropolitan's revenue bonds. The Master Revenue Bond Resolution limits the issuance of additional obligations payable from Net Operating Revenues, among other things, through the requirement that Metropolitan must meet an Additional Bonds Test, as defined in the Master Revenue Bond Resolution. Metropolitan's Master Subordinate Bond Resolution, Resolution 9199, adopted by the Board in March 2016, and subsequently supplemented and amended, also incorporates limitations on additional revenue bonds.

The Metropolitan Act also provides two additional limitations on indebtedness. The Act provides for a limit on general obligation bonds, water revenue bonds and other indebtedness at 15 percent of the assessed value of all taxable property within Metropolitan's service area. As of December 31, 2021, outstanding general obligation bonds, water revenue bonds and other evidences of indebtedness in the amount of \$3.9 billion represented approximately 0.11 percent of the FY 2021/22 taxable assessed valuation of \$3,392 billion. The second limitation under the Act specifies that no revenue bonds may be issued, except for the purpose of refunding, unless the amount of net assets of Metropolitan as shown on its balance sheet as of the end of the last fiscal year prior to the issuance of the bonds equals at least 100 percent of the aggregate amount of revenue bonds outstanding following the issuance of the bonds. The net position of Metropolitan at June 30, 2021 was \$7.2 billion. The aggregate amount of revenue bonds outstanding as of December 31, 2021 was \$3.9 billion.

Metropolitan has also established its own policy regarding debt management. The purpose is to maintain a balance between current funding sources and debt financing to retain Metropolitan's financing flexibility.

Flexibility allows Metropolitan to use a variety of revenue or debt-financing alternatives, including issuing low-cost variable rate and other revenue supported obligations.

Metropolitan's debt management policy is to:

- Maintain an annual senior/subordinate lien revenue bond debt coverage ratio of at least 2.0 times coverage;
- Maintain an annual fixed charge coverage ratio of at least 1.2 times coverage;
- Limit debt-funded capital to no more than 40 percent of the total capital program over the ten-year planning period; and
- Limit variable rate debt such that the net interest cost increase due to interest rate changes is no more than \$5 million, and limit the maximum amount of variable rate bonds to 40 percent of outstanding revenue bond debt (excluding variable rate bonds associated with interest rate swap agreements).

In order to comply with the debt management policy, Metropolitan has taken the following measures:

Revenue Bond Debt Coverage Ratio

This policy ensures that Metropolitan has sufficient annual operating revenues to pay its operating expenses and meet its debt service obligations on its revenue bonds and other senior debt. The revenue bond debt coverage ratio is defined as Metropolitan's net operating revenue (current year's operating revenue less the current year's operating expenses) divided by the current year's senior/subordinated lien debt service on all revenue bonds and other senior debt. The target is 2.0 times. In FY 2022/23 and FY 2023/24, the projected debt coverage ratio is 1.5 and 1.4 times, respectively.

Fixed Charge Coverage Ratio

In addition to revenue bond debt service coverage, Metropolitan also measures total coverage of all fixed obligations after payment of operating expenditures. This additional measure is used to account for Metropolitan's recurring capital costs for the State Water Contract, which are funded after debt service on revenue bonds and other parity obligations. Rating agencies expect that a financially sound utility will consistently demonstrate an ability to fund all recurring costs, whether they are operating expenditures, debt service payments or other contractual payments. Metropolitan's fixed charge coverage ratio target is 1.2 times. In FY 2022/23 and FY 2023/24, the projected fixed charge coverage ratio is 1.5 and 1.4, respectively. These levels help maintain favorable credit ratings and access to the capital markets at low cost.

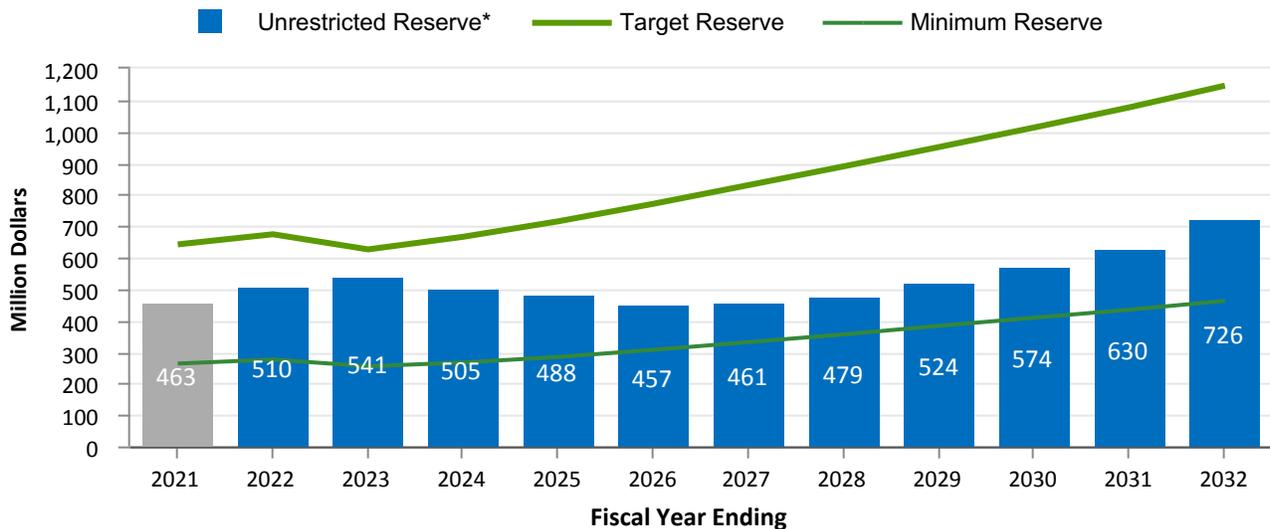
BUDGET HIGHLIGHTS

The FY 2022/23 and FY 2023/24 Capital Financing budget is decreasing from the FY 2021/22 budget due to lower debt service expenditures overall. Debt service costs decrease by \$6 million over the biennium compared to the FY 2021/22 budget due to favorable refundings and lower interest rates. Lower overall Capital Financing costs provide increased financial flexibility and resiliency.

TEN-YEAR FINANCIAL FORECAST

The ability to ensure a reliable supply of high quality water for Metropolitan’s 26 member agencies depends on Metropolitan’s ongoing ability to fund operations and maintenance, maintain and augment local and imported water supplies, fund replacements and refurbishment of existing infrastructure, and invest in system improvements. This ten-year forecast (Ten-Year Financial Forecast or Ten-Year Forecast) builds on the biennial budget to support long range resource, capital investment and operational planning. As such, it includes a forecast of future costs and the revenues necessary to support operations and investments in infrastructure and resources that are derived from Metropolitan’s planning processes while conforming to Metropolitan’s financial policies. These financial policies, which address reserve levels, financial indicators, and capital funding strategies, ensure sound financial management and fiscal stability for Metropolitan. The Ten-Year Financial Forecast is updated with every budget to reflect the most up-to-date planning assumptions and projections.

Projected Financial Indicators



Ave Rate Increase	3.0%	4.0%	5.0%	5.0%	7.0%	6.0%	6.0%	6.0%	6.0%	5.0%	5.0%	5.0%
Water Transactions, MAF**	1.52	1.60	1.59	1.54	1.54	1.51	1.53	1.53	1.54	1.55	1.55	1.57
Rev. Bond Cvg	2.0	1.6	1.5	1.4	1.6	1.6	1.7	1.7	1.8	1.8	1.8	1.8
Fixed Chg Cvg	2.0	1.6	1.5	1.4	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7
PAYGO, \$M	110	135	135	135	175	175	175	175	200	200	200	200

* includes Revenue Remainder and Water Rate Stabilization Fund

** includes water sales, exchanges, and wheeling

The figure above summarizes the financial metrics of the Ten-Year Financial Forecast. Metropolitan projects that the fixed charge coverage ratio will meet the board-established target of 1.2 times throughout the ten-year period. Revenue bond coverage will not meet the target of 2.0 times during this forecast period. Reserve levels will be above minimums as established by board policy; PAYGO expenditures will range to fund between 17 percent and 47 percent of the Capital Investment Plan (CIP) expenditures; and projected overall rate increases are expected to range from 5 to 7 percent.

The estimated overall rate increases for the Ten-Year Financial Forecast is a result of higher projected costs, catch-up for the loss of the Water Stewardship Rate (WSR) revenues, lower projected water transactions over the forecast period and inclusion of the RRWP bond-financed construction costs starting in FY 2024/25. Annual expenditures are expected to increase from \$1.9 billion in FY 2022/23 to \$2.9 billion by FY 2031/32, or an annual average increase of about 5 percent. During this same period, capital investments are expected to be about \$6.9 billion. To finance these capital investments, the ten-year forecast anticipates funding \$1.8 billion of the CIP from water revenues or PAYGO. The balance of the CIP, or \$5.2 billion, will be financed by issuing revenue bond debt, assumed to be fixed rate bonds.

Planning is necessary for Metropolitan to successfully fund the many investments necessary to meet the challenges facing the region over the next ten years with manageable rate increases. Among the more significant challenges are:

- Investing in the elements of the 2020 IRP Update to ensure reliable water supplies for Metropolitan's service area and preparing for uncertainty.
- Continuing to provide supply reliability through a diversified portfolio of actions to stabilize and maintain imported supplies.
- Meeting future growth through increased water conservation and the development of new local supplies, while protecting existing supplies, to achieve higher retail water use efficiency, in compliance with state policy.
- Building storage in wet and normal years to manage risks and drought.
- Funding an estimated \$6.9 billion capital program that provides projects meeting water quality, reliability, stewardship, information technology directives, and includes the RRWP.
- Funding for Metropolitan's planned contribution for Delta Conveyance Project (DCP) planning costs of \$110.6 million are included in the years FY 2023 through FY 2025. The focus over the next two years will be supporting the California Department of Water Resources as it seeks permits for a DCP; participating in the Delta Conveyance Design and Construction Authority; and continuing to put forward sound scientific research to help inform and improve Delta management decisions. If staff determines that Metropolitan's appropriate contribution toward planning activities should exceed the amount included in the Biennial Budget for FY 2023 and 2024, the General Manager will request authorization from the Board for additional funding. Metropolitan's planning contribution for FY 2025 will be considered with the next biennial budget to be considered in FY 2024. Long-term costs for a DCP have not been included in the forecast. At a later date staff will recommend that the Board separately consider Metropolitan's participation in a new DCP after project planning has progressed further.
- Funding for the potential Regional Recycled Water Program of \$19.7 million for the planning costs for the RRWP is included in the Operating and Maintenance budget for FY2023 and FY2024. This is the next step before the Board will be fully informed and ready to make a decision on if, how, and when to proceed with further investments in this project. Long-term costs of the RRWP are included in the forecast.

ASSUMPTIONS FOR THE TEN-YEAR FORECAST

The following table summarizes key assumptions that underlie the Ten-Year Forecast.

Fiscal Year Ending	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Water Transactions, MAF *	1.59	1.54	1.54	1.51	1.53	1.53	1.54	1.55	1.55	1.57
CRA Diversions, TAF	1,007	923	774	772	765	758	778	833	876	882
SWP allocation, %	15% / 40%	40% / 50%	50%	50%	50%	50%	50%	50%	50%	50%
CIP, \$M	300	300	372	381	475	838	1,045	1,191	1,202	842
PAYGO, \$M	135	135	175	175	175	175	200	200	200	200
Conservation, \$M **	43	43	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
Interest on investments, %	0.50%	0.75%	1.00%	1.25%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
Interest rate, fixed bonds, %	2.75%	2.75%	3.00%	3.00%	3.25%	3.25%	3.50%	3.50%	3.50%	3.50%
Interest rate, variable bonds, %	0.50%	0.75%	1.00%	1.00%	1.00%	1.00%	1.25%	1.25%	1.25%	1.25%

* includes member agency water sales and exchanges presented on a Cash Year basis

**Conservation will be funded with \$18 million of bonds each year in 2023 and 2024.

Metropolitan’s principal sources of water supplies are the SWP and the Colorado River. Metropolitan receives water delivered from the SWP under SWC provisions, including Table A allocation, use of carryover storage in San Luis Reservoir, and surplus supplies. Metropolitan holds rights to a basic apportionment of Colorado River water and has priority rights to an additional amount depending on availability of surplus supplies. The Supply Programs and other contractual arrangements supplement these SWP and Colorado River supplies. The SWP and Colorado River sources derive from two different hydrologic regions, which have helped buffer shortages. The Ten-Year Forecast assumes an average hydrology on the Colorado River and hydrology on the SWP starting under drought conditions and returning to average conditions by calendar year 2024. Together with Metropolitan’s Supply Programs, dry periods in either region can be managed.

The CIP has been reviewed to maintain affordability throughout the ten-year period. CIP projects have been carefully reviewed, scored and ranked to continue the ability to deliver water reliably and safely while meeting all regulatory requirements.

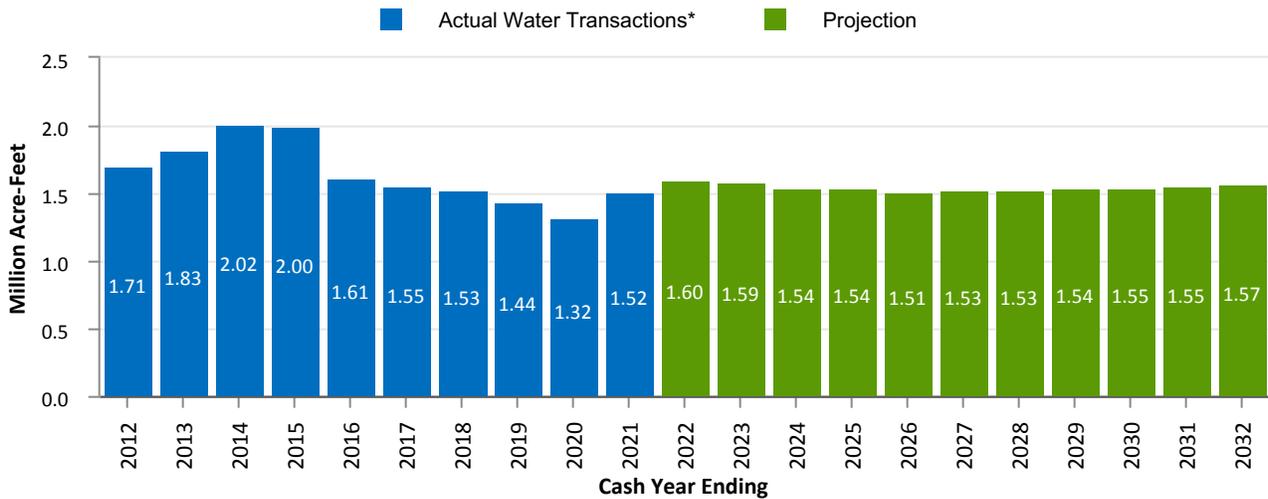
The inflation factor is assumed to be 3.0 percent and is applied to Metropolitan’s O&M expenses, such as chemicals, but excluding labor and additives, which are based on the Memoranda of Understanding for the represented employees. The interest rate applicable to Metropolitan’s investment portfolio is based on an analysis of the current forward curve for investments over a ten-year period. This interest rate forecast informs the interest rate applicable to variable rate bonds. The interest rate for new fixed rate bonds is also based on forecasts.

FORECAST OF WATER TRANSACTIONS

Revenues from water transactions (sales, exchanges, and wheeling) provide approximately 80 percent of the revenues necessary to support Metropolitan’s capital and operating costs. It is expected that demand for Metropolitan supplies will decrease over the ten-year period, from 1.59 million acre-feet in Cash Year 2022/23 to 1.57 million acre-feet by Cash Year 2031/32. This forecast includes water delivered to the San Diego County Water Authority (SDCWA) pursuant to the 2003 Amended and Restated Exchange Agreement (exchange water).

The figure below shows historic and forecasted water transactions, including the exchange water and wheeling.

Water Transactions, MAF



SOURCES OF FUNDS

Revenues

Through FY 2031/32, revenues from rates and charges, which include the Readiness-to-Serve (RTS) Charge, Capacity Charge, and water transaction revenues, collected from the member agencies will account for approximately 89 percent of total revenues. Total revenues are projected to increase from about \$1.9 billion in FY 2022/23 to \$3.0 billion in FY 2031/32. This increase is almost entirely attributed to increases in water rates and charges.

Water Rates and Charges

The table below shows the estimated unbundled water rates and charges under the current rate structure. The rate structure components may experience different increases, on a percentage basis, depending on the costs recovered. The full-service treated Tier 1 water rate is estimated to be \$1,950 per acre-foot by January 1, 2032, compared to \$1,143 per acre-foot on January 1, 2022, reflecting an average increase of 5.5 percent per year over the ten-year period.

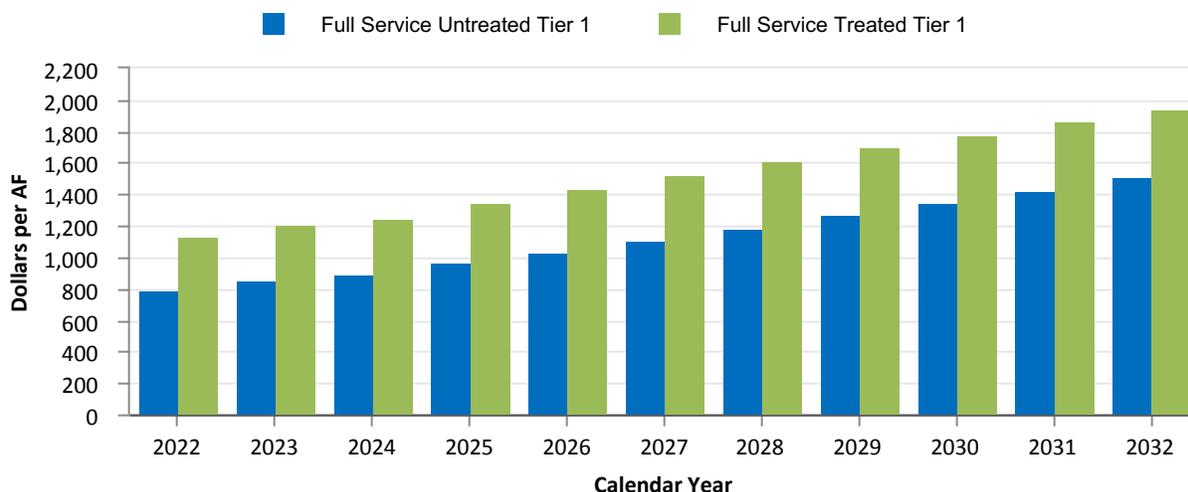
Rates & Charges Effective January 1st	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Tier 1 Supply Rate (\$/AF)	\$243	\$321	\$332	\$364	\$397	\$425	\$456	\$490	\$515	\$543	\$570
Tier 2 Supply Rate (\$/AF)	\$285	\$530	\$531	\$566	\$595	\$620	\$646	\$671	\$688	\$705	\$723
System Access Rate (\$/AF)*	\$389	\$368	\$389	\$410	\$432	\$467	\$509	\$553	\$595	\$637	\$685
System Power Rate (\$/AF)*	\$167	\$166	\$182	\$198	\$208	\$218	\$225	\$229	\$240	\$254	\$257
Full Service Untreated Volumetric Cost (\$/AF)											
Tier 1	\$799	\$855	\$903	\$972	\$1,037	\$1,110	\$1,190	\$1,272	\$1,350	\$1,434	\$1,512
Tier 2	\$841	\$1,064	\$1,102	\$1,174	\$1,235	\$1,305	\$1,380	\$1,453	\$1,523	\$1,596	\$1,665
Treatment Surcharge (\$/AF)	\$344	\$354	\$353	\$380	\$407	\$424	\$425	\$431	\$431	\$434	\$438
Full Service Treated Volumetric Cost (\$/AF)											
Tier 1	\$1,143	\$1,209	\$1,256	\$1,352	\$1,444	\$1,534	\$1,615	\$1,703	\$1,781	\$1,868	\$1,950
Tier 2	\$1,185	\$1,418	\$1,455	\$1,554	\$1,642	\$1,729	\$1,805	\$1,884	\$1,954	\$2,030	\$2,103
Readiness-to-Serve Charge (\$M)	\$140	\$154	\$167	\$167	\$167	\$167	\$178	\$187	\$193	\$194	\$209
Capacity Charge (\$/cfs)	\$12,200	\$10,600	\$11,200	\$13,000	\$13,900	\$14,900	\$15,500	\$17,000	\$17,000	\$17,000	\$17,000

* This rate element is currently included in the price term of the MWD-SDCWA Exchange Agreement

The long-term rate projection is highly influenced by the addition of the RRWP, which is assumed to begin construction in FY2024/25 and affect the 2025 to 2032 rates and charges. The allocation of the RRWP costs to the rates and charges is based on preliminary information and might substantially change as a result of an upcoming COS study for the RRWP. In addition, this rate projection does not include the Delta Conveyance Project which would substantially increase the rate projections.

In 2023, the Water Stewardship Rate is no longer collected as per Board direction in November 2021. All demand management costs (regardless of funding source, such as bond financing or current revenues) are functionalized as supply and collected on the Tier 1 and Tier 2 supply rates. However, because there are no projected Tier 2 transactions in the biennium, the demand management costs are recovered entirely by the Tier 1 supply rate.

Volumetric Cost, \$ AF



Property tax revenue is expected to increase from \$163.1 million in FY 2022/23 to 224.4 million in FY 2031/32. This projection assumes the Board maintains the ad valorem tax rate at 0.0035 percent of assessed valuations, by determining the inapplicability of MWD Act Section 124.5, and assessed value increases by 4.0 percent per year. Property tax revenue is used to pay Metropolitan’s general obligation bonds and a portion of the SWC costs.

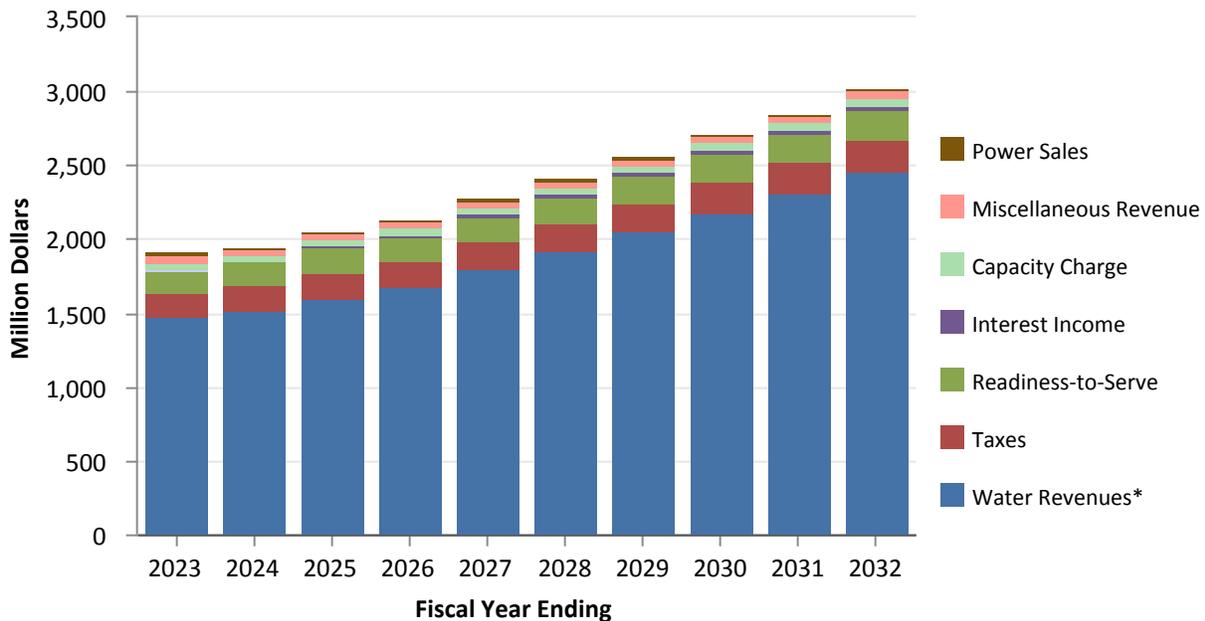
Power sales from Metropolitan’s hydroelectric power recovery plants and the CRA are projected to average about \$15 million per year over this ten-year period. Metropolitan has 16 small hydroelectric plants on its distribution system. These revenues are dependent on the amount of water that flows through Metropolitan’s distribution system and the price paid. Power from some of the plants is sold under existing contracts that are priced higher compared to the prices currently being offered for renewable power. CRA revenues derive from the management of loads and resources on the CRA; energy not needed to meet hourly CRA loads is sold into the California Independent System Operator.

Interest income is projected to increase from \$6.7 million in FY 2022/23 to \$27.0 million in FY 2031/32 as a result of increased balances with returns of 0.50 percent in FY 2022/23 growing to 1.5 percent annually in FY 2026/27 through FY 2031/32. Metropolitan earns interest on invested fund balances and uses this income to reduce the costs that must be recovered through rates and charges. These invested funds also act as a partial hedge against changes in interest rates on Metropolitan’s variable rate debt obligations. Interest income will vary over the ten-year forecast period as interest rates and cash balances available for investments will fluctuate.

Miscellaneous revenue is forecasted to average \$44.6 million over the ten-year forecast period. Miscellaneous revenue includes items such as leases, late fees, and water transactions with non-member agencies including Coachella Valley Water District and United States Bureau of Reclamation.

Forecasted revenues by major category are shown in the figure below.

Revenue Forecast, \$ millions



* includes revenues from water sales and exchanges

Other Funding Sources

Other sources of funds include withdrawals from bond construction funds, Refurbishment and Replacement (R&R) Fund, General Fund, Water Stewardship Fund (WSF), Treatment Surcharge Stabilization Fund (TSSF), Water Rate Stabilization Fund (WRSF), and the Revenue Remainder Fund.

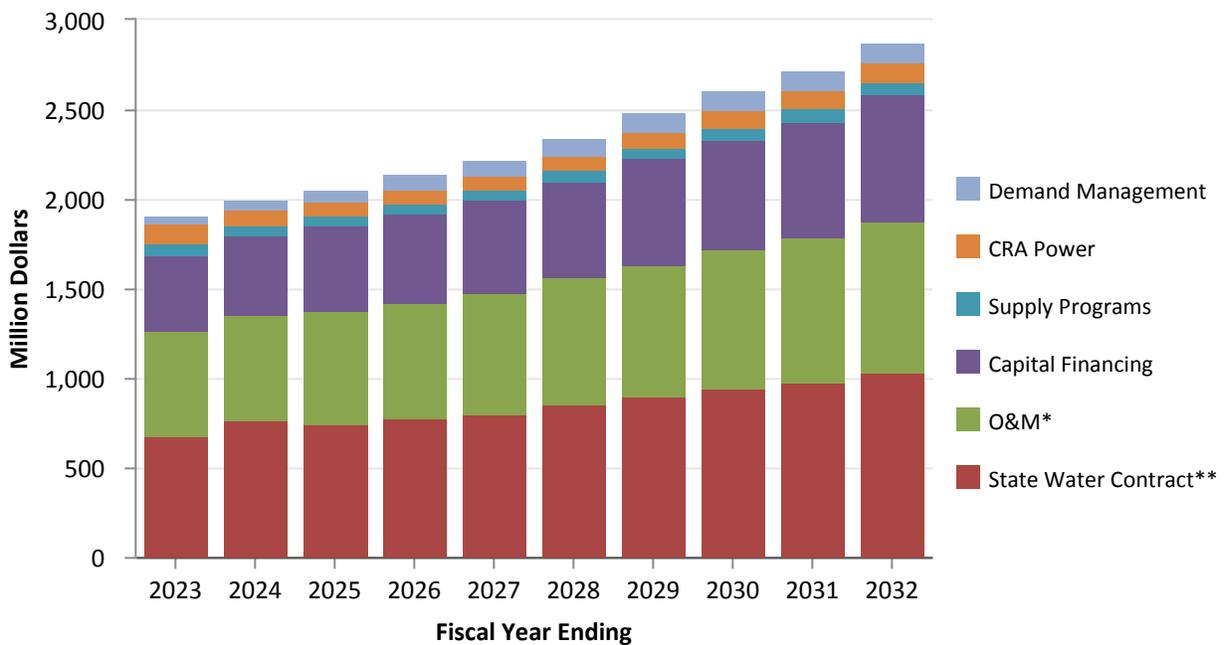
USES OF FUNDS

Over the next ten years, total annual expenditures are projected to range from \$1.91 billion in FY 2022/23 to \$2.87 billion in FY 2031/32.

Expenditures

Expenditures are grouped into eight major categories: SWC, O&M, Regional Recycled Water (included in the O&M expenditures in the chart below), Delta Conveyance (included in the SWC expenditures in the chart below), demand management programs, CRA power costs, supply programs, and capital financing. The first figure below illustrates the general trends in expenditures over the ten-year period from FY 2022/23 to FY 2031/32. The second figure following shows the comparison of FY 2022/23 to FY 2031/32 in terms of the contribution of expenditures to the total.

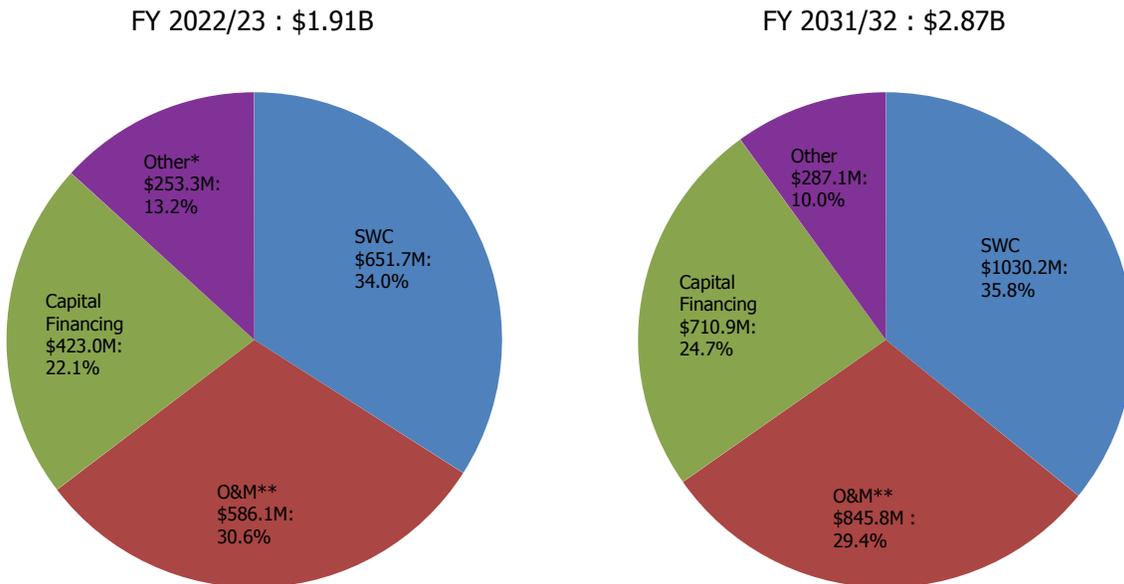
Expenditure Forecast, \$ millions



* includes RRWP planning costs

** includes Delta Conveyance Project planning costs

Expenditure Forecast, Contribution by Major Area



* includes Delta conveyance planning costs

** includes RRWP planning costs

Regional Recycled Water Program Planning Costs

The Ten-Year Forecast includes planning costs for the Regional Recycled Water Program at \$12.4 million in FY 2022/23 and \$7.3 million in FY 2023/24 for preparation of a programmatic environmental impact report for the RRWP system. This is the next step before the Board will be fully informed and ready to make a decision on if, how, and when to proceed with further investments in this project.

State Water Project

Metropolitan is one of 29 agencies that contract with the State of California for participation in the SWP's water supply function¹. Metropolitan is obligated to pay its share of the capital and minimum operations, maintenance, power, and replacement charges of the SWP regardless of the amount of water actually received. In addition, Metropolitan pays the power costs to convey the water. The Ten-Year Forecast assumes that SWC annual costs, including power, will increase from \$651.7 million in FY 2022/23 to \$1,030.2 million in FY 2031/32, as shown in the figure below. SWC costs account for 34 percent of Metropolitan's expenses in FY 2022/23, growing to 36 percent in FY 2031/32. The remainder of the fixed costs is based upon information provided by the DWR, and is associated with Transportation Capital and Minimum Operations & Maintenance, and the Delta Water Supply Capital and Minimum Operations & Maintenance. Variable SWP power costs are projected to gradually increase over the ten-year period.

Power costs will vary depending on the price of electricity, total system deliveries, storage operations, and the amount of water pumped on the SWP. SWP variable power costs are projected to increase about 4 percent per year over the ten-year forecast period. The SWP energy costs are impacted by two factors. First, the annual hydrology, secondly the energy policies of the state of California. The SWP has invested heavily in hydroelectric power generation facilities. The unit cost of operating the power facilities declines as the amount of available water increases. The SWP is acquiring renewable resources, primarily solar to date, to meet its obligation to reduce greenhouse gas emissions. The SWP energy costs are also impacted by the increasing cost of using the California Independent System Operator's (CAISO) grid to deliver power from its generating sources and the wholesale power market to its pumping loads. The SWP does not own high

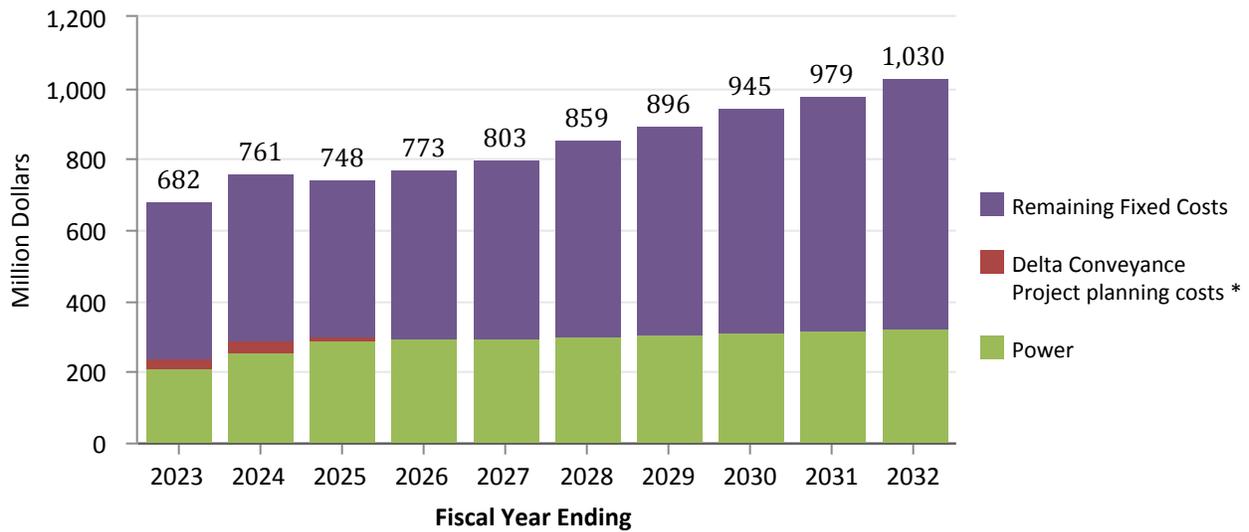
voltage transmission facilities and must use the CAISO grid to move power. Finally, the SWP has an obligation to acquire and surrender emissions allowances for the generating facilities the SWP owns, primarily the Lodi Energy Center. Net flows through the SWP that incur power are expected to average about 861 TAF per year.

On April 29, 2019, Governor Newsom issued an executive order directing State agencies to develop a single-tunnel Bay-Delta conveyance facility instead of the approved WaterFix project. In light of this, the WaterFix project is no longer included in the ten year projection. Funding for Metropolitan’s contribution for Delta conveyance project planning activities of \$110.6 million is included in the years FY 2022/23 through FY 2024/25. The focus over the next two years will be supporting the DWR as it seeks permits for a Delta Conveyance Project (DCP); participating in the Delta Conveyance Design and Construction Authority; and continuing to put forward sound scientific research to help inform and improve Delta management decisions. If staff determines that Metropolitan’s appropriate contribution toward planning activities should exceed the amount included in the Biennial Budget for FY 2022/23 and 2023/24, the General Manager will request authorization from the Board for additional funding. Long-term costs for the DCP have not been included in the forecast. At a later date staff will recommend that the Board separately consider Metropolitan’s participation in the DCP after project planning has progressed further.

Please refer to the section on the SWP for additional details on SWP expenditures.

The total SWC costs are shown in the figure below. The SWP is described under the Non-Departmental Budgets section of the Biennial Budget.

SWP Forecast, \$ millions



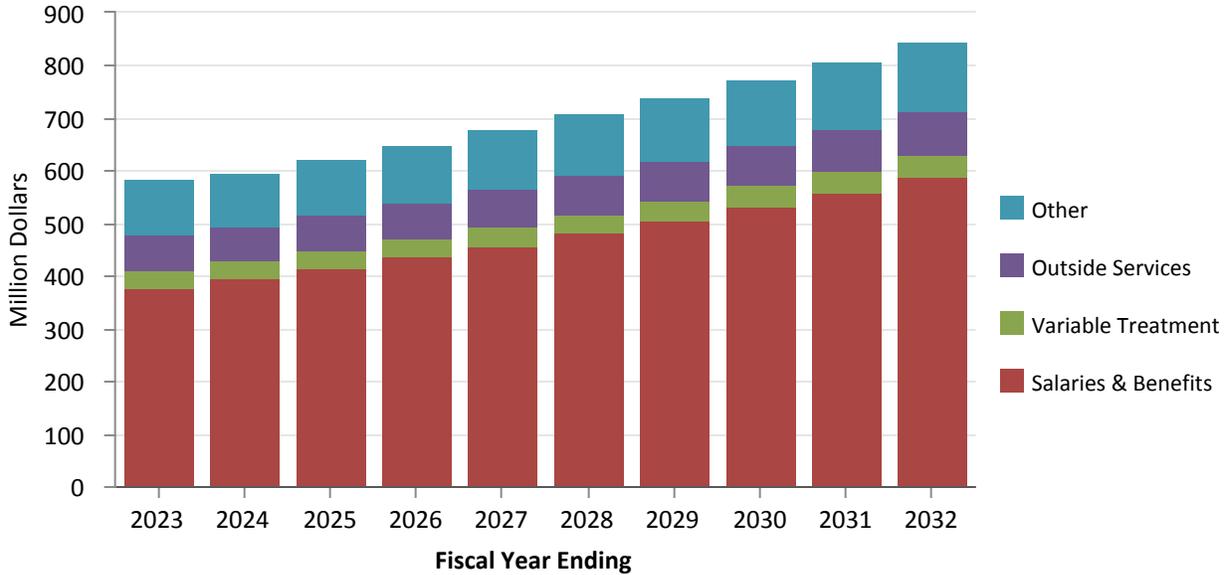
* Delta conveyance planning costs is net of CA WaterFix Refund.

¹ The term “supply” is used to distinguish between other functions of the SWP such as recreation and flood control. The term is not used to distinguish between the conservation (supply) and transportation (conveyance) functions of the SWP under the State Water Contracts for participation in the SWP.

Operations and Maintenance

O&M costs are projected to increase from \$586 million in FY 2022/23 to \$846 million in FY 2031/32. This represents an average annual increase of 4.2 percent from FY 2022/23. During this time frame, inflation is assumed to be 3.0 percent for variable treatment costs and outside and other services. Salaries and benefits are expected to escalate at a rate of 5.0 percent over the 10-year forecast period. The Ten-Year Forecast assumes Metropolitan continues to fully fund the annual required contribution to meet future retiree medical costs (Other Post-Employment Benefits, or OPEB) and retirement benefits.

O&M Forecast, \$ millions



Demand Management

Demand management costs include funding for the Local Resource Programs (LRP), the Conservation Program, Future Supply Actions Program and the Stormwater Pilot Program. These expenditures are projected to increase from \$50.8 million in FY 2022/23 to \$106.1 million in FY 2031/32, excluding any bond funded expenditures. The LRP costs are projected to increase from \$22.2 million in FY 2022/23 to \$73.8 million in FY 2031/32. The projections anticipate that new projects will receive funding to meet IRP goals. The Conservation costs are projected to be \$43 million per year in the budget years and \$30.5 million per year for the remainder of the ten-year period. This program provides continued funding of residential, commercial, and outdoor conservation programs, and conservation messaging. In addition, Future Supply Actions and Stormwater Pilot costs average about \$2.2 million per year throughout the ten-year period.

Demand Management programs are described under the Non-Departmental Budgets section of the Biennial Budget.

CRA Power Costs

CRA Power costs are projected to increase from \$105.9 million in FY 2022/23 to \$111.9 million in FY 2031/32. Power costs will vary depending on the price of electricity, Metropolitan’s resource portfolio to meet electricity needs, storage operations, and the amount of water pumped on the CRA.

Colorado River diversions are expected to average about 837 TAF over the ten-year period, slightly more than deliveries as water is stored.

Power costs are described under the Non-Departmental Budgets section of the Biennial Budget.

Supply Programs

Supply programs increase slightly over the ten-year period from \$66.7 million in FY 2022/23 to \$69.1 million in FY 2031/32, excluding bond funded program costs. Additional spending on Participation Rights for the AVEK High Desert Water Bank Program of \$38.4M in FY 2022/23 and \$46.0M in FY 2023/24 will be funded by debt. The estimates represent expenditures for average year conditions. If extreme weather conditions are experienced, these cost estimates could be much higher or lower. If higher than normal demand is coupled with lower than normal supply, supply program costs could be significantly higher.

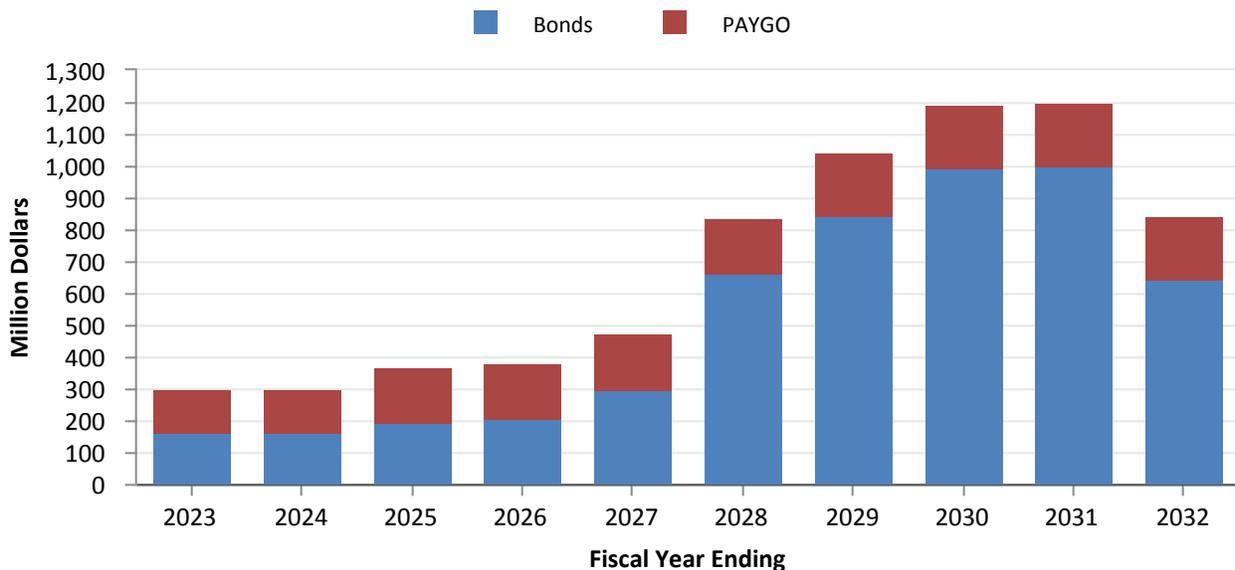
A description of Metropolitan’s Supply Programs is provided under the Non-Departmental section of the Biennial Budget.

Capital Investment Plan

The ten-year projected CIP through FY 2031/32 is estimated at a cumulative amount of \$6.9 billion and includes the construction of the RRWP. The CIP continues to reflect the deferral of facility expansion projects. The CIP focuses on projects that enhance reliability while focusing on necessary refurbishment and replacement of aging infrastructure and compliance with regulatory requirements. Accordingly, the O&M impact from the resulting CIP is negligible. Without this emphasis on repair and replacement of aging facilities, O&M expenditures could potentially be much higher.

The following figure shows the funding source for the ten-year CIP.

CIP Ten-Year Forecast and Funding Sources, \$ millions



Capital Financing Options

The CIP will be funded from a combination of bond proceeds and operating revenues. In order to mitigate increases in water rates, provide financial flexibility, and support Metropolitan's high credit ratings including maintaining revenue bond debt service and fixed charge coverage ratios, it is anticipated that 17 to 47 percent of the CIP will be funded from current revenues, or PAYGO. This level of PAYGO funding is appropriate given that a significant portion of future CIP projects has been identified as R&R projects. This level of PAYGO also helps ensure that Metropolitan meets its coverage targets by generating a margin of revenues over operating and debt expenditures. The additional revenue required to meet Metropolitan's revenue bond debt service coverage target of 2.0 times and fixed charge coverage of 1.2 times is available to fund the CIP. PAYGO funding throughout the ten-year horizon of the planning period ensures that current customers are always contributing funds towards the capital investments from which they benefit, and not deferring these costs entirely to future generations of ratepayers.

Bond funded expenditures may include a combination of variable and fixed rate debt. Debt has been structured to mitigate near-term rate impacts and smooth out long-term debt service. The principal advantage of variable rate debt is the opportunity for a lower interest cost. Normally, short-term interest rates are lower than long-term interest rates for debt of comparable credit quality. If interest rates remain constant, Metropolitan will generally have significantly lower interest costs on variable rate debt than on fixed rate debt, even after remarketing and liquidity facility costs. Also, if interest rates decline, Metropolitan will benefit from lower interest costs without the necessity or cost of a refunding. If interest rates rise, variable rates could stay lower than the fixed rate originally avoided, and the longer the variable rate debt is outstanding at favorable spreads, the higher the break-even point becomes on fixed rate debt. Variable rate debt is used to mitigate interest costs over the long term, and provides a natural hedge against changes in investment earnings: when interest rates are high, interest costs on variable rate debt is higher but so are earnings from Metropolitan's investment portfolio. When interest rates are low, interest earnings are lower, but so are variable rate interest costs.

Typically, fixed rate bonds are only redeemable a given number of years after their issuance. Variable rate debt, on the other hand, is generally redeemable on any interest payment or reset date.

However, variable rate debt does have risks. These risks include:

- Rising interest rates. Because future interest rates are unknown, the costs of capital improvements financed with variable rate debt are more difficult to estimate for revenue planning purposes. Significant interest rate increases could cause financial stress.
- Liquidity facility renewal risk. Variable rate debt normally requires a liquidity facility to protect the investors and issuers against "puts" of a large portion or all of the debt on a single day. Liquidity facilities generally do not cover the full term of the debt. If an issuer's credit declines or the liquidity facility capacity is not available, the issuer runs the risk of not being able to obtain an extension or renewal of the expiring liquidity facility. In that event, the issuer may have to retire the debt or convert it to fixed rate debt.

Debt Financing

It is anticipated that there will be about \$6.9 billion of capital expenditures over the ten-year period. Of this, \$5,175.8 million, or 75 percent of future capital expenditures, are anticipated to be funded by debt proceeds. Provided below is the schedule of CIP debt issuances and interest rates assumed over the 10-year forecast period.

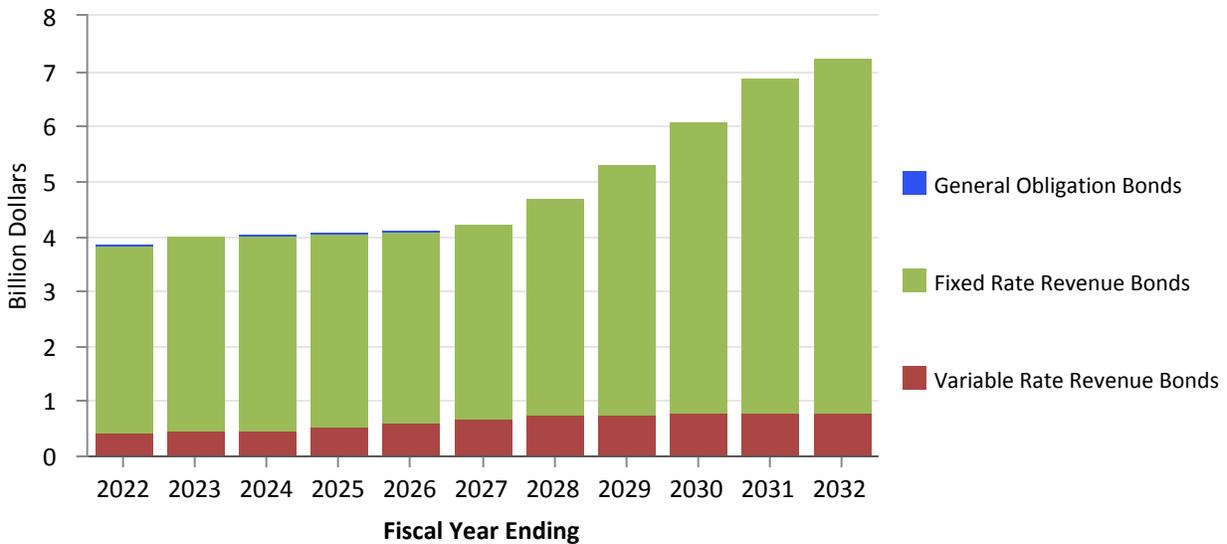
Assumption	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
CIP Revenue Bonds* (\$ millions)	170	160	200	210	300	670	850	990	1,010	640
Fixed Interest Rate (%)	2.75	2.75	3.00	3.00	3.25	3.25	3.50	3.50	3.50	3.50

*All bond issuances are anticipated to be tax-exempt and have a maturity of 30 years.

Outstanding debt, including revenue and general obligation bonds ("GO bonds"), as of December 31, 2021 is \$3.9 billion. The net position of Metropolitan at June 30, 2021 was \$7.2 billion. Metropolitan is limited to not have outstanding revenue bond debt in amounts greater than 100 percent of its net position (equity). As of June 30, 2021, Metropolitan's debt to equity ratio was 58 percent.

Total outstanding debt is illustrated below. Total outstanding debt is estimated to be \$7.2 billion by FY 2031/32, approximately 85 percent higher than the current level.

Outstanding Debt, \$ billions

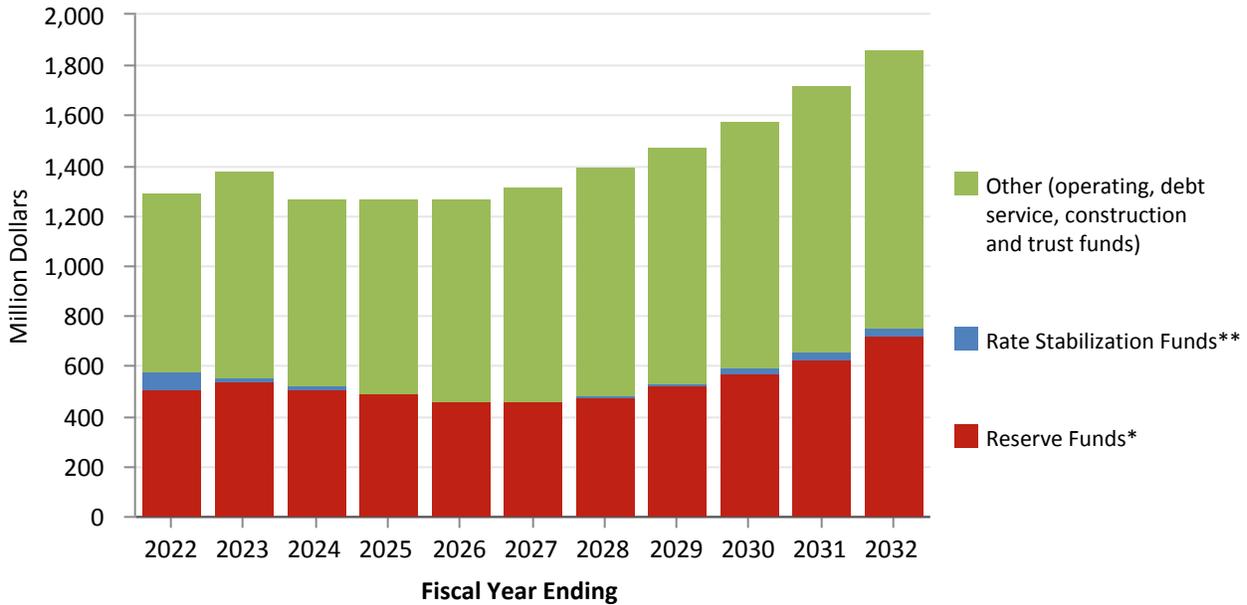


Metropolitan's variable rate debt as a percentage of total revenue bond debt is projected to stay approximately the same at 13 percent over this time period. The appropriate amount of variable rate debt will continue to be monitored and adjusted depending on market rates, financing needs, available short-term investments, and fund levels in the investment portfolio with which variable interest rate exposure can be hedged. GO bond debt will decrease as voter approved indebtedness matures.

FUND BALANCES AND RESERVES

As shown in the figure below, over the next ten years total fund balances are projected to increase to \$1.9 billion in FY 2031/32.

End of Year Fund Balances, \$ millions



* includes Water Rate Stabilization Fund and Revenue Remainder Fund.

** includes Water Stewardship Fund and Treatment Surcharge Stabilization Fund.

FINANCIAL RATIOS

Revenue bond debt service coverage is one primary indicator of credit quality, and is calculated by dividing net operating revenues by debt service. Revenue bond debt service coverage measures the amount that net operating revenues exceed or "cover" debt service payments over a period of time. Higher coverage levels are preferred since they indicate a greater margin of protection for bondholders. For example, a municipality with 2.0 times debt service coverage has twice the net operating revenues required to meet debt service payments. The ten-year forecast projects that Metropolitan's revenue bond coverage ratio ranges from 1.4 times to 1.8 times over the period. Metropolitan's minimum coverage policy is vital to continued strong credit ratings and low cost bond funding.

In addition to revenue bond debt service coverage, Metropolitan also measures total coverage of all fixed obligations after payment of operating expenditures. This additional measure is used primarily because of Metropolitan's recurring capital costs for the SWC. Rating agencies expect that a financially sound utility consistently demonstrate an ability to fund all recurring costs, whether they are operating expenditures, debt service payments or other contractual payments. The ten-year forecast projects that Metropolitan's fixed charge coverage ratio is at least 1.4 times over the ten-year period. These levels help maintain strong credit ratings and access to the capital markets at low cost, and provide PAYGO funding for the CIP.

Ten-Year Financial Forecast, Sources and Uses of Funds, \$ millions

Fiscal Year Ending	2023 Budget	2024 Budget	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast	2030 Forecast	2031 Forecast	2032 Forecast
SOURCES OF FUNDS										
Revenues										
Taxes	163.1	168.3	175.0	178.5	185.5	192.7	200.2	207.9	216.0	224.4
Interest Income	6.7	10.0	12.7	15.9	19.5	20.5	21.7	23.1	24.9	27.0
Power Sales	16.7	14.2	15.5	15.7	15.7	16.2	16.3	13.3	12.9	13.1
Fixed Charges (RTS & Capacity Charge)	185.7	195.7	206.0	210.4	213.5	221.5	234.9	244.8	248.3	256.3
Water Revenues (1)	1,485.3	1,522.2	1,606.1	1,676.7	1,803.9	1,926.3	2,053.4	2,184.9	2,314.9	2,460.0
Miscellaneous Revenue	61.9	46.6	41.4	42.1	44.4	39.7	40.4	42.2	43.0	43.8
Bond Proceeds	303.1	159.2	199.0	209.0	298.5	666.7	845.8	985.1	1,005.0	636.8
Sub-total Revenues	2,222.4	2,116.2	2,255.7	2,348.3	2,580.9	3,083.6	3,412.5	3,701.3	3,864.9	3,661.4
Fund Withdrawals										
R&R and General Fund	135.0	135.0	175.0	175.0	175.0	175.0	200.0	200.0	200.0	200.0
Bond Funds for Construction	—	69.8	11.3	—	1.8	—	—	6.1	—	4.8
Water Stewardship Fund	56.1	—	—	—	—	—	—	—	—	—
Treatment Surcharge Stabilization Fund	—	—	15.8	—	—	—	—	—	—	—
Decrease in Required Reserves	—	—	—	—	—	—	—	—	—	—
Decrease in Water Rate Stabilization Fund	—	48.9	33.9	54.0	20.8	6.0	—	—	—	—
Sub-total Fund Withdrawals	191.1	253.7	236.0	229.0	197.7	181.0	200.0	206.1	200.0	204.8
TOTAL SOURCES OF FUNDS	2,413.4	2,369.8	2,491.8	2,577.3	2,778.5	3,264.6	3,612.5	3,907.4	4,064.9	3,866.2
Water Transactions* (MAF)	1.59	1.54	1.54	1.51	1.53	1.53	1.54	1.55	1.55	1.57

Totals may not foot due to rounding.

(1) includes revenues from water sales and exchanges presented on a Cash Year basis

Fiscal Year Ending	2023 Budget	2024 Budget	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast	2030 Forecast	2031 Forecast	2032 Forecast
USES OF FUNDS										
Expenditures										
State Water Contract*	651.7	726.7	736.3	773.1	803.4	858.9	895.7	945.1	978.7	1,030.2
Supply Programs (cash funded portion)	66.7	64.1	55.6	59.5	62.1	62.8	63.8	65.6	67.4	69.1
Delta Conveyance Project planning costs	30.0	34.5	11.6	—	—	—	—	—	—	—
Colorado River Power	105.9	85.6	74.9	77.3	78.6	80.5	85.2	94.8	108.8	111.9
Debt Service	288.0	301.0	305.3	324.1	338.2	356.8	392.2	415.6	450.1	510.9
Demand Management (cash funded portion)	50.8	49.1	68.1	81.7	89.9	99.1	110.1	110.3	109.3	106.1
Departmental O&M	542.3	553.6	578.5	604.6	631.9	660.4	690.4	721.7	754.5	788.8
Treatment Chemicals, Sludge & Power	32.5	34.9	35.5	34.8	36.0	37.3	38.7	40.2	41.7	43.3
Other O&M	11.4	10.8	11.2	11.5	11.8	12.2	12.6	12.9	13.3	13.7
Sub-total Expenditures	1,779.2	1,860.4	1,876.9	1,966.6	2,051.8	2,167.9	2,288.7	2,406.3	2,523.7	2,674.0
Capital Investments	356.4	364.0	385.3	381.1	475.3	837.8	1,045.1	1,191.2	1,201.9	841.6
Fund Deposits										
R&R and General Fund	135.0	135.0	175.0	175.0	175.0	175.0	200.0	200.0	200.0	200.0
Revenue Bond Construction	81.7	—	—	2.9	—	3.8	0.6	—	3.0	—
Water Stewardship Fund	—	—	—	—	—	—	—	—	—	—
Treatment Surcharge Stabilization Fund	3.5	3.1	—	—	—	4.1	5.6	9.2	7.0	4.5
Interest for Construction & Trust Funds	0.2	0.4	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1
Increase in Required Reserves	4.8	7.0	54.4	51.7	76.3	75.8	54.8	76.4	98.6	78.1
Increase in Water Rate Stabilization Fund	52.7	—	—	—	—	—	17.5	24.3	30.6	67.9
Sub-total Fund Deposits	277.8	145.5	229.5	229.6	251.4	258.8	278.7	309.9	339.3	350.7
TOTAL USES OF FUNDS	2,413.4	2,369.8	2,491.8	2,577.3	2,778.5	3,264.6	3,612.5	3,907.4	4,064.9	3,866.2

Totals may not foot due to rounding.

* Without Delta Conveyance Costs

Ten-Year Financial Forecast, Coverage Ratios and Fund Balances, \$ millions

Fiscal Year Ending	2023 Budget	2024 Budget	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast	2030 Forecast	2031 Forecast	2032 Forecast
RATIOS										
Fixed Charge Coverage	1.5	1.4	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7
Revenue Bond Coverage	1.5	1.4	1.6	1.6	1.7	1.7	1.8	1.8	1.8	1.8
Var. Rate Debt as % of Rev. Bond Debt	11.3 %	12.1 %	13.6 %	15.3 %	16.3 %	16.1 %	14.5 %	13.1 %	11.7 %	10.9 %
RESTRICTED AND DESIGNATED FUNDS										
General Fund	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0
Treatment Surcharge Stabilization Fund	12.8	15.8	—	—	—	4.1	9.7	18.8	25.9	30.4
Water Stewardship Fund	—	—	—	—	—	—	—	—	—	—
R&R Fund	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Other	769.8	695.3	720.8	752.8	802.8	858.0	886.5	931.0	1,007.2	1,052.7
Sub-total Restricted Funds	840.3	768.8	778.6	810.5	860.6	919.8	953.9	1,007.6	1,090.8	1,140.8
UNRESTRICTED FUNDS										
Reserve Funds (1)	541.4	504.6	488.3	457.0	460.7	479.3	523.9	573.9	630.0	725.9
Sub-total Unrestricted Funds	541.4	504.6	488.3	457.0	460.7	479.3	523.9	573.9	630.0	725.9
TOTAL FUNDS	1,381.7	1,273.4	1,266.9	1,267.5	1,321.2	1,399.1	1,477.8	1,581.6	1,720.9	1,866.8

Totals may not foot due to rounding.

(1) includes Water Rate Stabilization Fund and Revenue Remainder Fund.

CAPITAL INVESTMENT PLAN

Summary

The primary focus of the CIP Appendix is to provide information on all capital programs and projects that have been proposed, evaluated, and included in the budget forecast to begin or continue during and after fiscal year (FY) 2022/23 and FY 2023/24. Projects included in this document are referred to as “planned” and upon appropriation of the CIP budget for FY 2022/23 and FY 2023/24 are authorized to proceed by the Chief Engineer’s approval under the authority of the General Manager.

Scope, accomplishments, objectives and financial projections are provided for each capital program. Every project with work planned for the two budget years and beyond is listed under the Individual Program Summaries. However, projects in the post-construction phase are not included but will proceed to completion and closeout.

The total planned capital spending for FY 2022/23 and FY 2023/24 of approximately \$600 million includes all anticipated costs for labor including administrative overhead, construction and professional services contract costs, right of way, materials, operating equipment, and incidental expenses.

Annual planned capital spending for FY 2022/23 and FY 2023/24 is estimated to be approximately \$300 million and \$300 million, respectively, and is planned to be funded by a combination of current operating revenues (i.e., PAYGO) and debt. Engineering Services tracks actual spending against the plan and adjusts priorities and staff assignments to manage spending consistent with the overall CIP budget.

Capital Program	FY 2022/23	FY 2023/24	Total
Colorado River Aqueduct Reliability	\$ 39,270,000	\$ 36,900,000	\$ 76,170,000
Cost Efficiency & Productivity	\$ 15,610,000	\$ 12,630,000	\$ 28,240,000
Dams & Reservoirs Improvements	\$ 5,300,000	\$ 44,700,000	\$ 50,000,000
Distribution System Reliability	\$ 51,250,000	\$ 12,790,000	\$ 64,040,000
District Housing & Property Improvements	\$ 12,000,000	\$ 15,700,000	\$ 27,700,000
Minor Capital Projects	\$ 8,700,000	\$ 8,000,000	\$ 16,700,000
Prestressed Concrete Cylinder Pipe Rehabilitation	\$ 51,210,000	\$ 53,180,000	\$ 104,390,000
Regional Recycled Water	\$ 3,860,000	\$ 16,030,000	\$ 19,890,000
Right-of-Way & Infrastructure Protection	\$ 7,770,000	\$ 3,790,000	\$ 11,560,000
System Flexibility/Supply Reliability	\$ 31,590,000	\$ 40,610,000	\$ 72,200,000
System Reliability	\$ 48,500,000	\$ 37,700,000	\$ 86,200,000
Treatment Plant Reliability	\$ 24,940,000	\$ 17,170,000	\$ 42,110,000
Water Quality	\$ —	\$ 800,000	\$ 800,000
Total	\$ 300,000,000	\$ 300,000,000	\$ 600,000,000

Capital Investment Plan Organization

CIP Structure

The CIP is structured into three levels for clearer planning and reporting into the following format:

1. PROGRAM
2. PROJECT GROUP
3. PROJECT

The highest level of the CIP structure is Program. Programs are comprised of one or more Project Groups. There are 13 capital programs described in Table 1.

Table 1 - Capital Programs

Program	Definition
Colorado River Aqueduct (CRA) Reliability	Projects under this program will replace or refurbish facilities and components on the CRA system in order to reliably convey water from the Colorado River to Southern California.
Cost Efficiency & Productivity	Projects under this program will upgrade, replace, or provide new facilities, software applications, or technology that will provide economic savings that outweigh project costs through enhanced business and operating processes. Projects that address climate change in addition to providing the economic savings are also included.
Dams & Reservoirs Improvements	Projects under this program will upgrade or refurbish Metropolitan’s dams, reservoirs, and appurtenant facilities in order to reliably meet water storage needs and regulatory compliance.
Distribution System Reliability	Projects under this program will replace or refurbish existing facilities within Metropolitan’s distribution system including pressure control structures, hydroelectric power plants, and pipelines in order to reliably meet water demands.
District Housing & Property Improvements	Projects under this program will refurbish or upgrade Metropolitan workforce housing to enhance living conditions and attract and retain skilled employees.
Minor Capital Projects	This program will execute refurbishments, replacements, or upgrades at Metropolitan facilities that cost less than \$400,000 each, and which projects will be identified after adoption of the budget.
Prestressed Concrete Cylinder Pipe (PCCP) Rehabilitation	Projects under this program will refurbish or upgrade Metropolitan’s PCCP feeders to maintain reliable water deliveries without unplanned shutdowns.
Regional Recycled Water	Projects under this Program are planned to demonstrate the feasibility of recycling wastewater for recharge of groundwater basins, and provide a new, sustainable and drought resistant source of supply for Southern California.
Right-of-Way and Infrastructure Protection	Projects under this program will refurbish or upgrade above-ground facilities and rights-of-way along Metropolitan’s pipelines in order to address access limitations, erosion-related work, and security needs.
System Flexibility/Supply Reliability	Projects under this program will enhance the flexibility and/or increase the capacity of Metropolitan’s water supply and delivery infrastructure to meet current and projected service demands. Projects under this program address climate change affecting water supply, regional drought, and alternative water sources for areas dependent on State Project Water.

Program	Definition
System Reliability	Projects under this program will improve or modify facilities throughout Metropolitan’s service area in order to utilize new processes and/or technologies, and to improve facility safety and overall reliability. These include projects related to Metropolitan’s Supervisory Control and Data Acquisition (SCADA) system and other Information Technology projects.
Treatment Plant Reliability: <ul style="list-style-type: none"> • Diemer Plant • Jensen Plant • Mills Plant • Skinner Plant • Weymouth Plant 	Projects under this program will replace or refurbish facilities and components at Metropolitan’s five water treatment plants in order to continue to reliably meet treated water demands.
Water Quality	Projects under this program will add or upgrade facilities to ensure compliance with water quality regulations for treated water at Metropolitan’s treatment plants and throughout the distribution system.

Capital Investment Plan Development

Background

The projects that comprise the proposed CIP have been identified from many Metropolitan studies of projected water needs as well as ongoing monitoring and inspections, condition assessments, and focused vulnerability studies. Staff continues to study operational demands on aging facilities and has made recommendations for capital projects that will maintain infrastructure reliability and ensure compliance with all applicable water quality regulations, and building, fire, and safety codes. Staff has also studied business and operations processes and proposed projects that will improve efficiency and provide future cost savings. Additionally, several projects have been identified and prioritized to provide flexibility in system operations to address uncertain supply conditions from the Colorado River and the State Water Project.

CIP Development Process

The CIP is structured to reflect Metropolitan’s strategic goals of providing a reliable supply of high-quality water at the lowest cost possible. As part of the CIP development process, all new and existing projects are evaluated against an objective set of criteria to ensure existing and future capital investments are aligned with Metropolitan’s priorities for water supply reliability, water quality, and public safety.

This rigorous evaluation process has resulted in a thorough review and assessment of all proposed capital projects by staff and managers prior to inclusion in the CIP budget. Staff continues to conduct comprehensive field investigations that identify critical replacement and refurbishment projects and a variety of necessary facility upgrades related to infrastructure reliability as well as regulatory compliance. Project schedules are evaluated regularly in order to plan for necessary capital investments in infrastructure reliability and to accommodate the urgency of each project. Additionally, current demand projections that account for ongoing conservation, planned increased local supply production, and the economy, have been evaluated to ensure that demand and growth-related projects are appropriately scheduled.

Project Proposals

Sponsors are required to submit proposals for all projects that have not yet been authorized through the completion of the project to be considered for inclusion into the CIP. For newly proposed projects, proposals must include scope, justification, alternatives, impacts of re-scheduling work for a later time, impact on operations and maintenance costs, and an estimate of total project cost. For existing projects, staff must also provide justification for continuing the project, explain any changes since the proposal was last evaluated, and describe critical phases for the upcoming years.

The projects are evaluated, rated, and prioritized based on the contents of the proposals. The guidelines provided to the project sponsors are summarized in Table 2.

Table 2 - Project Proposal Guidelines

Section	Guideline
Appropriation No., CIP Index No., Project No., (if existing) and Project Title	If a proposed project has been previously included in the CIP and has been assigned a CIP index number, provide the appropriation and CIP index number along with the project title and project number if one has been assigned. If not previously included in the CIP, provide a project title only.
Sponsoring Group	Indicate the Group sponsoring the project, as follows: 1) Office of General Manager 2) Water System Operations 3) Water Resource Management 4) Engineering Services 5) Information Technology 6) Real Property 7) Human Resources 8) External Affairs 9) General Counsel Department 10) General Auditor Department 11) Ethics Office 12) Environmental Planning
Project Manager and Proposal Preparer	Enter the name of the project manager if one was assigned and enter the name of proposal preparer.
Estimated Total Project Cost	Show the total estimate of cost from inception to completion of a project, including administrative overhead and contingency, as applicable.
GM Business Plan	Indicate the strategic priorities under GM's Business Plan the project best supports.
Current Project Phase	Indicate the phase (Study, Preliminary Design, etc.) as of the date proposal submitted.
Current Phase % Complete	Current phase percent complete as of the date proposal submitted.
Project Description	Describe the project scope of work.
Changes to Existing Project	For an existing project, describe any changes to the project scope, budget, or schedule over the past two years.
Justification	Describe the nature of the issue to be addressed by the project. What is the problem? What is the function of the facility/component being addressed by the project? Why is the project needed? Why can't the project be postponed? Consider issues such as: <ul style="list-style-type: none"> • Operational flexibility • New facility expansion • New water supply • Aging infrastructure deterioration/failure • Process improvement/failure • Maintenance capability • Seismic vulnerability • Obsolescence (vendor support, parts, technology, etc.) • Security • Regulatory Compliance (water quality, environmental, health and safety, etc.) • Cost savings • Revenue generation • Energy savings • Productivity Include an explanation of how the project addresses any of the above issues and provide documentation, when applicable, to substantiate the need for the project.

Section	Guideline
Directive	<p>Regulatory/Legal Settlement: Indicate if this is related to a written citation or directive, verbal/written directive, or in-house identification (includes environmental mitigation mandated by an MND or EIR).</p> <p>Special Initiative/Directive: Indicate if the project is specifically identified in one of the core or strategic initiatives; identified via Area Study, System Overview Study, etc.; and/or what phase(s) of the project have been authorized such as study, preliminary design, or final design.</p>
Service Disruption	Describe how Metropolitan’s day-to-day operations could be impacted if the project is not approved. Consider business, as well as water system operations, including maintenance activities.
Cost/Productivity/Sustainability	Describe potential cost, water, and/or energy savings, waste reduction, revenue/energy generation, better customer service, etc., that justify the project. Include a pay-back period.
Alternatives	Provide a brief description of any potential project scope alternatives, including any opportunities to “stage” the work. Include if it is possible to only perform a portion of a project to meet foreseeable customer needs. Consider the possibility of new technology, changing demands, as well as environmental impacts and economies of scale. Describe any reasonable projects, processes, or other initiatives available as alternatives to the project. Discuss both positive and negative aspects of each alternative. If possible, explain what other similar agencies are doing about this or similar issue.
Additional Background Information	Provide any other supplemental information (e.g. detailed history of a problem, supporting technical information, shutdown constraints, etc.) that will help in evaluating the project. This can also be attached to the proposal.
Schedule	Indicate the proposed beginning and end dates for all appropriate phases.
Detailed Project Cost Estimate	<p>Include an itemized list of all costs for the project, as follows:</p> <ol style="list-style-type: none"> 1) Direct Labor with additives at the indicated rate 2) Equipment and Materials 3) Incidental Expenses 4) Professional/Technical Services (e.g., consultants) 5) Right-of-Way and Land Purchases (e.g., easements, fee title, escrow fees) 6) Operating Equipment Use and Rental 7) Contract Payments (e.g., construction contracts) 8) Administrative Overhead at the indicated rate 9) Contingency <p>All new project proposals and existing projects must include this estimate.</p>
Post-Implementation O&M Impacts	To the extent available/known, provide a description of the impacts, costs, and/or benefits this capital project is anticipated to have on Metropolitan’s current and future O&M expenses and services upon completion (e.g. labor, maintenance, and equipment costs; enhanced reliability; improved water quality, etc. For example, “Ozone generators will substantially increase electrical consumption by approximately \$1 million annually and the number of new pieces of equipment will require periodic maintenance per the manufacturer’s recommendations beginning in FY 2021/22. PDR and future studies will provide additional detail on the overall lifecycle costs”). This is required for projects greater than \$2 million and whose planned implementation date is within the next five fiscal years.
Approvals	<ol style="list-style-type: none"> 1) Person submitting the proposed project - Type name only 2) Team manager sponsoring the project 3) Unit manager sponsoring the project 4) Section manager sponsoring the project (e.g., all new and existing projects) 5) Group manager sponsoring the project (e.g., all new projects)

Evaluation Criteria

The evaluation criteria cover four characteristics or objectives for capital projects: Project Justification, Directive, Service Disruption, and Cost/Sustainability/Customer Service. In addition, a multiplier is applied to a project rating to factor in a risk assessment. Table 3 provides a description of the criteria and multiplier.

Table 3 - Evaluation Criteria and Multiplier

Criteria	Description
Justification	<p>Assessment of the overall importance of a project. Criterion looks at whether or not a project supports the following:</p> <ul style="list-style-type: none"> - Supply reliability - Infrastructure reliability - Regulatory compliance - Other goals (e.g., cost savings, revenue generation, energy savings, and increased productivity)
Directive	<p>Assessment of whether or not a project is specifically identified in one of the core or strategic initiatives, if any permitting agency such as the California State Department of Safety of Dams has issued a directive or citation to take corrective actions, the current authorized scope of work, and/or support the GM Business Plan:</p> <ul style="list-style-type: none"> - Regulatory/Legal Settlement - Special Initiative/Directive - GM Business Plan
Service Disruption	<p>Assessment of not doing a project. Criterion evaluates the following:</p> <ul style="list-style-type: none"> - Impact to Metropolitan’s business operations - Impact to water system operations (e.g., system delivery and/or reliability, cascading impact on system due to failure, etc.)
Cost/Sustainability/Customer Service	<p>Assessment of whether or not a project improves the following:</p> <ul style="list-style-type: none"> - Cost efficiency - Sustainability - Customer service

Multiplier	Description
Risk Assessment	<p>Assessment of the probability of:</p> <ul style="list-style-type: none"> - Facility/component/process failure - Health, safety, water quality, or environmental impact - Missed opportunity (e.g., available resources, shutdown, revenue generation, cost savings, supply) - Not meeting service demands

Project Evaluation

A CIP Evaluation Committee comprised of staff from Water System Operations, Water Resource Management, Real Property, Engineering Services, Finance, Information Technology, Environmental Planning, and External Affairs evaluate and rate all project proposals. The evaluation criterion is designed to prioritize projects that directly support reliability, quality, and safety for inclusion in Metropolitan's proposed CIP.

An iterative process is employed to first score and rank every new and existing project, and then solicit feedback from project sponsors, customers, and resource providers in order to establish schedules and cash flow requirements. Those schedules, along with analyses of facility shutdown requirements, environmental permitting timeframes, and contracting process requirements, also enable resource managers to identify staffing needs. The final schedule and implementation plan for FY 2022/23 and FY 2023/24 are reflected in the budget and objectives summarized under each of the Individual Programs Summaries that appear later in this document.

Capital Investment Plan for Fiscal Years 2022/23 and FY 2023/24

Process Improvements

In October 2018, Metropolitan’s Board amended the Administrative Code to allow for an appropriation of the total amount of planned biennial CIP spending following the approval of the biennial budget and authorize work on all capital projects identified in the CIP subject to the requirements of CEQA and limits on the General Manager’s authority; and delegate responsibility to the General Manager to determine whether a project is exempt from CEQA. In order to be considered a planned project, the project must be included and described in this Capital Investment Plan Appendix for the two-year budget cycle. Consistent with this action, all requests to allocate appropriated CIP funds and proceed with planned capital projects are reviewed and approved by the Chief Engineer acting under the General Manager’s authority. Upon approval, such requested funds are then transferred to the pertinent capital project. These transfers are based on both board actions and/or management decisions to initiate capital projects and/or proceed to the next phase of planned work.

In order to arrive at the spending plan for individual programs, the budget and schedule for each individual project is paired with project metadata (sponsor priorities, CIP scores, project status, etc.). The projects are then organized (or leveled) using an algorithm that combines anticipated capital spending with project prioritization. The resulting plan represents a spending model snapshot in time and is adjusted during the biennium as priorities and conditions change.

For this budget preparation cycle, we have deployed a new cloud-based CIP budgeting tool that performs the pairing and leveling work more efficiently. This new tool also makes it easier to create budget scenarios and to better maintain project and budget information, which helps with administration of CIP.

New to this budget cycle, in addition to the CIP scoring described above, each project is being reviewed against set risk criteria to evaluate the relative consequence and likelihood of failure. This data is used as a tool to assist in prioritizing projects.

In addition to the budgeting tool, two other web-based forms were deployed for this budget preparation cycle. One of the forms is a new web-based CIP proposal form, which streamlined the process.

Additions

Projects not described in this CIP Appendix are considered unplanned and are not included in the planned biennial spending. Unplanned projects require specific board authorization to add unplanned projects to the CIP Appendix before work can be initiated. Five unplanned projects totaling \$57.52 million were added to the FY 2020/21 and FY 2021/22 budget as authorized by the Board. These projects were identified after adoption of the budget and included projects such as Jensen, Skinner, & Weymouth Battery Energy Storage Systems, Gene Communication System Upgrade, Inland Feeder-Rialto Pipeline Intertie, Wadsworth Pump Discharge to Eastside Pipeline Bypass, and Inland Feeder-Citrus Reservoir and Pump Station Intertie. These projects are now included in this document and are considered planned projects for FY 2022/23 and FY 2023/24.

New Projects

Since the start of the current biennium, a total of approximately 100 new project proposals, including unplanned but excluding Minor Capital projects have been submitted and reviewed by the CIP Evaluation Committee to either proceed as proposed, or be staged to perform only a portion of the work in the biennial budget period, and have been incorporated into the current or the next CIP Appendix.

Major Objectives

Below, grouped by CIP Program, are descriptions of some of the capital project major activities anticipated to be underway or completed over the next two fiscal years.

Colorado River Aqueduct Reliability

Complete construction of the CRA Pumping Plant Sump System Rehabilitation and CRA Pumping Plants Crane Improvements projects. Continue construction of CRA 6.9 kV Power Cables Replacement for Pump Units 6 to 9, CRA Pumping Plants Water Treatment Systems Replacement, and CRA Pumping Plant Storage Buildings at Hinds, Eagle Mountain and Iron Mountain.

Cost Efficiency and Productivity

Deploy the new WINS Water Billing System. Complete the Jensen, Skinner, and Weymouth Battery Energy Storage Systems project. Start the Payroll-Timekeeping Reimplementation project.

Dams & Reservoirs Improvements

Complete design and begin construction of the Diamond Valley Lake Dam Monitoring System Upgrades project. Complete design of the Mills and Jensen finished water reservoir floating cover replacement projects. Complete preliminary investigations of the Lake Mathews and Lake Skinner spillways.

Distribution System Reliability

Complete construction of the Casa Loma Siphon Barrel No. 1 Seismic Retrofit, Orange County Feeder Relining - Stage 3, and Etiwanda Pipeline Lining Replacement - Stage 3. Begin design of the Lake Mathews Forebay Pressure Control Structure and Bypass project.

District Housing and Property Improvements Program

Complete final design and begin construction of District Housing Improvements and Employee Village Enhancement at Hinds, Eagle Mountain, Iron Mountain, and Gene.

Prestressed Concrete Cylinder Pipe Rehabilitation

Continue design, valve procurement, and construction to rehabilitate the remaining PCCP portions of the Second Lower Feeder. Continue preliminary design to rehabilitate the PCCP portions of the Allen-McColloch Pipeline, Calabasas Feeder, Rialto Pipeline, and Sepulveda Feeder. Continue annual electromagnetic inspections of all PCCP pipelines.

Regional Recycled Water Program

Complete design and initiate construction of Demonstration Plant Direct Potable Reuse Modifications.

Right-of-Way and Infrastructure Protection

Complete construction of pipeline protection and access improvements of San Bernardino County Region – Stage 1. Start construction of pipeline protection and access improvements of the Orange County Region – Stages 2 & 3 project. Continue efforts to develop and certify programmatic EIRs for the western San Bernardino, Los Angeles, Riverside and San Diego County regions.

System Flexibility/Supply Reliability

Complete construction of the drought-related projects such as Inland Feeder-Rialto Pipeline Intertie and Wadsworth Pump Discharge to Eastside Pipeline Bypass. Continue design of the Inland Feeder-Citrus Reservoir and Pump Station Intertie project. Begin construction of the Perris Valley Pipeline tunnel project.

System Reliability

Complete construction of La Verne Shops Improvements-Equipment Installation and Building Completion project. Complete deployment of Maximo Mobile Upgrade, Wifi Upgrade at La Verne, and Fuel Management System Upgrade projects.

Treatment Plant Reliability

Complete construction of the Jensen Electrical Upgrades – Stage 2 and Mills Electrical Upgrades – Stage 2 projects. Substantially complete construction of Weymouth Basins 5-8 and Inlet Channel Refurbishment project. Complete design of Diemer Filter Rehabilitation.

Water Quality

Complete the design for the Mills Bromate Control project.

Financial Projections

Planned capital spending for FY 2022/23 and FY 2023/24 is estimated to be \$300 million and \$300 million, respectively, and are planned to be funded by a combination of current operating revenues (R&R and PAYGO) and debt. Considerations for timing of nearby projects and facility shutdowns, urgency, aging infrastructure, updated service demand projections, and regulatory requirements are taken into account. Estimated capital spending is updated on a regular basis as new projects are added, other projects are completed, construction cost estimates are refined, or contracts awarded. From time to time, projects that have been undertaken are delayed, redesigned or deferred for various reasons and no assurance can be given that a project in the CIP will be completed in accordance with its original schedule.

The total planned spending for the FY 2022/23 and FY 2023/24 biennium is approximately \$600 million as shown in Figure 1 by Program. Planned spending has been estimated based on anticipated project progress and estimated costs for all ongoing and planned work for the new biennium budget period.

Figure 1 - Capital Investment Plan for FY 2022/23 and FY 2023/24 by Program

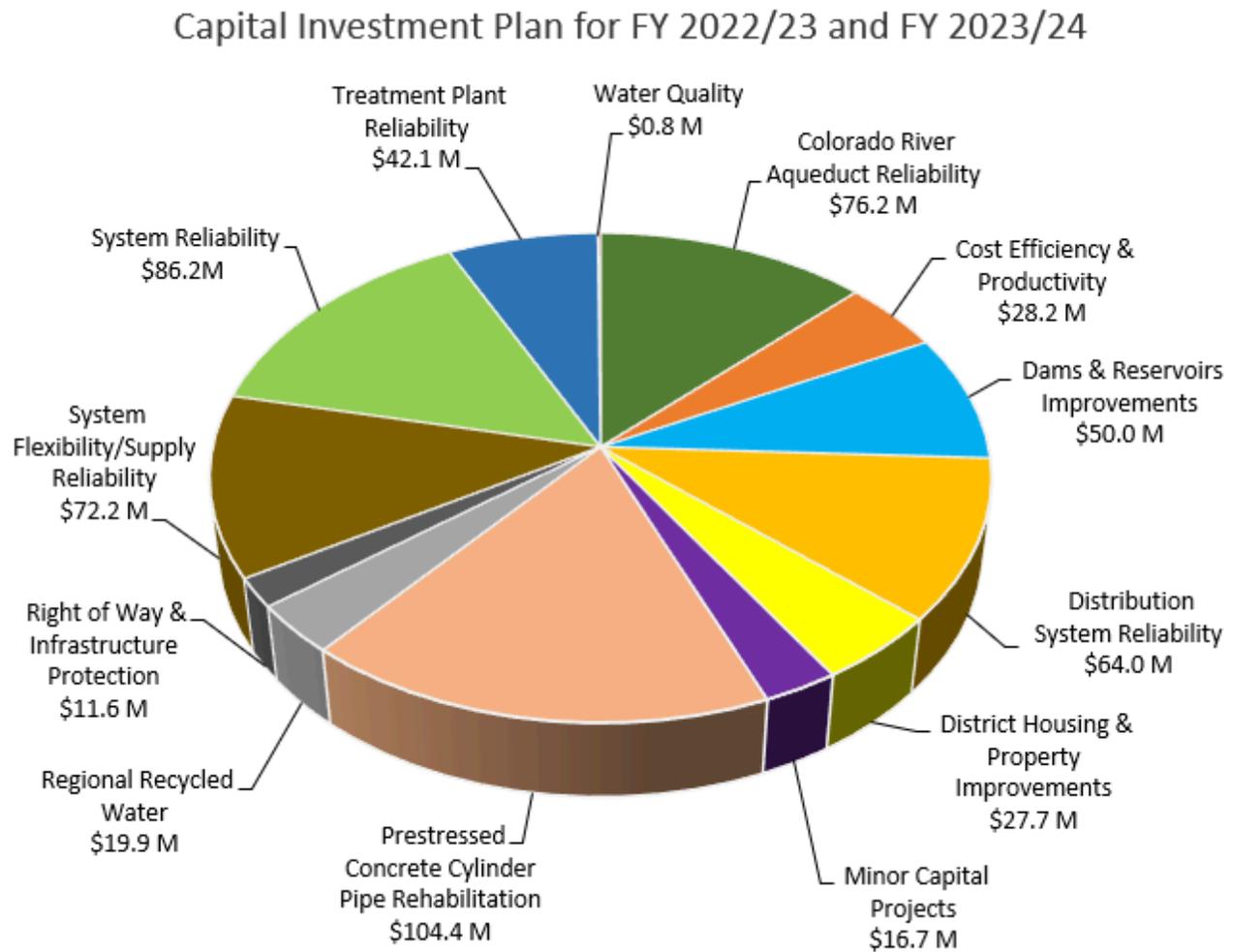


Figure 2 depicts the planned capital spending profile, including actual and projected cash flow, for the 15-year period from FY 2017/18 through FY 2031/32 and Table 4 provides a more detailed two-year outlook.

Figure 2 - CIP 15-year Window by Program FY 2017/18 through FY 2031/32

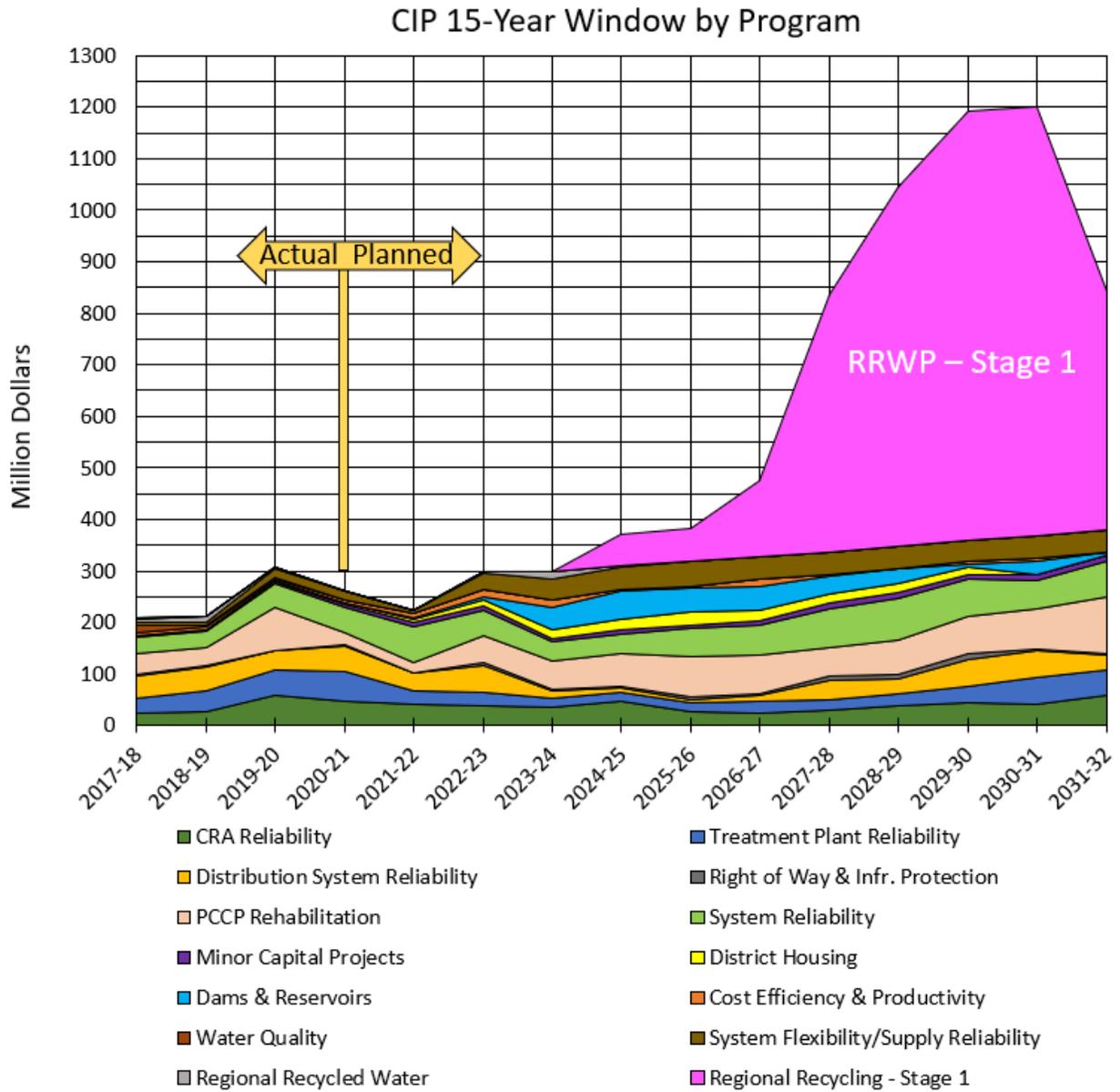


Table 4 - Two-Year Outlook

Capital Program and Project Groups	FY 2022/23	FY 2023/24
Colorado River Aqueduct Reliability	\$ 39,270,000	\$ 36,900,000
CRA - Conveyance	\$ 9,720,000	\$ 170,000
CRA - Electrical Systems	\$ 4,560,000	\$ 8,900,000
CRA - Pumping Plants	\$ 17,940,000	\$ 18,300,000
CRA - Other	\$ 7,050,000	\$ 9,530,000
Cost Efficiency & Productivity	\$ 15,610,000	\$ 12,630,000
Diamond Valley Lake Recreation - New/Improvements	\$ 2,660,000	\$ 4,000,000
Diamond Valley Lake Recreation - Refurbishment & Replacement	\$ 150,000	\$ —
IT - Business Support	\$ 5,100,000	\$ 1,230,000
Cost Efficiency & Productivity - Other	\$ 7,700,000	\$ 7,400,000
Dams & Reservoirs Improvements	\$ 5,300,000	\$ 44,700,000
Dams & Reservoirs - All	\$ 5,300,000	\$ 44,700,000
Distribution System Reliability	\$ 51,250,000	\$ 12,790,000
Pipelines, Tunnels, Canals	\$ 30,000,000	\$ 8,400,000
Pressure Control Structures/Hydroelectric Plants/Service Connections/Valves & Gates	\$ 12,400,000	\$ 4,300,000
Distribution System - Other	\$ 8,850,000	\$ 90,000
District Housing & Property Improvements	\$ 12,000,000	\$ 15,700,000
Housing & Property Improvements	\$ 12,000,000	\$ 15,700,000
Minor Capital Projects	\$ 8,700,000	\$ 8,000,000
Minor Capital Projects - All	\$ 8,700,000	\$ 8,000,000
Prestressed Concrete Cylinder Pipe Rehabilitation	\$ 51,210,000	\$ 53,180,000
Allen McColloch Pipeline	\$ —	\$ —
Calabasas Feeder	\$ —	\$ —
Rialto Feeder	\$ 3,300,000	\$ 5,900,000
Second Lower Feeder	\$ 43,500,000	\$ 46,900,000
Sepulveda Feeder	\$ 3,900,000	\$ 380,000
PCCP - Other	\$ 510,000	\$ —
Regional Recycled Water	\$ 3,860,000	\$ 16,030,000
Regional Recycled Water - All	\$ 3,860,000	\$ 16,030,000
Right-of-Way & Infrastructure Protection	\$ 7,770,000	\$ 3,790,000
Los Angeles Region	\$ 3,780,000	\$ 2,390,000
Orange County Region	\$ 630,000	\$ —
Riverside/San Diego Region	\$ —	\$ —
Western San Bernardino Region	\$ 1,800,000	\$ —
RWIPP - Other	\$ 1,560,000	\$ 1,400,000
System Flexibility/Supply Reliability	\$ 31,590,000	\$ 40,610,000
System Flexibility/Supply Reliability - All	\$ 31,590,000	\$ 40,610,000
System Reliability	\$ 48,500,000	\$ 37,700,000
IT/SCADA - Infrastructure	\$ 12,700,000	\$ 18,300,000
Operations Support	\$ 21,700,000	\$ 15,000,000

Capital Program and Project Groups	FY 2022/23	FY 2023/24
System Reliability - Security and Other	\$ 14,100,000	\$ 4,400,000
Treatment Plant Reliability	\$ 24,940,000	\$ 17,170,000
Diemer	\$ 7,100,000	\$ 320,000
Jensen	\$ 9,050,000	\$ 2,540,000
Mills	\$ 120,000	\$ 40,000
Skinner	\$ 1,470,000	\$ 250,000
Weymouth	\$ 7,200,000	\$ 14,020,000
Treatment - General	\$ —	\$ —
Water Quality	\$ —	\$ 800,000
Water Quality - All	\$ —	\$ 800,000

Potential Changes to the Proposed CIP

The program described below will require specific Board decisions prior to funding and authorization to proceed. Descriptions for proposed projects are included in the Individual Program Summaries section of this Appendix.

Regional Recycled Water Program (RRWP)

Currently, activities associated with the RRWP are limited to operations and testing at the Advanced Water Treatment Demonstration Plant (demo plant) and environmental permitting. Ongoing modifications to the demo plant are included in the CIP, while preparation of a Programmatic Environmental Impact Report is funded under the O&M budget.

The decision to proceed with the full-scale recycled water program is expected to be brought to the Board during FYs 2022/23 and 2023/24. At that time, the regulatory, operational, and financial impacts of developing the full-scale program will be presented to the Board to decide whether or not to proceed. If the full-scale recycled water program proceeds, the project will be added to the CIP at that time. Subsequent changes to that program such as consideration of direct potable reuse or expanding capacity will be treated the same way.

Diamond Valley Lake Recreation

The Diamond Valley Lake (DVL) Recreation Program is a unique appropriation. The program was fully funded with \$92.8M in 2004 with the intent of constructing recreational facilities at the East and West Dams. One condition placed on the appropriation was that proceeds from the sale of any surplus DVL properties would be used as additional funds to the program. In 2021, Metropolitan sold DVL land valued at \$4.5M and this amount was added to the DVL Recreation appropriation. Future sales will be addressed similarly.

Drought Projects

In response to the ongoing historic statewide drought, this CIP includes several projects that address decreasing water supplies both in specific parts of Metropolitan's service area and across the entire District (e.g., Wadsworth Pump Discharge to Eastside Pipeline Bypass project, Rialto Feeder and Mills Plant Pump Station). Engineering Services and Water System Operations are continuing to investigate capital improvements that mitigate drought impacts and more projects are expected to be brought to the Board during FYs 2022/23 and 2023/24.

Capital Investment Plan Detail

The core of this section is the Individual Program Summaries, which provide information for each capital project that has been proposed, evaluated, and included in the budget forecast to begin or continue during and after FY 2022/23 and FY 2023/24. Scope, accomplishments, objectives and financial projections are provided for each capital program. Every project with work planned for the two budget years and beyond is listed under the appropriate Program Summary by Project Group. The information provided reflects project details current as of the time of publication and is subject to change. The Individual Program Summaries are ordered alphabetically by program title. The information contained in the Individual Program Summaries is described in further detail below.

Key Information

For each program, key information is highlighted at the top of the Individual Program Summary page and includes the FY 2022/23 and FY 2023/24 biennial estimate. Table 5 provides an explanation of each item.

Table 5 - Key Program Information

Item	Description
Program Description	A brief explanation of the types of projects included in the Program
Fiscal Year 2022/23 Estimate	Estimate of planned spending from July 2022 through June 2023. It does not include a contingency amount.
Fiscal Year 2023/24 Estimate	Estimate of planned spending from July 2023 through June 2024. It does not include a contingency amount.
Accomplishments for FY 2020/21 and FY 2021/22	Listing of new projects initiated and major milestones achieved during the last biennium
Objectives for FY 2022/23 and FY 2023/24	Listing of key projects with major milestones planned during the budget biennium with the total project estimate, estimated construction completion, and the planned milestone for FY 2022/23 and FY 2023/24

Narratives

Each Individual Program Summary also contains a narrative portion that includes a description of each project planned to be underway during the two-year budget period and beyond.

Table 6 - Program Summary Index

Program Title	Page No.
Colorado River Aqueduct Reliability	249
Cost Efficiency & Productivity	262
Dams & Reservoirs Improvements	268
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PCCP Rehabilitation	303
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Right-of-Way & Infrastructure Protection	308
System Flexibility/Supply Reliability	311
System Reliability	316
Treatment Plant Reliability	332
Water Quality	348

Individual Program Summaries

Colorado River Aqueduct (CRA) Reliability Program

Fiscal Year 2022/23 Estimate: \$39.3 million

Fiscal Year 2023/24 Estimate: \$36.9 million

Program Information: *The CRA Reliability Program is composed of projects to replace or refurbish facilities and components of the CRA system in order to reliably convey water from the Colorado River to Southern California.*

Accomplishments for FY 2020/21 and FY 2021/22

- New projects initiated:
 - Black Metal Mountain 2.4 kV Electrical Power Upgrade
 - CRA Conduit Protection & Lining – Stage 1
 - CRA Eagle Mountain 230 kV Local Breaker Failure Backup
 - CRA Pumping Plant 2.3 kV and 480 V Switchrack Rehabilitation
 - CRA Whipple Mountain Tunnel Flow Metering Equipment Upgrades
 - Eagle Lift and Eagle West Siphons Seismic Improvements
 - Eagle Mountain 230 kV Physical and Cyber Security Upgrades

- Major milestones achieved:
 - Construction completed:
 - CRA Radial Gates Rehabilitation
 - CRA Pumping Plants Discharge Line Isolation Bulkhead Couplings
 - CRA Pumping Plant Sump System Rehabilitation – Procurement
 - CRA Radial Gates Rehabilitation
 - Gene Wash Reservoir Discharge Valve Rehabilitation
 - Construction contracts awarded:
 - CRA Pumping Plants Crane Improvements
 - CRA Pumping Plants Water Treatment Systems Replacement
 - Mile 12 Flow and Chlorine Monitoring Station Upgrades

Objectives for FYs 2022/23 and 2023/24

Project	Total Project Estimate	Estimated Construction Completion	Major Milestones
Copper Basin Reservoirs Discharge Valve Rehabilitation	\$ 24,000,000	2025	Begin construction
CRA 6.9 kV Power Cables Replacement for Pump Units 6 to 9	\$ 25,000,000	2025	Begin construction
CRA Conduit Structural Protection	\$ 16,000,000	2024	Begin construction
CRA Desert Region Security Improvements	\$ 8,200,000	2024	Begin construction
CRA Main Transformer Refurbishment	\$ 41,000,000	2027	Begin equipment procurement and construction
CRA Pumping Plant Sump System Rehabilitation	\$ 43,000,000	2024	Begin construction
CRA Pumping Plants Crane Improvements	\$ 19,000,000	2023	Complete construction
CRA Pumping Plant Storage Buildings at Hinds, Eagle Mountain and Iron Mountain	\$ 9,000,000	2024	Begin Construction
Eagle Mountain Pumping Plant Village Utilities & Paving Replacement	\$ 7,600,000	2024	Begin construction
Gene Pumping Plant Village Utilities & Paving Replacement	\$ 24,000,000	2025	Begin construction
Hinds Pumping Plant Discharge Valve Pit Platform Replacement	\$ 8,400,000	2026	Begin construction
Hinds Pumping Plant Village Utilities & Paving Replacement	\$ 9,500,000	2024	Begin construction
Mile 12 Flow and Chlorine Monitoring Station Upgrades	\$ 6,000,000	2022	Complete construction

CRA - Conveyance Project Group

Cabazon Radial Gate Facility Improvements

The Cabazon Radial Gate facility is located on the CRA in the city of Cabazon within Riverside County and approximately one mile upstream of the San Jacinto Tunnel. The Cabazon Radial Gate facility was constructed in 1936 and consists of a 17-foot-wide by 16-foot-tall radial gate controlled by an electric motor actuator. The facility was designed to protect the downstream conduits and tunnels from becoming over-pressurized in the event of a blockage by diverting water into an 800-foot long, concrete-lined channel which flows into the San Gorgonio Wash. The existing radial gate, motor, and controls have reached the end of their service life and are no longer reliable. This project will replace the radial gate, motor, and controls.

CRA Conduit Structural Protection

The CRA has 55 miles of cut-and-cover conduits where vehicles and storm water flows can cross over the aqueduct. These conduits are unreinforced concrete horseshoe-shaped structures placed upon an invert slab. At some locations, these conduits are subject to heavy vehicle loading or over pressurization due to friction inside the conduits during high pump flow. Few locations include existing dirt roads that cross the aqueduct with insufficient soil cover over the conduit; including locations where heavy equipment must be placed over or near the conduit for access into tunnels or siphons. This project will install new protective structures such as reinforced concrete slabs that span over the unreinforced conduits and epoxy lining the conduits at specific locations. New pressure sensor systems will be installed to monitor the pressure inside the conduits during the high pump-flow operation. The slabs will protect the conduits from damage by distributing the equipment loading to the surrounding soil and epoxy liner will decrease internal friction to allow increased flow through the CRA conveyance system.

CRA Conveyance System High Flow Reliability Upgrades

With recent drought conditions and low State Project Water allocations, Metropolitan has needed to maximize flow through the CRA. With climate change impacting regional hydrology, this operational flexibility will continue to be a priority. This project will strengthen the conveyance portion of the CRA system and make other improvements to provide reliable flow through eight CRA pumps year-round. Some of the options that will be considered include: carbon fiber lining, polyurethane lining, epoxy lining, steel lining, and structural strengthening from the outside of the conduits. This project will also add new gauging stations along the conveyance system that will be tied into SCADA to provide flow data and information that will assist with maintaining uniform and steady state flow conditions through the CRA system. This is a new project for this budget cycle.

CRA Freda Siphon Barrel No. 1 Improvements

Like many of the CRA's 146 siphons, the Freda Siphon was constructed of cast-in-place reinforced concrete in the 1930s. And like many of these siphons, the Freda Siphon leaks measurably. This project will investigate methods to permanently address reoccurring leaks and will perform improvements that are cost-effective, long-term, and require minimal shutdown time and maintenance. This is a new project for this budget cycle.

CRA Freda Siphon Barrel No. 1 Leak Repairs

Surface investigations of the CRA Freda Siphon Barrel No. 1 conducted over the past two years revealed as many as eight leakage locations. This project will install internal seals along the siphon during the 2023 CRA scheduled shutdown, reducing the risk of future unplanned outages and costly emergency repairs. This is a new project for this budget cycle.

CRA Sodium Hypochlorite Injection Improvements

Sodium hypochlorite is added along the Colorado River Aqueduct (CRA) to control algal growth, which could damage downstream process equipment and reduce flow through the aqueduct. The existing process of providing weekly chlorine addition into the canal produces spikes in chlorine concentrations, which causes the Colorado River water to be more corrosive to conveyance systems and plant equipment, and produce higher concentrations of trihalomethanes (THMs). This project will construct new chlorine storage and injection facilities to provide a steady rate of chlorine addition at five locations along the CRA. Each new chlorine injection facility will be upgraded to include a sodium hypochlorite tank and pump skid, chemical storage building with climate control and spill containment, delivery driveway with spill containment area, piping, chlorine injection system, security cameras, fencing, electrical and Supervisory Control and Data Acquisition (SCADA) upgrades, and other appurtenances. This is a new project for this budget cycle.

CRA Tunnels - Seismic Resilience Upgrades

The CRA is a 242-mile-long conveyance system that transports water from the Colorado River to Lake Mathews in Riverside County, including 124 miles of tunnels which were constructed in the late 1930s and was placed into service in 1941. While the CRA was constructed in accordance with current seismic codes of that time, recent seismic risk assessments of the CRA identified that some tunnels are vulnerable to damage from a strong earthquake on the southern San Andreas Fault. The scope of this project includes detailed seismic evaluations and completion of upgrades to strengthen vulnerable tunnel sections.

Eagle Lift & Eagle West Siphons Seismic Improvements

The CRA was placed into service in 1941. As the aqueduct traverses the desert, it must cross numerous drainage channels, ravines, and other natural depressions. At each crossing, the aqueduct's open channel transitions into a buried conduit (an inverted siphon) which drops below ground and passes beneath the natural surface feature. At the downstream end of the siphon, water re-emerges into the open aqueduct. Typically, siphons are cast-in-place reinforced concrete conduits, which vary in length from 150 feet to 5 miles. An initial assessment of the Eagle Lift and Eagle West Siphons identified potential slope failure of the soil covering the siphons as a result of a strong seismic event. This project will perform a detailed slope stability analysis and evaluate and implement mitigation options.

Iron Mountain Tunnel Rehabilitation

The Iron Mountain Tunnel was constructed between 1933 and 1938 as part of the CRA system. The tunnel is located downstream of the Iron Mountain pumping plant, and is eight miles long. The tunnel's cross-section is horseshoe-shaped, with overall dimensions of 16 feet high by 16 feet wide. Longitudinal and transverse cracks up to 1 inch wide have developed along a 2,500-foot-long stretch of the tunnel. This project will mitigate the cracks with focus on tunnel strengthening and corrosion protection.

Mile 12 Flow and Chlorine Monitoring Station Upgrades

One of the CRA's critical points for monitoring flow rates and chlorine levels is located at Mile Marker 12 (Mile 12) along the aqueduct. Monitoring equipment includes a set of flowmeters with instrumentation, chlorine analyzers, communication equipment, solar panels, and batteries. Although the equipment has performed well, it has exceeded its life span and is beginning to fail. This project will replace the existing deteriorated flow meters, chlorine analyzers, transducers, and associated cabling; relocate the data and communications equipment from the underground manhole to a new aboveground monitoring station with air-conditioned cabinets to enable stable operation; construct a reliable power source by upgrading the solar power system and installing a propane generator; and install security system.

Whitewater Tunnel No. 2 Seismic Upgrades

The CRA consists of five pumping plants, 124 miles of tunnels, 63 miles of canals, and 55 miles of conduits, siphons, and reservoirs. One of the tunnels, CRA Whitewater Tunnel No. 2, is a 1.5-mile long; 16-foot-high by 16-foot-wide horseshoe-shaped tunnel that parallels closely to the southern San Andreas Fault and crosses a splay of the fault approximately one-third mile from its west portal. A recent seismic risk assessment of the CRA identified that this tunnel is vulnerable to major damage from a strong earthquake on the southern San Andreas Fault. This project will perform near-term upgrades to strengthen vulnerable tunnel sections at the east and west portals of this tunnel and will improve access at the west portal. Furthermore, in order to expedite post-earthquake repairs of damaged tunnel sections, the design of a new bypass tunnel will be prepared in advance, steel sets will be procured and stockpiled, and tunnel repair contractors will be prequalified so that specialized equipment and crews may mobilize rapidly.

CRA - Electrical Systems Project Group

Electrical Power Distribution Upgrades - Gene, Iron Mountain, Eagle Mountain and Hinds Pumping Plants

The 2.4 kV electrical power distribution system at all five Desert pumping plant facilities conveys power from the Metropolitan-owned 2.4 kV switchyard to all areas within the property confines, including the operations and maintenance (O&M) areas and the villages. The power is stepped down from 2.4 kV, typically by a pole-mounted transformer, to the required voltage based on the end-user's requirements, usually 120 V for houses and buildings, or 480 V for workshops. The existing breakers are no longer common in the power industry, and spare parts are difficult to obtain.

This project will replace the existing electrical power distribution systems at Gene, Iron Mountain, Eagle Mountain and Hinds Pumping Plants with new distribution systems. The work will include replacing existing 2.4 kV breakers with 4160 V breakers, and replacing associated cables, conduits, feeders, risers, wooden poles and transformers, and appurtenances. Underground power distribution will be used when feasible. This project will improve the reliability of water deliveries and will optimize maintenance.

Black Metal Mountain 2.4 kV Electrical Power Upgrade

Black Metal Mountain (Black Metal) Site No. 1 and Site No. 2 are two of Metropolitan's communication sites, located in the San Bernardino Mountains. The sites are situated on top of a mountain and provide line-of-sight propagation to subsequent communication sites. Given their prime location, the communication sites on Black Metal Mountain house communication equipment for Metropolitan, several state and local government agencies, and local radio stations and cellular service providers. The existing power line that serves the two communication sites is aging and deteriorated, and is located in rocky, mountainous terrain, with some poles on the edge of 600-foot cliffs. This project will design and construct the replacement of the existing 2.4 kV power line that serves MWD's Black Metal Mountain communication sites. The work will include installation of new power poles and larger conductors to increase the available power to the sites; and improvements to the service roads to improve access for maintenance and safety.

CRA 230 kV Transmission Line Rehabilitation and Improvements

The CRA has an extensive 230 kV transmission system that originates from Hoover Dam and supplies power to all five pumping plants. This 305-mile-long transmission system was installed in the 1930s and consists of approximately 75-foot-high steel towers with concrete and wood footings, aluminum and copper conductors and supports to attach the conductors and insulators to the towers. Spans between the towers average 1,200 feet with varying ground elevations. Vertical clearances between the lowest conductor and the ground in a span can vary with temperature, wind speeds, and power loads. Over the years, operating under maximum power loads and extreme desert temperatures has led to insufficient vertical clearances as required by the current electrical standards. This project will assess ground clearances of the conductor spans and increase clearances, as needed, by raising the heights of existing towers and/or adding new towers between spans, and construct tower refurbishment or replacement.

This project will also rehabilitate and improve substations, switching stations, and control rooms related to the CRA's 230 kV transmission system in order to comply with NERC (North American Electric Reliability Corporation) standards, increase system reliability, and reduce the risk of unplanned CRA outages. Rehabilitations and upgrades include new relays at Eagle Mountain Pumping Plant to mitigate potential cascading power outages from a stuck breaker scenario at Eagle and installation of physical and cyber security systems at Gene and Eagle Mountain pumping plants control rooms and switch yards (NERC requirements); replacement of outdated bank protection relays at Intake, Gene, Iron Mountain and Hinds pumping plants; replacement of outdated 230 kV disconnect switches at Camino Switching Station and at the Gene and Iron Mountain 230 kV transfer buses; installation of a new 230 kV circuit breaker at Iron Mountain to enable isolation of the Iron-Eagle 230 kV transmission line without disruption of CRA water deliveries; and, purchase of SCE circuit breakers which are integrated with the CRA's 230 kV system at Gene and Eagle Mountain pumping plants in order to give MWD greater flexibility without having to rely on SCE. Additional scope may be added as a result of the planned assessment of the existing system.

CRA 6.9 kV Power Cable Replacement for Pump Units 6 to 9

There are a total of 45 primary pumps and motors at the five CRA pumping plants. Power is transmitted to the motors via 3-inch-diameter cables which run through a tunnel that connects each switch house to each pump house. The quantity of cables varies from nine to 27 per plant. These cables were installed in four phases from 1939 through 1959. After 57 to 77 years of continuous service, the power cables have deteriorated and need to be replaced. Oil has begun to leak through cracks in the lead jacket, at the cable connection joints, and at the cable termination points. Frequent repairs are required to address the leaks and maintain the cables' insulating capacity. The cables for pump units 1 to 5 have been replaced. This project includes the replacement of the deteriorated main power cables for pump units 6 to 9 at each of the five CRA pumping plants. Final design for units 6 to 9 is underway.

CRA Auxiliary Power Systems

All five CRA pumping plants have medium and low voltage systems that were constructed to the design standards of the 1930s-1950s. They provide power for general lighting, cranes, computers, shop equipment, and critical equipment such as the pumping plant sump pumps and lubrication oil pumps. Over the years, numerous additional electrical loads have been added to the auxiliary power systems. As a result, the distribution panel capacity limits have been exhausted, and some wiring is now undersized. The scope of this project includes upsizing the distribution panels to allow additional capacity and space for future loads and replacing the cables and conduits to comply with current National Electrical Code and safety standards. Additional scope may be added as a result of preliminary assessment of each of the sites to make the auxiliary power systems reliable.

CRA Hinds Sand Trap & Wasteway Radial Gate Power Cable Replacement

The power cables that feed the Hinds sand trap and wasteway radial gate are installed in a shallow ductbank that is deteriorating due to heat, in a conduit that is overfilled. This project will construct a new ductbank with power conductors designed to address these deficiencies. This is a new project for this budget cycle.

CRA Main Transformer Rehabilitation

Seven transformers provide electrical power to each CRA pumping plant to maintain continuous operation. All existing transformer units are original equipment, with many dating from the 1940s. Recent inspections revealed oil leakage and other signs of aging for some of the transformers. Failure of an existing transformer would disrupt power supply to a pumping plant and interrupt water delivery. The scope of the project includes rehabilitation of existing transformers, replacement of transformers, or the addition of spare transformers along with spill containment structures. This work also includes rehabilitation of transformer cranes, upgrade of transformer monitoring and protection equipment, and replacement of leaky circulating oil pumps that are used to cool the transformers and construction of secondary spill containment for the transformer banks. Additional scope may be added as a result of preliminary assessment to ensure reliable and safe operation of the CRA pumping plants.

CRA Pumping Plants 2.3 kV and 480 V Switchrack Rehabilitation

All five CRA Pumping Plants have a 2.3 kV and 480 V switchracks that are the central power distribution for the 2.3 kV, 480 V and 120 V that feed multiple medium and low voltage critical equipment within the pumping plants. These switchracks have been in service since the original construction of the CRA. The equipment is old, obsolete and replacement parts are difficult to obtain. This project will rehabilitate or replace the 2.3 kV and the 480V switchracks and associated support systems at all five CRA pumping plants to ensure the equipment meets the current safety and electrical codes and provides a reliable power supply to the plants.

CRA Standby Diesel Engine Generator Replacements

Back-up power for critical auxiliary systems at the Iron Mountain, Gene, and Intake pumping plants is provided by stand-by diesel generators. The standby generators are over 50 years old, require frequent repairs, and have reached the end of their service lives. In addition, upgrades to the generators' ancillary equipment are planned to meet current fire codes and environmental regulations. This project will improve the reliability of emergency power for critical auxiliary systems at the pumping plants. The scope of the project includes relocation and installation of new generators. The replacement generator will include alarms, valves, meters, and a control system capable of automatic start-up upon loss of primary power, automatic transfer back to primary power once the normal source is reestablished, and remote status monitoring.

CRA - Pumping Plants Project Group

CRA Intake Pumping Plant Shore Protection

The existing shore protection consisting of rocks and concrete was installed around the time the Intake Pumping Plant was constructed in the 1930s and has exceeded its service life. This project will improve the shore adjacent to the Intake Pumping Plant to protect the access road and facilities and mitigate against short and long-term coastal erosion due to wave attack, flooding, and water surface level changes in Lake Havasu. This is a new project for this budget cycle.

CRA Iron Mountain and Eagle Mountain Pumping Plant Reservoirs Floor Relining

The Iron Mountain and Eagle Mountain CRA Pumping Plants each have approximately 9.3-acre forebay reservoirs, constructed in the 1930s. Recent geotechnical investigations of the asphalt reservoir floor liners found them to be in poor condition. This project will replace the liners at each plant with a material that precludes seepage water loss and extends the life of the facility. This is a new project for this budget cycle.

CRA Main Pump, Motor & Discharge Valve Refurbishment

Each of the five CRA pumping plants has nine main pumps that lift the water to the required elevation necessary to continue flow down the aqueduct. The 45 main pumps rely on multiple auxiliary systems including lubricating oil systems, circulating water systems, controls and instrumentation systems, discharge valves, electrical and control panels, and individual equipment components. In the mid-1980s, a major rehabilitation project was undertaken on the 45 main pumps. As a result, the 45 main pumps have performed well over the nearly 30 years since the rehabilitation work was completed. However, the pumps are now showing signs of deterioration caused by continuous operation over that length of time. While that project successfully extended the service life of the pumps and increased their hydraulic capacity, the pump auxiliary systems were not addressed at that time. The pump auxiliary systems are from the original CRA construction and are now deteriorating and need to be replaced. An assessment of the main pumps, motors, and their auxiliary systems at all five CRA pumping plants will capture current operating conditions, create updated baseline documents of all existing equipment and systems, and provide replacement or rehabilitation recommendations for all pump and auxiliary system components. This project will refurbish the 45 main pumps and their auxiliary systems, including lubricating oil systems, circulating water systems, controls and instrumentation systems, discharge valves, electrical and control panels, and individual equipment components, as deemed appropriate by the assessment.

CRA Main Pumping Plants Sand Removal System

At each of the five CRA pumping plants, water is withdrawn from the CRA, filtered to remove large debris and sand, and then pumped through a circulating water system. The circulating water system feeds the pump house service water system, the cooling system at each pump unit, the fire water system, the irrigation water system, and the domestic water treatment system. The existing filtration system is not designed to strain out fine silts. Consequently, the fine silt has built up as sediment in the circulating water systems leading to excessive wear and failure of equipment such as pump packing, cooling water piping, and heat exchangers. This project will upgrade the filtration system to remove fine silt and eliminate sediment build up and refurbish or replace any identified damaged components.

CRA Main Pumping Plant Unit Coolers and Heat Exchangers

Each of the five CRA pumping plants has nine main pumps. Each main pump has a cooling system to cool various components of the pump system. At each pump house, water is pumped through a circulating water system, which feeds multiple unit coolers and heat exchangers for each individual main pump unit. Over the years, the unit coolers have developed many leaks. Lack of sufficient cooling water could cause equipment overheating, and the leaks could damage nearby electrical equipment. This project will replace, refurbish, or upgrade the cooling and heat exchange system at each pump unit.

CRA Pumping Plant Flow Meter Replacement

Acoustic flow meters are installed at each of the five CRA pumping plants on each 10-foot-diameter delivery lines. Flow measurements are used to adjust pumping rates and balance the flows from plant to plant. The existing meter units have begun to deteriorate due to their age and exposure to harsh desert conditions. Continued loss of accuracy could lead to incorrect flow adjustments or unsynchronized pumping rates, which could cause flooding at the plants or overtopping of the aqueduct. This project will install new acoustic flow meters on the delivery lines which will connect to nearby flow meter consoles housed inside new pre-fabricated equipment enclosures.

CRA Pumping Plant Sump System Rehabilitation

Each of the five CRA pumping plants has two independent main sumps that collect water leakage from the main pumps and discharge valves. Each main sump is approximately 9 feet wide, 20 feet long, and 35 feet deep, and can hold up to 48,000 gallons, or approximately one day's worth of leakage water. The sump system pumps this water back to the pumping plant's main intake manifold or to its forebay, depending on the plant. The 72-year-old sump piping systems and support structures are deteriorating and have exceeded their service lives. Failure of the sump piping systems has the potential to cause extensive flooding and damage to valves and pumps within the pumping plants. This project will rehabilitate the pumping plant sump systems, including replacement of corroded sump mechanical equipment, piping, and access structures at all five CRA pumping plants. Access features will be upgraded by replacing corroded catwalks, ladders and handrails within the sumps. This project will also rehabilitate circulating water equipment and piping systems, which are in the sump area. A construction contract was awarded by the Board in December 2018, but construction activities were suspended in March 2020 due to the COVID-19 pandemic, which led to cancellation of the construction portion of the contract. The delivered equipment and materials will be installed by another contractor.

CRA Pumping Plants Circulation Water Systems

Each of the five CRA pumping plants has nine main pumps. Each of these pump units use cooling equipment to cool various components of the pump system that feeds from the plant's circulating water system. This system has a loop with branch connections and an isolation valve at each unit. The piping and the valves that supply the circulating water systems run through the entire length of the plants and are all from the original CRA construction. The piping and the valves are now showing signs of deterioration. They are clogged, corroded and leaking. This project will replace and upgrade the circulation water systems for each pumping unit. Additional scope may be added as a result of preliminary assessment to ensure reliable operation of the CRA pumping plants.

CRA Pumping Plants Crane Improvements

All five CRA Pumping Plants have a single overhead bridge crane which spans the motor room floor and a portable bridge crane for the individual pump bay below the motor room floor. These overhead cranes were installed in the pumping plants during the original CRA construction and have been in operation since 1939. The cranes are used to raise, shift, and lower main pump components and motors for maintenance and replacement. These cranes were rehabilitated in the late 1980s. They have now reached the end of their service life where spare parts for the original crane components are difficult to obtain or no longer available. Parts which were replaced in the 1980s are outdated and the electronic features are no longer supported by vendors. This project will replace all the overhead bridge cranes on the motor room floor and the portable pump-bay cranes below the motor room floor at all five pumping plants. The replacement includes the bridges, trolleys, hoists, drive trains, the system controls, and other associated support systems.

CRA Pumping Plants Delivery Line Rehabilitation

Each of the nine main pumps at the five CRA pumping plants discharges the water into individual six-foot diameter discharge lines. The nine discharge lines then merge and transition into three 10-foot diameter pipelines, Delivery Line Nos. 1, 2 and 3, that convey flow to the top of the lift and then discharge into a headgate structure which empties the water into the next section of the aqueduct. These delivery lines vary in length from 500 feet to 1,400 feet up steep and rocky slopes. The five Delivery Line No. 1s were constructed in the 1930s and were lined with coal tar enamel to protect the interior of the pipe from corrosion. After 82 years of service, the existing coal tar enamel lining on Delivery Line No. 1 at each plant is cracking, flaking, and the steel is starting to corrode. The mortar linings for Delivery Line Nos. 2 and 3 are still in good condition and do not require repair.

Additionally, depending on the length of each delivery line, there are a total of three or four expansion joints located along the line. These expansion joints are deteriorated and showing signs of corrosion. A number of the most deteriorated joints have been rehabilitated recently. This project provides a comprehensive rehabilitation of the remainder of delivery lines at each of the five CRA pumping plants, including replacement of the coal tar enamel with a cement mortar lining, expansion joints, and minor coating repairs.

CRA Pumping Plant Public Address and Alarm Communication System Upgrades

The existing communication signals at each of the five CRA pumping plants are currently separated into different systems including: the public address system; plant alarms; evacuation, fire, and carbon dioxide alarms; and phones. The signals in these systems were originally installed to utilize the existing 1930's era phone line systems and is becoming increasingly difficult to maintain as replacement parts are becoming harder to find and troubleshooting is difficult. This project will replace the existing communication systems with a new integrated and modernized auditory communication system with alarms that are able to be identified based on different distinct alarm tones. Signal wires will be routed to a network enabled public address and general alarm system and new speakers will be added at each plant to improve ability to hear audible alarms throughout the plants, even when loud pumps are operating. This is a new project for this budget cycle.

CRA Pumping Plant Pump Lower Guide Access Improvements

At each of the CRA pumping plants, maintenance staff performs a monthly inspection of the lower guides below each main pump. The access hatch utilized for this inspection is located about twenty feet above the deck and situated where it is difficult for workers to reach and inspect the lower guides. This project will design, fabricate, and install a total of 45 new work platforms/mezzanines to improve safety and to facilitate the routine inspections. This is a new project for this budget cycle.

CRA Pumping Plant Rollup Door and Window Replacements

Over the past 80 years, the desert has taken its toll on the windows and rollup doors at all five CRA pumping plants. Many windows can no longer be opened, making it difficult to keep the main pump motors cool on 120-degree summer days. And the rollup doors in the pumphouses and head gate structures require continual maintenance to keep them operable. This project will replace these building features while remaining consistent with architectural standards. This is a new project for this budget cycle.

CRA Pumping Plants Water Treatment Systems Replacement

All five of Metropolitan's Pumping Plants are located in remote areas of Riverside and San Bernardino Counties where municipal water treatment systems are not available. Each plant is instead served by a community on-site water treatment system. These on-site treatment systems are skid-mounted membrane filtration units that include a strainer, a pair of activated carbon vessels, and a domestic water storage tank. These systems have been in continuous operation for almost 30 years and now suffer from frequent membrane and pipe failures. This project will replace the skid-mounted water treatment systems in its entirety including replacement of water quality monitoring instrumentation and laboratory equipment, upgrading electrical and instrumentation control systems for the disinfection system, construction of a temperature-controlled building to house GAC vessels and disinfection equipment, and construction of ancillary support systems.

CRA Pumping Plant Reservoir Spillway Auto Rejection - Iron Mountain and Eagle Mountain

The Iron Mountain and Eagle Mountain Reservoirs are located on the upstream side of the Iron Mountain and Eagle Mountain pumping plants, respectively. The reservoirs dampen fluctuations in flow between the five pumping plants. Each reservoir contains a spillway which allows discharge of water to the desert in the event of a power outage of the main pumps. The two spillways were designed in the 1930s to safely reject up to approximately 1,200 cubic feet per second (cfs). The pumping plants were expanded in the 1950s and the aqueduct can now operate up to approximately 1,750 cfs. Rejection of flows greater than 1,200 cfs would cause uncontrolled release of water at these two reservoirs, which could damage nearby facilities and public roads or property. This project will modify the reservoir spillways to allow safe rejection of up to 1,750 cfs of water in the event of a power outage of the main pumps.

Erosion and Drainage Control Protection for CRA Switchracks and Ancillary Structures

The five CRA pumping plants are located in remote areas of the California desert which are periodically subjected to flash floods that carry high volumes of water, silt, and debris. During major storm events, the pumping plants' pump houses and support facilities are susceptible to flooding and deposition of silt and debris. In recent years, at several of the plants, debris flows have affected various critical electrical facilities. This project will include site grading, addition of perimeter drainage channels to intercept offsite flows, upsizing of storm drain culverts and extension of patrol roads to access the new storm drain facilities for maintenance. Additional scope may be added as a result of preliminary assessment to ensure reliable operation of the CRA pumping plants.

Gene and Intake Pumping Plant Outlet Structure Gate Rehabilitation

Each of the five CRA pumping plants has nine main pumps that lift water from the pump house through a series of converging delivery lines that convey water from the pump house to a headgate structure located at the top of a hill. These structures then convey water to the downstream portion of the aqueduct. Flow from each headgate structure is regulated by three nine-foot square steel gates. Recent inspections at the Intake and Gene pumping plants have revealed that the protective coatings on various components of the gates have begun to crack and peel. This project will recoat the headgate structure outlet gates at the Intake and Gene pumping plants in order to prevent metal loss due to corrosion. Additional scope may be added as a result of preliminary assessment to ensure proper operation and maintenance of the outlet gates.

Hinds Pumping Plant Discharge Valve Pit Platform Replacement

At each of the CRA pumping plants, water is pumped from the plants' intake manifold through the main pumps and out of the discharge valves. From the discharge valves, water travels through the delivery lines and into the aqueduct. The discharge valves are located in small concrete pits below the pumping plant floor room. At the Hinds Pumping Plant, the concrete pit is equipped with a raised platform due to the deep pit. The platform is necessary to maintain the discharge valve's ancillary equipment. After over 77 years of service in a humid environment created mainly from the pump cooling water discharge, the metal platform has corroded significantly and needs to be replaced. This project will replace the discharge valve platform and relocate cooling water discharge piping in all nine discharge pits at the Hinds Pumping Plant. Additional scope may be added as a result of preliminary assessment to replace the platform that will ensure the safety of the workers as well as improving access to maintain the discharge valves.

Iron Mountain, Hinds & Eagle Mountain Hazardous Waste Containment

Hazardous wastes such as chemicals, oil, paint, paint thinners and antifreeze are generated through routine operations at the Iron Mountain Pumping Plant. Hazardous wastes are collected and placed into either metal or plastic drums ranging in size from five to 55 gallons. The existing hazardous wastes are then stored in a fenced temporary storage area. This project will replace the existing hazardous waste storage facility with a code-compliant hazardous waste storage facility.

Seismic Upgrades of CRA Support Facilities

A recent initial seismic risk assessment has revealed that several CRA support structures may be vulnerable from a major seismic event. These support structures include office and maintenance buildings, guest lodges, and dining and recreation halls located at Hinds, Eagle Mountain, Iron Mountain and Gene Pumping Plants. This project will perform detailed seismic assessments and retrofit the support structures if necessary.

CRA - Other Project Group

Copper Basin Reservoir Discharge Valve Rehabilitation & Meter Replacement

The Copper Basin Reservoir provides critical storage that enables flowrates along the CRA to be stabilized and controlled. If the reservoir needed to be drained rapidly in the event of an emergency, the discharge valves located at the base of the dam would be opened to safely release the water. Following 72 years of continuous service, the valves have begun to leak and need to be replaced. The dam is under the jurisdiction of the California Division of Safety of Dams (DSOD), which requires that the discharge valves be fully operational at all times. The project scope includes replacement of the fixed cone valves at the base of the dams; refurbish hydraulically operated gate valve, repair pipes, upgrade of the electrical and control systems; install cathodic protection system, replace ladders on the dam, and improve access road to safely enable construction personnel, materials, and equipment to reach the work site.

In order to determine how much water is released to downstream pumping facilities, flow out of the Copper Basin Reservoir is measured at the entrance to Whipple Mountain Tunnel. Flow meters were installed at this location to collect information that is used to adjust the flow rate through the Copper Basin Reservoir outlet gate and the flow rates at each pumping plant, and to determine the amount of chlorine injected into the CRA to control quagga mussels. The existing flow transducers and meters were installed in 2007 and must be replaced to ensure reliable CRA water deliveries. This project will replace the flow meters, transducers, and cabling in the CRA's Whipple Mountain Tunnel.

CRA Copper Basin Road Improvements

The Copper Basin road provides operational access to the facility, and notably enables critical sodium hypochlorite deliveries used to disinfect the downstream CRA facilities, preventing growth of quagga and zebra mussels. This existing access road is commonly closed for maintenance after a storm event, so sodium hypochlorite tankers are unable to make deliveries. Among other improvements, this project will improve the 4.2-mile dirt road by providing an enhanced driving surface, erosion protection, and adding turn-out areas. This is a new project for this budget cycle.

CRA Desert Region Security Improvements

CRA facilities are critical components of Metropolitan's water delivery system. These facilities include five pumping plants and the El Camino Electrical Substation. These facilities have inadequate perimeter fencing. This project will install physical security improvements such as fencing, signage, cameras, motion detectors, remote speakers, card readers, and lighting at Metropolitan's CRA pumping plants and at the El Camino Electrical Substation. This project will also include road and access control improvements at the main entrances to the pumping plants and integration of security devices with Metropolitan's security system. Construction of permanent guard stations will be also considered.

CRA Erosion Protection

The CRA is comprised of 55 miles of cut-and-cover conduits. The cut-and-cover conduits are arch or horseshoe shape, unreinforced, cast-in-place concrete. In most locations along the CRA, the overlying soil protects the cut-and-cover conduits from rock and debris flows. However, at narrow ravine crossings, heavy storm events often erode the soil and expose the conduits making them vulnerable to structural damage from the rock and debris flows. This project will provide erosion protection features such as gabion structures or concrete slabs; including grading of the eroded areas to protect the conduit. In addition, diversion berms or concrete swales will be constructed to divert storm flows over the concrete slabs.

CRA Pumping Plant Storage Buildings at Hinds, Eagle Mountain and Iron Mountain

Between 1950 and 1955, several metal-sided buildings with timber frames were built at the CRA pumping plants to store equipment, spare parts, and maintenance supplies. Two of these buildings have been replaced at the Gene Pumping Plant; however, four original buildings still remain in service. These buildings have deteriorated after 67 years of service in the harsh desert environment and no longer seal properly to prevent rain and dust from entering the interiors. This project will replace the four remaining deteriorated storage buildings and add asphalt paving leading to and around each of the buildings. As part of the design considerations, an assessment will be conducted to determine space requirements for storage of equipment and parts to support ongoing maintenance activities and upcoming capital rehabilitation work at the pumping plants.

CRA Village Water, Sewer & Asphalt Replacement

All five of Metropolitan's pumping plants are located in remote areas of Riverside and San Bernardino Counties where municipal water distribution systems are not available. Each plant is instead served by a community on-site water treatment system. Water from the CRA is treated and conveyed to each village house and to the industrial portions of the pumping plants through a gravity-fed water distribution system which consists of distribution piping, isolation valves and valve boxes. Recent inspections of the distribution systems have found blockages, leaks, taste and odor problems, and root intrusion. This project will replace the domestic water distribution systems at all five CRA pumping plants which include the main line pipes, building laterals, new backflow prevention devices, valves, meters, remote water quality analyzers, and other appurtenances to deliver quality water reliably.

Municipal wastewater collection and treatment facilities are not available where the pumping plants are located. The pumping plants are served by community on-site wastewater systems. These on-site systems collect, treat, and dispose of domestic wastewater generated from bathrooms, kitchen facilities, maintenance buildings, guest lodges, and staff residences at the plants. The on-site systems consist of three primary components: community septic tanks and leach fields; collector lines located throughout the pumping plants which convey wastewater to the septic tanks; and sewer laterals which convey wastewater from individual buildings to the collector lines. The existing wastewater systems at the plants have deteriorated through continual use and need to be replaced. This project will replace the wastewater systems at the pumping plants. The systems will include new main-line pipes, building laterals, septic tanks and leach fields, and other appurtenances to reliably collect and treat wastewater.

The asphalt roadways at the pumping plants provide access between buildings and the villages for Metropolitan staff, residents, and visitors. There is a total of approximately 30 acres of asphalt-paved roadways and surfaces at all five pumping plants, and these asphalt surfaces are over 30 years old. Due to the harsh desert conditions and deterioration of the subgrade over time, potholes and cracks have developed throughout the villages. The planned upgrades to the roadway pavement include placement of a new layer of asphalt on less distressed areas throughout the CRA villages; removal and replacement of more heavily damaged roadways; and grading and installation of culverts to improve drainage.

Gene Wash Reservoir Discharge Valve Rehabilitation

The Gene Wash Reservoir provides critical storage that enables flowrates along the CRA to be stabilized and controlled. If the reservoir needed to be drained rapidly in the event of an emergency, the discharge valves located at the base of each dam would be opened to safely release the water. Following 70 years of continuous service, the valves have begun to leak and need to be replaced. The dam is under the jurisdiction of the California Division of Safety of Dams (DSOD), which requires that the discharge valves be fully operational at all times. The project scope includes replacement of the fixed cone valves at the base of the dam; refurbish hydraulically operated gate valve, repair pipes, upgrade of the electrical and control systems; install cathodic protection system, replace ladders on the dam, and improve access road to safely enable construction personnel, materials, and equipment to reach the work site.

Intake Pumping Plant Road Improvements

The 1.75-mile long asphalt access road into the Intake Pumping Plant travels between a large hill and Lake Havasu. At approximately the midpoint of the access road, it crosses a culvert that drains storm runoff from the hillside into the lake. This culvert is undersized, has partially collapsed, and fills with debris from an unlined wash during rain events. After rain events, Metropolitan staff must clear debris from the culvert in order to prevent rain water from overtopping the culvert and eroding the access road. This project will replace the existing culvert with a new culvert and deteriorated portions of the asphalt road. The project will also add traffic safety rails along the road to enhance safety.

Cost Efficiency and Productivity Program

Fiscal Year 2022/23 Estimate: \$15.6 million

Fiscal Year 2023/24 Estimate: \$12.6 million

Program Information: The Cost Efficiency and Productivity Program is comprised of projects to upgrade, replace, or provide new facilities, software applications, or technology, which will provide economic savings that outweigh project costs through enhanced business and operating processes. Projects that address climate change in addition to providing the economic savings are also included.

Accomplishments for FY 2020/21 and FY 2021/22

- New projects initiated:
 - Diamond Valley Lake Floating Wave Attenuator Expansion
 - Incident Reporting System
 - Jensen, Skinner, and Weymouth Battery Energy Storage Systems
 - Real Property Group Business System Replacement
 - Service Procurement Implementation
 - WINS Water Billing System Upgrade

- Major milestones achieved:
 - Budget System Replacement – deployment completed
 - Diamond Valley Lake Floating Wave Attenuator Rehabilitation – construction completed
 - Incident Reporting System – deployment completed
 - MWDH2o.com Redesign – main site redesign and deployment completed
 - Project Controls and Reporting System – deployment completed

Objectives for FYs 2022/23 and 2023/24

Project	Total Project Estimate	Estimated Construction Completion	Major Milestones
Diamond Valley Lake Floating Wave Attenuator Expansion	\$ 4,300,000	2024	Complete Construction
Digital Assets Optimization	\$ 1,500,000	2023	Complete implementation
Enterprise Content Management	\$ 11,000,000	2023	Complete deployment
Jensen, Skinner, and Weymouth Battery Energy Storage Systems	\$ 15,000,000	2023	Complete construction
MWDH2o.com Redesign	\$ 1,900,000	2022	Complete deployment
Payroll-Timekeeping Reimplementation	\$ 1,500,000	2024	Begin project
Real Property Group Business System Replacement	\$ 740,000	2022	Complete deployment
WINS Water Billing System Upgrade	\$ 3,600,000	2023	Complete deployment

Cost Efficiency & Productivity - Other Project Group

Jensen, Skinner, and Weymouth Battery Energy Storage Systems

In 2020, Metropolitan completed the Energy Sustainability Plan effort to identify new projects and initiatives within the Energy Management Policies' framework. The plan combined an analysis of Metropolitan's electricity charges and a holistic multi-criteria decision analysis framework, in which potential projects were vetted against a range of future scenarios based upon historical water and power demands and time-of-use tariff updates. Through this effort, battery energy storage systems (BESS) facilities at the Jensen, Skinner, and Weymouth plants were recommended for near-term implementation.

BESS is a peak-load reduction technology, which stores energy during off-peak hours and discharges stored energy for use during peak hours. This system will be paired with existing solar facilities of which the excess solar energy will be stored for later use instead of sending this energy to the nearby off-site electrical grid. The construction of the BESS facilities will enable Metropolitan to reduce exposure to energy price volatility, electrical supply reliability, improve operational reliability and resiliency, and support Metropolitan's Climate Action Plan by reducing greenhouse gas emission. The cost of this project will be offset by incentives from the Self-Generation Incentive Program, which is administered by California Public Utilities Commission.

Weymouth Energy Management Dashboard

In 2020, Metropolitan completed the Energy Sustainability Plan (ESP) proposing an adaptive energy management strategy to: contain costs and reduce Metropolitan's exposure to energy price volatility; increase operational reliability and flexibility; move Metropolitan towards energy independence and sustainability; and support Metropolitan's Climate Action Plan effort to reduce greenhouse gas emissions (GHG). In support of that effort, this new project will develop and implement a comprehensive energy monitoring system that will bring access, awareness, and knowledge to operations staff regarding energy usage and cost of the water treatment process, promote sustainable operational decision making, and reduce energy costs at Weymouth plant and other Metropolitan facilities at the La Verne site. This is a new project for this budget cycle.

Yorba Linda Power Plant Power Supply to Diemer Water Treatment Plant

This project will modify the Yorba Linda Power Plant to directly supply power to the Diemer Water Treatment Plant and sell excess power to the wholesale energy market. The scope of work includes installation of new 4.16 kV feeder between the power plant and the Diemer switchgear, breakers, power meters; reprogramming of programmable logic controllers; and modification of switchgears and auxiliary equipment.

DVL Recreation - New/Improvements Project Group

Diamond Valley Lake East Marina Utilities

Diamond Valley Lake (DVL) offers recreational opportunities to the region including boating, fishing, hiking, and biking. The facility supports 4,500 acres of on-water activity, 28 miles of trails, and 13,500 acres of protected open space. This project will extend the existing water, sewer, gas, and communication facilities from the intersection of Searle Parkway and Angler Avenue to the DVL East Marina to support existing operations and future development. The construction of the new infrastructure will replace existing failing tanks which are filled with trucked-in water to service the Marina store, enhance utility service reliability, and serve to comply with flows and pressures required to develop the Marina into a self-sustainable recreational facility.

Diamond Valley Lake-Lake Skinner Trails

This project will create a regional network of trails connecting DVL and Lake Skinner as identified in the DVL Memorandum of Intent. The Lakeview Trail and North Hills Trail at DVL and certain trails at Lake Skinner already exist. Metropolitan jointly funded a trails study with Riverside County Regional Park and Open-Space District to investigate trail alignments connection feasibility through a Consultant agreement. The proposed trail alignments minimize impacts to the Southwestern Riverside County Multi-Species Reserve and link DVL and Lake Skinner using existing roads to the greatest extent possible. Trail uses under consideration include hiking, bicycling, and horseback riding.

DVL Recreation - Refurbishment & Replacement Project Group

Diamond Valley Lake Boat Dock Anchoring System Replacement

The boat dock anchoring system at the Diamond Valley Lake (DVL) marina is over 15 years old and past its service life. Recently, one cable failed and other cables are deteriorating rapidly. The anchor cables run from the top of the boat launch ramp, through the floating boat docks, and terminate at the anchor blocks on the lake floor to secure and stabilize the marina docks for individuals boarding and disembarking vessels. Some of the cables were replaced in 2015 due to the need to extend the boat launch ramps but the remaining system components such as the anchor blocks were not addressed. This project will redesign and replace the DVL marina boat dock anchoring system consisting of galvanized steel cables, associated connectors, anchor blocks, and associated dock components to ensure the continued operation of the boat launching facilities at the marina. This is a new project for this budget cycle.

Diamond Valley Lake Domestic Water System Improvements

Potable water used in the Diamond Valley Lake (DVL) facility is conveyed through a 16-inch water pipeline, sized to meet fire system demand. This configuration is oversized for domestic water usage and often results in low chlorine residual levels that requires regular flushing of the system. A volume of approximately 700,000 gallons of potable water is flushed into the DVL Forebay each month to ensure adequate disinfectant is available to inactivate pathogens and prevent recontamination. This project will install approximately 2,500 linear feet of 4-inch domestic water pipe to convey potable water to the DVL facility to address the ongoing low chlorine residual caused by high detention time in the existing larger diameter potable water line that currently serves the facility. This is a new project for this budget cycle.

Diamond Valley Lake Floating Restroom Replacement

The floating sanitation facilities at Diamond Valley Lake (DVL) are 18 years old and are at the end of their service life. Restroom equipment requires constant maintenance, particularly because failure of the holding tanks could lead to sewage leaking into the reservoir. New facilities would eliminate these concerns. This project is also needed for Metropolitan to continue to provide operable floating restroom facilities to recreational boaters in accordance with the Recreation Activity Plan approved by the Department of Drinking Water. This is a new project for this budget cycle.

Diamond Valley Lake Floating Wave Attenuator

The existing floating wave attenuator (FWA) has been operational since 2006 as part of a two-phase approach. Phase 1 was completed by installing one 800-foot FWA. Phase 2 was to provide an additional attenuation system but was not implemented. Water levels at Diamond Valley Lake have fluctuated with severity and frequency for the last several years due to draw-down activities during drought conditions, then rebounding during the rainy seasons. Due to age and changing conditions, the concrete sections of the FWA have significantly degraded and the reinforcing bars are exposed to the elements which have accelerated corrosion of the existing FWA system. The original FWA has been refurbished to original condition in Spring of 2021. This project will construct additional attenuation system.

IT - Business Support Project Group

Digital Asset Optimization

The Digital Asset Optimization project will remove redundant, obsolete and trivial (ROT) information from files on Metropolitan's network files shares (NFS). This work is being performed to allow for more effective and efficient searching and collection of information as it pertains to public requests, legal holds and other Metropolitan needs for information. Additionally, the data will be categorized, and metadata captured for easier retrieval capabilities.

Enterprise Content Management

The Enterprise Content Management (ECM) application will classify and manage electronic documents and other media to allow for easy retrieval, review, and destruction of information in accordance with Metropolitan's records retention schedule. In addition, the new ECM application will allow Metropolitan to more effectively and efficiently manage its digital asset needs for business needs to respond to requests under the California Public Records Act (CPRA), and for eDiscovery purposes, and will automate compliance with records retention policies. This project includes designing a taxonomy for storing unstructured data and the development of a thesaurus to support the implementation of Metropolitan's ECM application. Phase I has been initiated. Phase II of this project completes the design and delivers the initial deployment of the enterprise content management software into the Metropolitan environment. The system will allow for the organization, collaborations and automated enforcement of records retentions policies to non-structured electronic media. The final phase III will deliver the balance of the deployment of the enterprise content management software throughout Metropolitan.

HR Information System Improvements

With the future of Metropolitan's hybrid working environment (telecommute & onsite) initiatives, improved self-services are needed that require less printing, secured electronic transactions, and allowing proper approvals from managers, while working remotely. This project will enhance the current Human Resource (HR) interface with mobile interface capabilities, enhance the Manager Self-Service Module; and implement a new Performance Management Module. This system will provide employees and managers the tools and technology to improve business operations, promote collaboration, and enhance workforce productivity by simplifying access to HR information. This is a new project for this budget cycle.

MWD Intranet Upgrade

The Intranet is a restricted and internal network that enables Metropolitan employees to store, share, and organize information. Initially developed in 1997, the Intranet is built on technologies which have become obsolete. This project will replace Metropolitan's Intranet with newer technologies to serve as a central hub that performs a broad range of purposes which the current Intranet site is not able to. This includes cloud-based file sharing, document management, content management, inclusion of social technology, employee profiles, live messaging, forums, status updates, and Group sites coupled with published data catalogs to allow data sharing which is accessible from any type of device such as laptop, tablets, and mobile phones. This is a new project for this budget cycle.

MWDH2o.com Redesign

The existing website will be replaced with a new site offering more functionality and capability to spread Metropolitan's mission of providing water to Southern California.

MyWarehouse Shopping Cart Replacement Project

Staff currently uses an outdated system for checking availability and acquisition of Metropolitan owned inventory items that lacks an easy-to-use interface and integration with financial systems. The proposed innovative system will provide staff with a fully integrated, “Amazon-like” user experience to improve efficiency of field, warehouse, and financial staff in checking the inventory in real-time, advance ordering of items in low inventory, and by allowing mobile device capability. This is a new project for this budget cycle.

Oracle Database Upgrade

Metropolitan currently owns over 50 Oracle databases containing critical systems that will no longer be supported after December 2022. Any database affected by a performance or security issue would have to be removed from the production environment, rendering the associated application inoperable. This project will upgrade all the associated Oracle databases and update or reconfigure the connection points of all affected applications. This is a new project for this budget cycle.

Oracle EBusiness Suite Upgrade

Metropolitan’s Oracle e-Business Suite (EBS) is an integrated set of business applications for automating Metropolitan’s financials, procurement, project management, and grants management activities. Metropolitan’s e-Business Suite was last upgraded in 2016 and since then, the technology has been superseded by newer hardware, operating systems, and Oracle database versions. This project will upgrade soon-to-be unsupported, end-of-life EBS to the newer version with more functionality and capabilities. This is a new project for this budget cycle.

Payroll-Timekeeping Reimplementation

This project will re-implement PeopleSoft payroll and will replace the current timekeeping software with a package that provides better integration with the payroll software and a better user interface. The current payroll and timekeeping applications both have deficiencies that have caused significant compensation issues for employees and have resulted in the need for excessive manual corrections by payroll staff. This project will enhance workforce productivity by simplifying access to business information and will maintain sound business practices and fiscal integrity.

Real Property Group Business System Replacement

This project will select and implement a new cloud-based solution for the Real Property Group (RPG). The new solution will replace existing software to streamline planning, tracking, execution, and compliance management of Real Property business processes for both the Planning and Acquisition, and Land Management Unit(s). RPG’s goal is to centralize the disparate, stand-alone applications and processes, and migrate existing data into one integrated system to increase productivity and improve business processes.

Services Procurement Implementation

In the current Oracle Business Suite (EBS), it is difficult to automate and record certain transactions such as retention payments, Stop Notices, and Liquidated Damages. These transactions are tracked separately by Finance and Engineering. The Oracle on-premise Service Procurement Module is part of the Oracle E-Business Suite. The module automates retention transactions at the time of payment, and can, through customization, accommodate the need to hold other payments as liabilities in the General Ledger (GL).

This project will implement the Oracle Service Procurement Module, as part of the Oracle E-Business Suite, to automate retention or other withholdings required as liabilities in the GL.

Supplier Portal Implementation

This project will implement Oracle's web-based Supplier Portal, which provides self-service capabilities to Metropolitan's supplier community. Suppliers have access to a secure area that provides complete visibility to transactions, including purchase orders, payments and planned payments, offers collaboration with Metropolitan staff, and allows the electronic submission of invoices and other documents. The implementation of the portal will reduce repetitive inquiries from vendors, saving staff time and reducing vendor frustration.

Water Planning Application Upgrade

Water planning staff makes decisions every day that affect storage, cost, and movement of water within our system. The current software tool used is inefficient and obsolete, which was initially launched more than 20 years ago and last partially updated in 2008. This project will replace the existing water planning application with a new cloud-based application, which will build a foundation needed for innovative solutions addressing water supply and operational challenges. The new application will also be able to automate the process of gathering, categorizing, cleaning, validating, and reporting of critical data used by planners and meet today's cyber security standards. This is a new project for this budget cycle.

WINS Water Billing System Upgrade

The Water Information System (WINS) bills Metropolitan's member agencies, on a monthly basis, for approximately \$75 million. WINS is known as Metropolitan's "cash register". The custom application is over 10 years old and needs to be updated. The billing logic is complicated and "hard-coded" into the application, requiring assistance from Metropolitan's Information Technology to make even minor modifications, such as adding new meters or programs. Member agencies have also requested additional functionality. This project will replace the WINS to add needed enhancements to the system to add security and functionality for both Metropolitan and member agencies.

Incident Reporting System

This project delivers a replacement for the 17+ year-old Incident Reporting System. This system reports and tracks incidents that occur on Metropolitan property. Incidents include safety, security, environmental, and workers compensation related events.

Dams and Reservoirs Improvements Program

Fiscal Year 2022/23 Estimate: \$5.3 million

Fiscal Year 2023/24 Estimate: \$44.7 million

Program Information: The Dams & Reservoirs Improvements Program is comprised of projects to upgrade or refurbish Metropolitan's dams, reservoirs, and appurtenant facilities in order to reliably meet water storage needs and regulatory compliance.

Accomplishments for FY 2020/21 and FY 2021/22

- New projects initiated:
 - Live Oak Reservoir Rehabilitation
 - Live Oak Reservoir Emergency Dewatering System Upgrade
 - Weymouth Finished Water Reservoir Rehabilitation
- Major milestones achieved:
 - Lake Skinner Butterfly Valve Replacement – preliminary field investigations completed
 - Mills Finisher Water Reservoir Rehabilitation – preliminary design completed

Objectives for FYs 2022/23 and 2023/24

Project	Total Project Estimate	Estimated Construction Completion	Major Milestones
Diamond Valley Lake Dam Monitoring System Upgrades	\$ 10,000,000	2025	Begin construction
Jensen FWR # 2 Floating Cover Replacement	\$ 8,600,000	2025	Complete design
Mills Finished Water Reservoir Rehabilitation	\$ 17,000,000	2026	Complete design
Lake Skinner Outlet Tower Seismic Upgrade	\$ 170,000,000	2022	Begin design
Live Oak Reservoir Rehabilitation	\$ 9,300,000	2026	Begin construction

Dams & Reservoirs - All Project Group

Dam Monitoring System Upgrades at Lake Mathews and Lake Skinner

Metropolitan relies on extensive instrumentation and regular inspections as a cornerstone of its dam monitoring program. The instrumentation provides warning signs of dam distress and provides real-time monitoring of the embankments and foundations. Extensive monitoring equipment has been installed at Lake Skinner and Lake Mathews over the last 46 years and 81 years, respectively. Recent inspections have noted that several of the piezometers and weirs at these facilities no longer function reliably and require rehabilitation or replacement.

Field surveys and condition assessments will be conducted at both dams to develop a staged replacement schedule. Based on the results of the assessments, installation of automated dam monitoring systems and upgraded communications system with remote monitoring units at each dam may be required. This project will also rehabilitate embankment surfaces to address erosion and surface drainage issues.

Diamond Valley Lake Dam Monitoring System Upgrades

The three rock-fill dams which form Diamond Valley Lake (DVL) are monitored continuously by the facility's geodetic deformation monitoring system, which transmits real-time displacement data to Metropolitan's Headquarters at Union Station and to the Operations Control Center at Eagle Rock. This data is collected to provide early indication of a potential problem within the dam embankments or foundations, and to prepare mandatory reports on the dams' performance for submission to DSOD. After 19 years of continuous operation, the existing monitoring equipment has deteriorated and needs to be replaced. The planned upgrades will maintain the capability to continuously monitor dam performance in compliance with the DSOD operating permit.

Upgrades to the dam monitoring network at DVL will be accomplished in three stages. Stage 1- procurement and installation of the weir level sensors and strong motion accelerographs; Stage 2 - design and preparation of procurement documents for the geodetic deformation monitoring system; and Stage 3 - design and procurement of automated data acquisition system, upgrades to the communication network, and replace remote monitoring units and ancillary equipment. Stages 1 and 2 have been completed. Stage 3 will be accomplished in two phases. Phase 1 will upgrade the West Dam area and Phase 2 will upgrade the East Dam and Saddle Dam areas.

Diemer FWR Slope Protection Improvements

The California Division of Safety of Dams' annual inspection of the Diemer Finished Water Reservoir (FWR) noted that the existing dense vegetation on the abutting slope was obscuring dam safety inspections and providing shelter for burrowing rodents. This project will remove the existing 2.5-acre dense vegetative ground cover on the embankment slopes of the Diemer FWR and rehabilitate the embankment surface with a new slope protection system that minimizes surface erosion, prevents rodent burrowing, and maintains the stability and integrity of the reservoir embankment slopes. This is a new project for this budget cycle.

Etiwanda Reservoir Rehabilitation

The Etiwanda Reservoir has been in operation for 28 years. The liner and appurtenances are in need of refurbishing to maintain their integrity and prevent excessive seepage as noted during periodic inspections. This project will rehabilitate the reservoir by replacing the reservoir liner with a geomembrane liner, replacing the sub-drain sump pump system, and installing new electronic monitoring instrumentation and equipment to better monitor operational status of the sump pump system. The project scope will also include inspection, evaluation, and rehabilitation or replacement of: (1) the asphalt pavement for the reservoir perimeter roads and parking lot; and (2) various valves and gates.

Garvey Reservoir Rehabilitation

Garvey Reservoir was placed into operation in 1954. It is located at the junction of the Middle Feeder and the Garvey-Ascot Cross Feeder in the city of Monterey Park. Garvey Reservoir provides hydraulic grade stabilization, pressure relief, and operational and emergency storage for the Central Pool portion of the distribution system. A flexible membrane liner and reservoir floating cover were installed in 1999. The service life of a reservoir floating cover is approximately 20 years. The existing floating cover at Garvey Reservoir has become increasingly difficult to repair and needs replacement.

This project will replace the reservoir's aging floating cover and flexible membrane liner. In addition, this project will remove the existing inlet/outlet tower and construct new inlet/outlet facilities; modify circulation piping; replace the standby generator and upgrade the electrical system; replace/repair perimeter and security fences; improve surface drainage and erosion controls; replace the outdated on-site water quality laboratory building; install additional sodium hypochlorite storage tank plus containment and appurtenances; replace valves at the junction structure; construct on-site storage building for equipment and tools; and other improvements necessary to rehabilitate the reservoir and support facilities.

Gene Wash and Copper Basin Dams Safety Monitoring Improvements

The Copper Basin and Gene Wash Dams are in a very remote area with difficult access requiring four-wheel drive vehicles and boats. Both dams are visually inspected twice per year by Engineering Services including the annual inspection by the California Division of Safety of Dams (DSOD). This project will improve the safety monitoring system at the Gene Wash and Copper Basin dams to maintain compliance with DSOD regulations and Metropolitan's ability to detect dam safety issues in a timely manner. The project scope includes installation and implementation of a modern dam monitoring system that utilizes automatic data acquisition system (ADAS) for continuous monitoring. This project also will perform dam concrete condition assessments, geological evaluations of dam abutments, inspection, survey, and stability analysis. This is a new project for this budget cycle.

Jensen Finished Water Reservoirs Refurbishment

The Jensen plant has two 50-MG finished water reservoirs. Reservoir No. 1 is a concrete structure with a concrete roof that was completed in 1972. The concrete roof of Reservoir No. 1 has a bituminous built-up roofing system and lightweight concrete cap made of perlite. Portions of the perlite cap have deteriorated over time due to weathering. Any further deterioration may result in ponded rainwater leaking into the reservoir, leading to the reservoir being removed from service in order to maintain treated water quality. The rehabilitation work will replace the damaged perlite with a thin concrete layer, which will extend the cover life for approximately 20 years. This project will also install bollards with daisy chain around the reservoir to prevent vehicles from entering the top of the reservoir and other improvements necessary to complete the refurbishment of the reservoir.

Reservoir No. 2 has a polypropylene floating cover that was installed in 1997. The floating cover at Reservoir No. 2 is showing significant signs of wear and needs to be replaced. In addition, modifications to the Reservoir No. 2 inlet are needed, as turbulent flow at the inlet has torn holes in the floating cover on several occasions near the corners of the fixed metal air vents. The rehabilitation work will include installation of a new finished water reservoir liner and floating cover with a rainwater removal system, improvement of the existing inlet configuration, modification of plant domestic water system connection, refurbishment of the effluent gate and dewatering system, replacement of instruments and flow meters, installation of diffuser system to enhance mixing, replace perimeter fence, and other improvements necessary to complete the refurbishment of the reservoir.

Within both reservoirs, inadequate mixing contributes to chloramine decay, which in turn increases the nitrite levels within the reservoirs and downstream distribution system. In accordance with the Water Quality Action Response Guidelines, elevated nitrite levels will require additional monitoring, as they may result in bacterial regrowth, and may require operational changes to mitigate chlorine decay. This project will conduct a study of the mixing characteristics of Reservoirs Nos. 1 and 2 and will test and implement solutions for mixing improvements to enhance mixing and reduce the occurrence of nitrification within the reservoirs.

Lake Mathews Reservoir Dredging and Emergency Dewatering Facilities Lake Skinner Outlet Tower

Sediment has accumulated in the reservoir since it was first built and filled in 1938. Sediment is a result of continual erosion within the Lake Mathews watershed and has led to increased turbidity at water treatment plants, reservoir storage loss, and plugged the main dam diversion tunnel into Cajalco Creek. In addition, the California Department of Water Resources, Division of Safety of Dams (DSOD), has specific outlet dewatering requirements for large dams/reservoirs that impound over 5,000 acre-feet of water. Although the current dewatering method at the forebay meets DSOD's requirement, there is a possibility that the Upper Feeder and Lower Feeder that take water from the forebay may be damaged and become unusable during a seismic event. It is now recommended to reestablish access to the diversion tunnel at the bottom of the main dam by dredging. This project will evaluate dredging options for Lake Mathews Reservoir. Dredging will remove decades of accumulated sediment that reduces reservoir storage capacity, contributes to decreased water quality, and blocks access to dewatering infrastructure at both Outlet Tower No. 1 and the main dam diversion tunnel. The evaluation will identify and prioritize dredging locations through bathymetric surveys and other remote methods, as well as identify mitigation options for the environmental hazards of dredging. The project will also determine the condition of the main dam diversion tunnel and all its mechanical equipment and perform a comprehensive refurbishment to restore its full function.

Lake Skinner Outlet Tower Butterfly Valve Replacement

The Lake Skinner Outlet Tower is a critical component of the Skinner plant and distribution system operations and is equipped with five tiers of submerged butterfly valves. The valves have been in operation for 45 years and are approaching the end of their service lives. Replacement parts are not available and must be custom fabricated. This project will replace or rehabilitate all the butterfly valves at the Lake Skinner Outlet Tower. Although there is a plan to potentially add a new outlet tower to Lake Skinner, improving the condition of the existing outlet tower valves will allow for operational flexibility and maintain operational reliability at the lake. This is a new project for this budget cycle.

Lake Skinner Outlet Tower Seismic Upgrade

Lake Skinner was constructed in the 1970s and is located in the city of Temecula, in Riverside County. Water is delivered from the lake through its outlet tower to the Skinner Water Treatment Plant. If the lake needed to be drained rapidly in the event of an emergency, the outlet tower would be used to safely release the water. The outlet tower is under the jurisdiction of the California Division of Safety of Dams (DSOD) which requires that the tower meet current seismic codes.

Metropolitan has an ongoing program to evaluate the seismic stability of its facilities in order to maintain reliable water deliveries and to meet current design practices and building codes. Under Metropolitan's seismic assessment program, staff conducted an initial assessment of the Lake Skinner Outlet tower. Seismic analyses of the Lake Skinner Outlet Tower have identified that the tower may be damaged during a major earthquake. This project will (1) replace two valves located at tier 5 of the outlet tower, which are currently not operational, (2) develop an emergency dewatering plan for DSOD's review and approval; and (3) conduct detail seismic evaluation of the tower, develop options to mitigate impacts to the tower, and to implement a preferred option to mitigate the seismic impact to the inlet/outlet operation.

Live Oak Reservoir Rehabilitation

The Live Oak Reservoir has a 2,500-acre-foot capacity and is located in the city of La Verne. The main purpose of the reservoir is to allow peaking of the Devil Canyon Power Plant and to provide for outages. The reservoir water surface controls the upstream hydraulic gradient for the San Dimas Hydroelectric Power Plant. An inspection identified the following: (1) several valves that are leaking; (2) the reservoir liner is damaged in several areas; (3) the emergency backup generator is no longer manufactured and parts are obsolete; (4) the existing HVAC system including the ductwork for the control room has exceeded its expected service life; (5) improvements to provide access control, intrusion alarm, and surveillance are needed; and (6) improvements to the grading, surface drainage, and paved roads adjacent to the Live Oak Reservoir are also needed. This project will replace leaking valves, reline the influent manifold with reinforced mortar, rehabilitate the fire loop, rehabilitate the existing asphalt concrete (AC) liner and install liner subdrainage system as necessary, replace the existing Emergency Standby Generator and hydraulic power pack unit, replace the existing Heating, Ventilation, and Air Conditioning (HVAC) system, improve surface drainage and erosion controls for the facility, identify and restore all electrical components to new condition or replace with new, including electrical, panel boards and grounding, sump pumps, and associated instrumentation, replace instruments in piezometer room, conduct a security assessment of the facility to reinforce or upgrade physical features and protect infrastructure, which includes replacement of the inner fencing for the reservoir with security type fencing, and other improvements necessary to rehabilitate the reservoir and support facilities.

This project will also improve the emergency dewatering system for Live Oak Reservoir. The project scope will include the design and construction of appurtenant structures such as gantry cranes for lifting spillway drop gates, an emergency generator to back up the crane power source, automation of valves, modification of spillway and blow-off structures, or addition of secondary discharge lines to provide a more direct, reliable, and efficient means to dewater Live Oak Reservoir in the event of an emergency.

Mills Finished Water Reservoir Rehabilitation

The Mills plant relies on two finished water reservoirs with floating covers and geomembrane liners to provide storage for the downstream distribution system. Their capacity is approximately 25 million gallons (MG) each. The Hypalon cover on Reservoir No. 1 was installed in 1997, while the polypropylene cover on Reservoir No. 2 was installed in 1996. Over the past five years, an increasing number of rips and pinhole leaks in the covers were discovered and repaired. Due to their deterioration, the floating covers and geomembrane liners at both reservoirs need to be replaced. The rehabilitation work will include installation of new finished water reservoir liners and floating covers with a rain removal system, refurbishment or replacement of existing reservoir gates, installation of a new drop gate, replacement of instruments and flow meters, evaluation of reservoir mixing and implementation of mixing improvements, installation of enhanced security features and rehabilitation of perimeter fences, and other appurtenances for both reservoirs.

Palos Verdes Reservoir Groundwater Management

This project will address long-term groundwater management at the Palos Verdes Reservoir. The project will evaluate monitoring and disposal options for groundwater seepage, install monitoring instrumentation, develop groundwater and stormwater handling systems, if needed, and provide a connection to the sewer.

Spillway Upgrades - Lake Mathews and Lake Skinner

Following the incidents at Oroville Dam in 2017, the California Division of Safety of Dams (DSOD) is now requiring that dam owners in California assess the condition of dam spillways to confirm that they meet minimum safety standards. In July 2017, DSOD issued an initial list of 93 dams requiring comprehensive spillway assessments to evaluate hydraulic capacity, geotechnical stability, structural integrity, and potential erosion from dam releases. Of the 20 Metropolitan facilities that are permitted by DSOD, two have been directed to undergo the comprehensive assessments: Lake Mathews and Lake Skinner.

Metropolitan submitted the required work plans for re-evaluation of the spillways at Lake Mathews and Lake Skinner and received approval of those plans in September 2017. For each dam, a comprehensive spillway assessment report was prepared and submitted to DSOD for review. As part of these comprehensive assessments, re-evaluation of the outlet tower and conduit at Lake Skinner were performed to identify potential risks and vulnerabilities of lowering the reservoir pool after a major seismic event. Due to its integral role in withdrawing water from the reservoir, the spillway work plan will be expanded to include the Lake Skinner outlet tower and conduit. Based on the input from DSOD, the dam spillway and underdrain system will be rehabilitated.

Weymouth Finished Water Reservoir Rehabilitation

The Weymouth plant's 50-million-gallon finished water reservoir was built in 1964 to meet then-current building code. Because the finished water reservoir's concrete roof was constructed with no expansion joints, numerous cracks in the roof slab continue to open and close with the expansion/contraction cycles caused by daily fluctuation in temperature. Repair is required to protect the concrete and to prevent corrosion of the exposed reinforcing steel. In addition, a rapid seismic assessment conducted in 2000, indicated that the reservoir was marginally stable under seismic loading conditions of that time. Since then, seismic evaluations for the Weymouth facilities and revised building codes have indicated that greater ground motions should be considered.

This project will repair cracked and spalling concrete on the underside of the finished water reservoir roof slab, support beam connections, and entry staircase. The project will also perform seismic evaluation and any needed seismic retrofit to meet the latest DSOD standards.

Distribution System Reliability Program

Fiscal Year 2022/23 Estimate: \$51.2 million

Fiscal Year 2023/24 Estimate: \$12.8 million

Program Information: *The Distribution System Reliability Program is comprised of projects to replace or refurbish existing facilities within Metropolitan's distribution system, including reservoirs, pressure control structures, hydroelectric power plants, and pipelines, in order to reliably meet water demands.*

Accomplishments for FY 2020/21 and FY 2021/22

- New projects initiated:
 - 108th Street Pressure Control Structure Valve Replacement
 - Appian Way Valve Replacement
 - Etiwanda Pipeline Lining Replacement – Stage 3
 - Garvey Reservoir Drainage & Erosion Control Improvements – Areas 6, 7, 8, 10 and 11
 - OC-88 Pumping Plant Chiller Replacement
 - Palos Verdes Feeder - Long Beach Lateral Turnout Structure Sta. 1442+15 Valve Replacements
 - Rehabilitation of Metallic and Concrete Pipelines Phase 1 - Select High Priority Feeders
 - Rio Hondo Pressure Control Structure Valve Replacements
 - Rialto Pipeline Rehabilitation at Station 2986
 - San Diego Pipelines 1 and 2/Rainbow Tunnel Improvements
 - San Diego Pipelines 3 & 5 Vacuum Valve Replacement
 - Upper Feeder Blow Off Structure Replacement
 - Washington Street Pressure Control Structure Valve Replacement & Security Upgrades
 - West Valley Feeder No. 1 - Access Road & Valve Structure Improvements
- Major milestones achieved:
 - Construction completed:
 - East Orange County Feeder No. 2 Service Connection A-6 Rehabilitation
 - Electrical Upgrades at 15 Structures in Orange County Region
 - Lake Perris Bypass Pipeline Relining
 - Lakeview Pipeline Improvements
 - Orange County C&D Team Support Facility
 - Orange County Feeder Cathodic Protection
 - West Valley Feeder No. 1 – De Soto Valve Structure Improvement

- Completed design:
 - Casa Loma Siphon Barrel No. 1 Seismic Retrofit
 - Etiwanda Pipeline Lining Replacement – Stage 3
 - Orange County Feeder Relining – Stage 3
 - Sepulveda Feeder/East Valley Feeder Interconnection Electrical Upgrades
 - Santa Monica Feeder Cathodic Protection

Objectives for FYs 2022/23 and 2023/24

Project	Total Project Estimate	Estimated Construction Completion	Major Milestones
Casa Loma Siphon Barrel No. 1 Seismic Retrofit	\$ 50,000,000	2023	Complete construction
Etiwanda Pipeline Lining Replacement	\$ 24,000,000	2023	Begin construction
Garvey Reservoir Drainage & Erosion Control Improvements - Zones 6, 7, 8, 10 & 11	\$ 2,100,000	2022	Complete construction
Garvey Reservoir Sodium Hypochlorite Feed System Upgrades	\$ 9,000,000	2022	Complete construction
Lake Mathews Forebay Pressure Control Structure and Bypass	\$ 110,000,000	2026	Begin design
Orange County Feeder Lining Repair - Reach 3	\$ 14,000,000	2023	Begin construction
Rialto Pipeline Rehabilitation at Station 2986	\$ 3,000,000	2024	Begin construction
San Gabriel Tower and Spillway Improvements	\$ 17,000,000	2026	Complete design
West Valley Feeder No. 1 - Access Road and Valve Structure Improvements	\$ 4,600,000	2024	Begin construction

PCSs/HEPs/Service Connections/Valves & Gates Project Group

108th Street Pressure Control Structure Valve Replacement

The 108th Street Pressure Control Structure (PCS) located on the Palos Verdes Feeder was constructed in 1941. The pipeline has a design capacity of 80 CFS in this area and provides the flexibility to deliver water through the Inglewood Lateral and Culver City Feeders to member agencies, including the city of Los Angeles, Central Basin Municipal Water District, and West Basin Municipal Water District. This project will rehabilitate the control structure including replacing valves, a corroded ladder, and catwalk grating; restoring electrical components to new condition; installing an emergency backup generator and security features; and refurbishing or replacing other appurtenances. Electrical components consist of electrical panel boards and grounding, sump pumps, and associated instrumentation.

Appian Way Valve Replacement

The Appian Way Sectionalizing Valve Structure on the Palos Verdes Feeder was constructed in 1937. The pipeline has a design capacity of 60 CFS in this area and delivers water to Metropolitan's member agencies, Central Basin Municipal Water District, and the city of Los Angeles. The sectionalizing valve provides Metropolitan the flexibility to isolate flows on the Palos Verdes Feeder between the Long Beach Lateral Turnout Structure and Appian Way Sectionalizing Valve Structure to perform preventive maintenance, planned shutdowns, and emergency activities if required. This operational reliability allows for continued delivery of water to Metropolitan's central pool. The failing sectionalizing valve is 82 years old. Over the past few years, the 24-inch valve has been rebuilt several times to extend its service life. This valve can no longer be rebuilt and has become extremely difficult to operate as it gets stuck and does not fully open or close. The body and cone have eroded, which prevents the valve from properly sealing. This project will replace failing valves, dresser couplings, corroded pipe spools, and install a new precast concrete roof slab at the Appian Way Sectionalizing Valve Structure. Additionally, the project would identify and restore all electrical components add 240-volt electrical service, provide for SCADA control of the valves, and refurbishment or replacement of other appurtenances. Electrical components include electrical panel boards and grounding system, sump pumps, and associated instrumentation.

Conveyance and Distribution System Electrical Structures Rehabilitation

Metropolitan's distribution system includes over 1,000 structures which house equipment used to measure pipeline flow, control pipeline flow and/or pressure, relieve pressure or vacuum, and isolate or sectionalize a pipeline. The conduits and electrical equipment inside the structures have corroded and no longer provide adequate grounding. In addition, the wiring inside the conduits may be compromised. These electrical components have been in continuous service in a damp, underground environment for over 50 years, and need to be upgraded. The rehabilitation for the Conveyance and Distribution System Electrical Structures has been prioritized and will be completed in five stages. Upgrades of the first 15 highest priority service connection structures within Orange County have been completed as Stage 1. Stage 2 improvements will upgrade the remaining 244 structures within Orange County. Stage 3 improvements will upgrade 258 structures in northern Los Angeles County. Stage 4 improvements will upgrade 258 structures in southern Los Angeles County. Stage 5 improvements will upgrade 301 structures in Riverside, San Diego, and San Bernardino Counties. The precise number of structures to be improved may vary depending on condition assessments. The planned work includes identification and restoration of all electrical components to new conditions including service panels, conduits, wiring lights, and receptacles; and providing new grounding systems, sump pumps, exhaust fans, remotely monitored flood alarms at each structure, and other appurtenances.

Conveyance and Distribution System Hydraulic Pilot Valve Standardization

There are approximately 265 pilot valves within the conveyance and distribution system, located at pressure relief or pressure control structures. A pilot valve works together with a control or relief globe valve to set pressures within the distribution system. Currently, several different types of valve and superstructure assemblies exist throughout the system and as they age, lack of a common design makes replacement difficult. This project will develop, fabricate, and install a standardized hydraulic control/relief pilot valve and superstructure at pressure control structures District-wide across the conveyance and distribution system. Utilizing a standardized valve and superstructure assembly will increase productivity and reliability. This is a new project for this budget cycle.

Covina Pressure Control Structure Rehabilitation

The Covina Pressure Control Structure (PCS) controls flow in the Middle Feeder North and multiple service connections. It has recently experienced numerous valve failures and pin-hole leaks. This project will replace valves, pipes, and control and electrical systems; rehabilitate the restroom and structural components; install security features and other work necessary to restore reliability of the pressure control structure. This is a new project for this budget cycle.

Coyote Creek Hydroelectric Plant/PCS Emergency Standby Generator Replacement

The existing emergency stand-by generator was installed when the Hydroelectric Plant/Pressure Control Structure (HEP/PCS) was constructed in 1982. The emergency generator is 39 years old and has deteriorated with age. This project will replace the existing emergency generator with a new 150 kW, 3-phase 480-volt, diesel engine driven generator and construct an additional manual transfer switch outside the stationary generator room to provide for a secondary portable generator hookup. This project will also upgrade electrical and mechanical system to the generator building to meet current emission and fire code regulations under the Environmental Protection Agency's Tier 3 Emission and Fuel Standards Program.

Dominguez Channel Pressure Relief Structure Improvements

The Dominguez Channel Pressure Relief Structure is located on the Palos Verdes Feeder near the Harbor Freeway and Hoover Street at the Dominguez Channel Crossing. Recent inspections have found leaking valves, inoperable needle valves, failed electrical services, and failed communication cables. This project will replace valves, modify piping and concrete, and construct new underground electrical and communication service as necessary to restore reliability of the relief structure. This is a new project for this budget cycle.

DVL Secondary Inlet Sleeve Valve Refurbishment

Diamond Valley Lake (DVL) is used for operational and dry-year, and emergency storage. The existing sleeve valve at the DVL Secondary Inlet is corroding, which will eventually make the valve inoperable. This is the only control valve for the secondary inlet, which is used to refill DVL. This project will remove, refurbish, and replace the existing sleeve valve; recoat existing appurtenant piping; and replace associated couplings. This is a new project for this budget cycle.

Eagle Rock Tower Distribution System Upgrades

Eagle Rock Tower diverts the flow of water from the Weymouth plant into the Palos Verdes Feeder, Santa Monica Feeder, and the Eagle Rock Lateral. The tower is also used to maintain the required hydraulic grade to the service connections upstream of the tower. This project will perform needed rehabilitation of various components of the Eagle Rock Tower distribution system. The project will include the following: (1) replace the leaking control and isolation valves at the interconnections to the Palos Verdes and Santa Monica Feeders, (2) replace corroded slide gate, and tower access ladder and cover, (3) repair slide gate rails and associated components, (4) fabricate and install new drop gate at inlet side of Eagle Rock Tower to improve isolation capability, (5) extend Santa Monica Feeder interconnection blow-off structure and install isolation valves to improve maintenance flexibility, (6) construct new access road from main access road to the Palos Verdes and Eagle Rock Interconnection Structure to facilitate safe access to the structure, (7) replace corroded work platforms and ladders in interconnection structures to improve worker safety, and (8) refurbishment and upgrades of other appurtenances as they are identified during the facility assessments.

East Orange County Feeder No. 2 Service Connection OC-44A Valve Replacement

The East Orange County Feeder #2 is a 25-mile-long pipeline which delivers treated water from the Diemer plant to the cities of Anaheim, Orange, Santa Ana, and Irvine. Service Connection OC-44A, which is located in Newport Beach, was constructed in 1967 and delivers water to the Municipal Water District of Orange County. Gradual corrosion and wear from over 52 years of operation has led to the deterioration of the 16-inch plug valve. The valve is currently leaking and needs to be replaced. The plug valve shaft was installed in the horizontal position to allow placement of the valve within the vault. This unconventional position may have accelerated the deterioration of the valve. This project will replace a 16-inch-diameter plug valve, flowmeter, and appurtenant piping and equipment as required in the Service Connection OC-44A Structure. This project will also identify and restore all electrical components to new condition. Electrical components consist of electrical panel boards and grounding system, sump pump, and associated instrumentation.

Flow Meter Replacement Project

Metropolitan has over 500 flowmeters used for water revenue metering at service connections, operation of the conveyance and distributions, and for process control. Many flowmeters have been in operation over 50 years. Some of these meters are exhibiting signs of deterioration. Spare parts for older meters are increasingly difficult to procure.

This project will be conducted in three stages. Under Stage 1, a comprehensive evaluation of the flowmeters will be conducted to assess their current condition and availability of spare parts. Under Stage 2, deteriorating meters in critical services will be replaced. Under Stage 3, a comprehensive, risk-based approach will be implemented to replace the remaining flow meters.

Foothill Feeder PCS Valve Replacement

Foothill Pressure Control Facility (PCF) is located at Castaic Lake Dam in northern Los Angeles County. The structure takes untreated water from the west branch of the State Water Project system and controls all untreated water flows into the Jensen plant. Foothill PCS consists of two turbines, two 60-inch inline sleeve valves, and three parallel trains of conical plug valves. Each plug valve train consists of three 48-inch conical plug valves in series, that are throttled to dissipate pressure. Although the conical plug valves are currently used to control flow, these types of valves are not well-suited for this application. In addition, recent valve inspections have identified leaks, cracks, and corrosion. This project will replace the conical valves with valves that are better suited for flow control and will replace all other valves that are at the end of their service life and other facility improvements.

Foothill Hydroelectric Plant Refurbishment

The Foothill Hydroelectric Plant was constructed in 1981. An assessment has identified that the facility is seismically vulnerable and should be upgraded. The scope of work also includes reinforcing the roof, replacing a cracked beam, and installing connectors and seismic restraints to the roof, columns, and walls. Retrofit work will also include upgrades for non-structural components such as equipment anchors, pipe/conduit supports, and crane rail bracing. In addition, the electrical and mechanical systems are exhibiting signs of normal wear and tear after 32 years of service. This project will refurbish control and electrical protection systems, mechanical piping for the generator cooling water systems, add a Programmable Logic Controller, install on-line data acquisition and monitoring system, refurbish runner, replace wicket gates, and refurbish or replace other deficient equipment.

Hollywood Tunnel North Portal Equipment Upgrades

Built as part of the Santa Monica Feeder in 1937, the North Portal of the Hollywood Tunnel is one of three control points along the feeder, which delivers water to the cities of Burbank, Beverly Hills, Los Angeles, and Santa Monica. The valves and mechanical control system at the North Portal of the Hollywood Tunnel are obsolete. Repair parts are not available and must be fabricated at a machine shop. This project will replace the existing sleeve valves and hydraulic actuators at the North Portal of the Hollywood Tunnel with new control valves with electric actuators. The upgrade includes replacing the mechanical controls with electronic, PLC/SCADA controls, which will allow the facility to be monitored and controlled from the Eagle Rock Operations Control Center, and replacement of the isolation valves. This project will also replace control valves for the bypass, install new electrical service to support the load necessary for the new control systems, and other improvements necessary to upgrade and rehabilitate the equipment and support systems.

Hydroelectric Plant Rehabilitation

Metropolitan owns and operates 15 hydroelectric power plants with a total installed capacity of 130 megawatts. Approximately 10% of Metropolitan's income is derived from these power plants. The first plant to be commissioned was the Greg Avenue Power Plant in 1979, and the last was the Wadsworth Hydroelectric Power Plant in 2002. Many of these plants have been in operation over 37 years and have not undergone refurbishment or upgrade. Several plants are beginning to show signs of deterioration and several have already been refurbished. A comprehensive approach to rehabilitation of the other hydroelectric plants is needed to protect Metropolitan assets and fortify infrastructure reliability.

This project will assess and evaluate Metropolitan's hydroelectric plants, determine the rehabilitation requirements for each plant, identify needed pilot efforts, prioritize the needed rehabilitation, and develop a multi-phase plan to complete the rehabilitation. New facilities or those that have already undergone rehabilitation will not be included in the evaluation. For the included hydroelectric plants, the assessment will evaluate the following equipment and systems: turbine, generator, power equipment and switchyard, control system, protection system, auxiliary systems such as lube oil and cooling water, and the overall facility. This project will also perform seismic evaluation and improvements as necessary to safeguard the hydroelectric plants from known seismic risk.

LADWP Connection in Magazine Canyon

The Los Angeles Department of Water and Power (LADWP) connection in Magazine Canyon is rated for 400 cfs and was designed to supply water to the Jensen plant from LADWP's aqueduct system. However, the connection is unreliable as the bar screen located in the LADWP piping builds up debris and clogs. This project will redesign and build new flow control equipment downstream of the LADWP turnout valve with the capability to collect and remove debris. This equipment would allow the LADWP bar screen to be removed and the LADWP turnout valve to be left in the fully open position during operation providing the Jensen plant with a reliable, back-up source water supply to limit disruptions during unforeseen events. This is a new project for this budget cycle.

Lake Mathews and Temescal Hydroelectric Plants Circuit Breaker and Oil Circuit Recloser Replacement

The Lake Mathews & Temescal Sulfur Hexafluoride (SF6) circuit breakers have operated for the last 40 years and are at their end of life. Sulfur Hexafluoride is an ozone depleting greenhouse gas with annual leakage reporting requirements. This project will replace the Temescal and Lake Mathews Hydroelectric plant electrical interrupting devices with vacuum circuit breakers and replace damaged switchyard disconnects which will satisfy Metropolitan's regulatory requirements under new proposed regulations to phase out SF6 gas insulated equipment. This is a new project for this budget cycle.

Lake Mathews Forebay Pressure Control Structure and Bypass

Lake Mathews is the terminus of Metropolitan's CRA and was constructed in the 1930's. Untreated water stored in the reservoir is withdrawn through the lake's forebay and hydroelectric plant and is then conveyed through the Upper Feeder and Lower Feeder to the Weymouth and Diemer plants, respectively. The Lake Mathews forebay discharge valves and outlet tower have gradually deteriorated over 77 years of operation. Portions of the facilities need to be replaced to maintain reliable deliveries from Lake Mathews into the Central Pool. The ten 32-inch-diameter Howell-Bunger valves that are used to withdraw water from the lake have gradually deteriorated through continuous use. The frequency of repairs is increasing, while replacement parts are difficult to obtain. These 62- to 77-year-old valves need to be replaced.

Upgraded facilities may include a new bypass system with pressure control structure, which includes new headworks regulating valves, upgraded outlet tower gates, and a new overflow spillway structure. This project will also include seismic retrofit of the existing forebay, forebay tower, and dike; and replacement of mechanical equipment including slide gates as these facilities are used with the existing turbine operation. The system is expected to provide full-service capacity and deliver water to the Upper and Lower Feeders year-round.

Lake Mathews Junction Shaft Gate Hydraulic Power Unit Study - Outlet Tower No. 2 Isolation

The roller gates at the Lake Mathews junction shaft do not operate consistently and reliably. The large isolation gates utilize hydraulic power units (HPUs) to operate under normal conditions and store energy for use in emergency conditions when electric power is not available. Although maintained in accordance with the manufacturer's recommendations, the gates no longer function as designed. This project will evaluate the two roller gate operators at the Lake Mathews junction structure that provide isolation for Outlet Tower No. 2 and rehabilitate the HPUs and support systems. This project also includes instrumentation and controls upgrade at Outlet Tower No. 2 to obtain accurate readings of the valve positions. The study will focus on the condition of hydraulic power unit equipment, safety elements related to pressurized hydraulic reservoirs/tanks, and operating procedures/practices.

Lake Mathews Outlet Tower No. 2 Valve Rehabilitation

The outlet tower valves operate intermittently and do not open and close completely. Without proper operation of the valves, tier selection and flow rates are impacted which may adversely affect system operations including raw water quality, water treatment processes at the downstream Weymouth and Diemer plants, and secure isolation of the tower from the lake needed for maintenance and inspection work. This project will complete a comprehensive study and implement recommendations on replacement or refurbishment of the butterfly valves on the Lake Mathews Outlet Tower No. 2, which may include replacement or refurbishment of 30 butterfly valves.

Oak St. Pressure Control Structure Rehabilitation

The Oak St. Pressure Control Structure (PCS) is one of two control facilities on the Second Lower Feeder (SLF) and provides water to the Palos Verdes Reservoir and several service connections. Recent inspections have identified various work to be performed to restore reliability of the pressure control structure. This project will replace valves, gratings, fasteners, and control and electrical systems; rehabilitate structural components; install security features; and other work necessary to restore reliability of the pressure control structure. This is a new project for this budget cycle.

OC-88 Pumping Plant Rehabilitation

The OC-88 Pumping Plant, consisting of the OC-88 and OC-88A pump stations, was constructed in 1990 and is located in the city of Lake Forest. Treated water from the Diemer plant is conveyed through the Allen McColloch Pipeline (AMP) to the OC-88 Pumping Plant, which in turn pumps water directly into the Municipal Water District of Orange County's (MWDOC's) South County Pipeline. The surge tank system protects the AMP and the South County Pipeline from pressure surges. Two new surge tanks were added when the OC-88 Pumping Plant modifications were completed in 2005. However, the air compressor was not upgraded at that time. A recently completed high-flow test at the OC-88 Pumping Plant identified that a second air compressor should be installed to adequately protect the AMP and the South County Pipeline. In addition, Southern California Edison performed an efficiency test on the three existing pump motors located at the OC-88A pump station and found that improvements in motor efficiency could result in annual savings of approximately \$25,000 in electricity costs, and an estimated 235 tons of CO₂ emissions. Lastly, the chiller units and ultrasonic flow meters have exceeded expected useful service lives and are in need of replacement. This project will upgrade the OC-88 Pumping Plant's surge tank system, install a second air compressor, replace flow meters and pumps with ones that have high-efficiency motors equipped with variable frequency drives, perform overhead crane improvements, fire protection, and HVAC systems; and perform other associated facility improvements.

Olinda Pressure Control Structure Valve Replacement

The Olinda Pressure Control Structure was constructed in 1969 to provide regulation of flows in the Lower Feeder between the Santiago Control Tower and Diemer Filtration Plant. This project will replace two conical plug valves to increase efficiency, reliability, and mitigate the vibrations caused by operating the valves. The structure's electrical and instrumentation components and other facility components will also be evaluated and refurbished or replaced. Replacing the existing 51-year-old valves will improve operational control of the Lower Feeder between the Santiago Control Tower and the Diemer plant. If cost effective, relocation of the PCS will also be considered.

Orange and Riverside/San Diego County Operating Regions Valve Replacement

Metropolitan's distribution system includes over 830 miles of pipelines and 5,400 individual structures that require regular maintenance and monitoring. The system is comprised of four regions: the Los Angeles County, Orange County, Riverside/San Diego County, and Western San Bernardino County regions. The subject project will replace valves within the Orange and Riverside/San Diego County operating regions. Replacement of these valves is a priority due to the age of the feeders and the number of critical valves that need to be replaced.

The valves on the Second Lower Feeder, Orange County Feeder, East Orange County Feeder, Lower Feeder, Santiago Lateral, the Allen-McColloch Pipeline, Lakes Skinner Outlet Conduit, San Diego Pipelines Nos. 3, 4, and 5 have been in service up to 52 years and have reached the end of their useful and expected service life. Failure of these valves or their associated components may result in an unplanned emergency shutdown of one of these pipelines impacting delivery to our member agencies. The valves to be replaced include air release/vacuum valves that are installed at high points in the lines to exhaust or admit air during pipeline filling or dewatering operations, and small globe, plug, and butterfly valves. The latter valves are used for isolation of air release/vacuum valve assemblies, blow-off structures, and pressure control structures. Closing these isolation valves allows inspection and maintenance activities to proceed without requiring a shutdown of the feeder. The scope of work is to replace approximately 120 deteriorated valves ranging in size from 1 to 12 inches in diameter on various pipelines in the Orange, Riverside, and San Diego County Operating Regions. This project will also include relocation of air release/vacuum valves from underground to above-ground structures.

Palos Verdes Feeder - Long Beach Lateral Turnout Structure Sta. 1442+15 Valve Replacements

The Palos Verdes Feeder - Long Beach Lateral turnout structure, located in the County of Los Angeles, was constructed in 1938. The Long Beach Lateral turnout structure consists of seven valves that allows Metropolitan to continue delivering water upstream and downstream to member agencies during preventive maintenance, shutdowns, and emergencies. This project will replace the seven valves on the Palos Verdes Feeder/Long Beach Lateral Turnout Structure that are 82 years old. The structure will also be refurbished and include replacing the existing catwalk grating, a new precast concrete roof slab, lifting mechanism, security type entry hatches, and identify and restore all electrical and instrumentation components to like new condition. Electrical components consist of electrical panel boards and grounding system, sump pump and associated instrumentation.

Rio Hondo Pressure Control Structure Valve Replacements

The Rio Hondo Pressure Control Structure (PCS) on the Middle Feeder pipeline was constructed in 1983. Construction of the Rio Hondo PCS incorporated an existing valve structure, so the valves at this location have been in operation since 1953 as part of the original underground valve structure. The existing valves have been in continuous service for approximately 67 years, and over time have required frequent repairs/rebuilding.

The Eagle Rock Operations Control Center utilizes the Rio Hondo PCS to maintain the lower pressure zone on the southern half of the Middle Feeder, and to assure deliveries to member agency water demands in the southwestern service area. This project will replace failing valves at the Rio Hondo PCS. The work will include replacing dresser couplings, pipe spools and fittings, and pipe supports; providing improved ventilation, insulation, equipment access, and structural resiliency for the structure; rehabilitating the existing wastewater system; upgrading various security features, and identifying and restoring all electrical components to new condition. Electrical components consist of electrical panel boards and grounding system, sump pumps, and associated instrumentation. This project will also perform condition assessment of inlet and outlet manifold piping as well as remaining control lines to identify rehabilitation needs and evaluate hydraulic impact on the adjacent hydroelectric plant resulting from this project.

San Diego Canal Radial Gates Rehabilitation (V-06 & V-08)

The protective coatings on the radial gate at the San Diego Canal and the operating components of the gates have begun to fail, and significant metal loss has occurred. In addition, the performance of the existing motor actuators used to open and close the gates has diminished. Should this gate fail, there would be loss of control to regulate flow into Lake Skinner from the San Diego Canal, along with loss of control in surface elevation that regulates flows through the Lake Skinner Bypass screening structures. The bypass structures supply the Skinner area raw water pipelines and the Skinner plant when Lake Skinner is being bypassed, typically due to a taste and odor issue in the lake. This project will rehabilitate or replace the San Diego Canal Radial Gates V-06 and V-08. The rehabilitation may include strengthening or replacing steel members as needed, replacing the radial gate actuator and controls, modifications to the seals and guide rails, and preparing and coating steel surfaces with an approved coating, such as a galvanic metalized coating. This project will also add sensors and software to report the elevation of the gates relative to the water elevation and percent opening of the gates.

San Diego Pipelines 3 & 5 Vacuum Valve Replacement

This project will remove and replace 73 existing vacuum valves on San Diego Pipeline No. 3 (SDPL3) and San Diego Pipeline No. 5 (SDPL5). The existing valves on SDPL3 have been in service for almost 62 years, while those on SDPL5 have been in use for almost 42 years. All the valves have reached the end of their services lives, and the majority are not in a condition to be rehabilitated. All valves will be replaced in-kind. This project will lower corrective maintenance costs, and the risks of valve failures resulting in property or pipeline damage or unscheduled pipeline outages.

San Dimas and Red Mountain Power Plants Standby Diesel/Engine Generator Replacements

The emergency generator at Red Mountain Hydroelectric plant was installed during the original plant construction in 1983. The generator at the San Dimas Hydro Electric Power Plant was installed during original Pressure Control Structure construction in 1975. These generators are necessary to ensure all operating equipment performs the required flow transfers between the Hydroelectric Power Plant (HEP) and the Pressure Control Structure (PCS) during un-scheduled HEP interruptions and SDGE station-power failures. The scope of work is to design, procure, and construct two standby diesel engine generators, one each at the San Dimas and Red Mountain Power Plants. The project scope includes removal of the existing generators and fuel tanks, construction of a new unloading facility with spill containment, steel overhead canopies, and electrical and mechanical system upgrades to the replacement generator to meet current emission and fire code.

San Dimas Hydroelectric Plant Rehabilitation

The San Dimas Hydroelectric Plant was constructed in 1981, and the electrical and mechanical systems are exhibiting signs of normal wear and tear after 41 years of service. The scope of work is to rehabilitate the electrical and mechanical systems including turbine, generator, generator cooling system, all bearing and bearing lubrication systems, switchgear, protection and control relays, speed controller, data logger, annunciator, vibration and exciter systems, and to provide associated controls. This project will also include seismic evaluation and upgrades consistent with current building and safety codes and other facility upgrades.

San Jacinto Diversion Structure Slide Gates Rehabilitation

The San Jacinto Diversion Structure, located at the base of the San Jacinto Mountains, was completed in 1939. The diversion structure divides incoming flow from the CRA to three different outlets, using slide gates to control each flow. Although the existing gates were originally designed for open/close operation only, they had historically also been used for throttling the flow, which had caused substantial damage to the gates. This project will replace the existing V-01 and V-02 cast iron slide gates with a single stainless-steel slide gate designed for throttling, replace existing V-03 cast iron slide gate designed for throttling, install a new stainless-steel drop gate at the valve structure V-04, and appurtenances at the both facilities. This project will increase the operational reliability of the structure and the connection to the Casa Loma Siphon No. 1 and CRA.

Santa Monica Feeder and East Valley Feeder Bypass for Sectionalizing Valves

The lack of a bypass line at the Santa Monica Feeder and East Valley Feeder creates the potential for damage to the valves and their operators due to the inability to equalize pressure across the valves before operating. Further operation of these valves, without installing a bypass, will continue to place the valves and pipeline at risk for damage and potentially emergency or unplanned shutdown. This project will design, fabricate, and install bypass lines at three sectionalizing valve locations that currently do not have a bypass line, and replace existing sectionalizing valves

Santiago Lateral Station 216+40 Butterfly Valve Replacement

The Santiago Lateral is a pre-cast concrete pipeline, ranging in size from 60-inch to 72-inch, and was constructed in 1955. It extends southerly from the Santiago Control Tower in the Anaheim Hills approximately 7.4 miles to Irvine Lake. The pre-cast concrete pipeline provides raw CRA water to Anaheim, IRWD and Irvine Lake. The 42-inch sectionalizing butterfly valve currently leaks resulting in unwanted flows to the south portion of the Santiago Lateral. This project will investigate alternatives to replace existing sectionalizing butterfly valve, which could also be able to handle lower flow rates. The options may include replacing with same type of valve and motor with construction of a bypass or expansion of the existing valve vault or construction of a new vault to accommodate a multi-orifice valve with a knife gate valve for better flow control.

Sepulveda Canyon Control Facility Electrical and Mechanical Rehabilitation & Seismic Upgrades

The Sepulveda Canyon Facility consists of a pressure control structure, hydroelectric plant, and two water storage tanks. The pressure control structure was constructed in the early 1970s to reduce pressure in the 9-foot-diameter Sepulveda Feeder as it conveys treated water from the Jensen Plant. The two water tanks have a combined capacity of 18 million gallons of water and are used to regulate flows through the pipeline. The hydroelectric plant, which was constructed in 1982, takes advantage of excess pressure in the Sepulveda Feeder to generate up to 8.6 megawatts of electricity with its single turbine. The facility is located on top of a large pad that was constructed by filling a steeply sloped V-shaped ravine. The pad is approximately 120 feet above the toe of the slope. The site is located within one mile of the Santa Monica Fault, which is capable of generating a 6.8 magnitude earthquake. Preliminary slope analyses indicate that the fill could slide down the slope during a major earthquake, causing significant damage to the pressure control structure, the water tanks, and the hydroelectric plant. This project will consolidate all seismic upgrade efforts for the entire Sepulveda Canyon Control Facility and seismically upgrade the facility. This project will also consider construction of a 96-inch diameter bypass line and new pressure control structure at the Sepulveda Canyon Facility to continue water deliveries if the existing facility is out-of-service due to a major earthquake.

The Sepulveda Canyon Hydroelectric Plant was constructed in 1982, and the electrical and mechanical systems are exhibiting signs of normal wear and tear after 30 years of service. The scope of work is to perform an investigation and survey of the facility, and rehabilitate the electrical and mechanical components including the turbine/generator and upgrades to the protection and control systems. The project also includes replacement of cooling water piping for the generator enclosure, rehabilitation and structural improvements to the switchyard, and rehabilitation of other facility components.

Sepulveda Feeder/East Valley Feeder Interconnection Electrical Upgrades

The East Valley valve structure is located on the north sidewalk of the Rinaldi Street and Hayvenhurst Avenue intersection in Granada Hills. During the wet season, this structure receives intrusive storm water leakage causing the junction boxes, electrical enclosures, and conduits to corrode and short circuit. The extent of damage has accelerated, and storm water now enters the structure. This project will install new wiring and control panels for operation of the existing valve, remove the existing aboveground disconnect switch and install a new power distribution panel, install new duct banks and conduits to supply power to each of the critical structures, install additional bollards around the distribution panel to minimize damage from vehicles, repair damaged sidewalk, and assess potentially relocating the existing metering structures. This project will also replace access ladder, modify stairs and install a platform to meet current Cal OSHA requirements, install guardrail at the upper landing of the ladder, install a swing-gate for the catwalk, and mitigate water infiltration into the vaults by replacing curbs and gutters around the valve structures, sealing the interior of the manway riser joints, and implementing other mitigation measures.

Sepulveda-West Basin Interconnection Valve Replacements

The Sepulveda-West Basin Interconnection was constructed in 1970. The interconnection allows Metropolitan's Sepulveda Feeder pipeline the flexibility to convey supplemental flow to the West Basin Feeder. The structure includes two 16-inch lines with sleeve valves and one 12-inch line with a globe valve. Each line may be isolated at the either end with plug valves. This project will replace failing valves at the Sepulveda-West Basin Interconnection structure. The work will include replacing associated dresser couplings, pipe spools, and pipe supports. Additionally, work on the structure will include installing a new precast concrete roof slab, providing adequate ventilation for the structure, replacing a sump pump, structure modifications to address algae accumulation on adjacent sidewalk due to frequent water discharge from the sump pump, identifying and restoring all electrical components to new condition, and refurbishing other facility components. Electrical components will consist of electrical panel boards and grounding, sump pumps, and associated instrumentation.

Service Connection A-02 Rehabilitation

A recent inspection of service connection A-02 in the City of Anaheim, revealed that piping in the meter vault had displaced, resulting in misalignment of a coupling and damage to the check valve support pedestal. If not addressed, continued movement of the piping could result in a leak, flooding, disruption of service, and costly repairs. This project will refurbish or replace the Service Connection A-02 Meter Vault piping, thrust restraint(s), meter, coupling, check valve, and plug valve in adjacent isolation valve vault. This is a new project for this budget cycle.

Service Connection LA-17 Rehabilitation

Service Connection LA-17 is located in the city of Los Angeles at the terminus of the Eagle Rock Lateral. It includes three lines: (1) 17A is a 24-inch line with a capacity of 30 cfs, (2) 17B is a 48-inch line with a capacity of 100 cfs, and (3) 17C is an 85-inch line with a capacity of 310 cfs. Three venturi tubes at the LA-17 service connection have been in service for more than 62 years and require significant rehabilitation or replacement.

Significant coating deterioration and metal loss with extensive pitting and corrosion were identified on the bottom side of the 48-inch venturi tube. The wall thickness of this venturi tube is approximately 30% of its original thickness. Failure to replace this venturi tube will lead to eventual leakage, flooding the structure, and impacting water deliveries to the member agency. This project will replace the deteriorating LA-17B welded steel venturi tube located at the Service Connection LA-17 structure along with installation of new 24" piping and a mechanical coupling. The work will also recoat the LA-17A and LA-17C venturi tubes within this structure. Additionally, work will include replacing the sump pump and identifying and restoring all electrical components to new condition. Electrical components will consist of electrical panel boards and grounding, and associated instrumentation.

Upper Feeder Raw Water Vacuum Valves and Blowoff Improvements

Isolation valves along the Upper Feeder Raw have failed to isolate due to a service life of nearly 80 years and there is a need to install sectionalizing valves in strategic locations along the feeder to facilitate isolation and access to the feeder for internal inspections and repairs without having to shut down the Weymouth plant. Further, a higher hydraulic grade is required to pass Upper Feeder flows through the ozone contactors since the ozone facility at the Weymouth plant was commissioned. The grade difference has impacted various systems and operations along the Upper Feeder. This project will study the hydraulic grade elevation changes and impacts to the Upper Feeder and associated systems (Etiwanda and La Verne Pipelines, and Glendora Tunnel); update feeder operations manual, dewatering profiles, and plan and profile drawings; replace various vacuum valves with improved self-closing units; identify new design flow rates at Upper Feeder service connections; replace isolation valves with regulating type valves; install sectionalizing valves to isolate flows to the Weymouth plant; install inflatable rubber dam on the Etiwanda bypass channel to restore bypass channel flow capabilities; and replace failed blow off and vacuum valve isolation valves. This is a new project for this budget cycle.

Upper Newport Bay Blow-off Structure Rehabilitation

The existing blow-off structure on the Orange County Feeder enables the pipeline to be dewatered in the event of an emergency and provides access for routine maintenance and inspection. Following 75 years of continuous operation in a moist environment near Upper Newport Bay, the blow-off valves and piping inside the structure have corroded and need to be replaced. In addition, due to ongoing erosion, the only road available to access the blow-off structure has been damaged and requires repairs. This project will restore access to the structure and replace its internal valves and piping. The planned repairs include regrading of the existing access road and reinforcement of crossings where the road intersects drainage channels; strengthening of the existing turn-around area adjacent to the blow-off structure, which will allow maintenance vehicles to set up for repair activities; installation of new valves and replacement of corroded piping; and modification of piping to ensure continued compliance with current California Division of Drinking Water regulations to prevent potential cross connections.

Venice Hydroelectric Plant Rehabilitation

The Venice Hydroelectric Plant (HEP) was constructed in 1982, and the electrical and mechanical systems are exhibiting signs of normal wear and tear after 32 years of service. The scope of work is to rehabilitate the electrical and mechanical components including the turbine generator, the protection and control systems, and other facility components. The project also includes rehabilitation and structural improvements to the switchyard.

Venice PCS Valve and Security Upgrades

Venice Pressure Control Structure (PCS) is the second of two pressure control structures located along the Sepulveda Feeder. Venice PCS performs the critical operational functions of reducing grade and controlling flows in the Sepulveda Feeder. The PCS consists of multiple control valves and associated piping. The valves are almost 49 years old and have been experiencing increased failures over the last 12 years. This project will refurbish valves and other appurtenances. This project will also install multi-hazard security features for facility infrastructure protection.

Wadsworth Pumping Plant Sleeve Valve Refurbishment

Recent inspections have identified numerous deteriorated sleeve valves at the Wadsworth Pumping Plant. The sleeve valves originally installed in 1999 control the flow of water from DVL to the San Diego Canal. While operation of the pumping plant has not yet been impacted, failure of the valves could lead to an unplanned shutdown and interruption of water delivery to member agencies. This project will refurbish seven 66-inch by 42-inch sleeve valves at the Wadsworth Pumping Plant at DVL.

Washington Street Pressure Control Structure Valve Replacement & Security Upgrades

The Washington Street Pressure Control Structure (PCS) located on the Palos Verdes Feeder was constructed in conjunction with the Palos Verdes Feeder pipeline in 1941. The pipeline has a design capacity of 100 CFS in this area. This project will replace two failing hydraulically operated and three electronically operated globe valves at the Washington Street PCS. The work will also include replacing all block valves, identifying and restoring all electrical components to new condition, and moving electric meter from outside to inside the structure. Electrical components consist of electrical panel boards and grounding, sump pump, and associated instrumentation. Additionally, a security assessment of the facility will be conducted to determine the need to reinforce or upgrade physical features for enhanced infrastructure protection.

West Orange County Feeder OC-09 Rehabilitation

The West Orange County Feeder was constructed in 1956 as a component of the Lower Feeder system. It delivers treated water from the Robert B. Diemer Water Treatment Plant in Yorba Linda to the northwestern portion of Orange County. Service Connection OC-09 on the West Orange County Feeder consists of a turnout tee, a venturi meter, and a shutoff valve. The turnout tee is encased in concrete and is located beneath the traffic lanes of Katella Avenue in the city of Garden Grove, adjacent to the boundary line with the city of Stanton. The meter vault is located below Dale Street. This structure contains a 14-inch conical plug valve, a venturi meter, and associated piping and electrical systems. Gradual corrosion from over 62 years of operation in a damp underground environment has led to deterioration of the equipment within the vault. This equipment needs to be replaced and other facility components rehabilitated to maintain reliable deliveries from the service connection.

West Orange County Feeder Valve Replacement

The West Orange County Feeder was constructed in 1956 as a component of the Lower Feeder system. It delivers treated water from the Diemer plant in Yorba Linda to the northwestern portion of Orange County. A recent condition assessment identified that 13 structures require rehabilitation, including the replacement of air release/vacuum valve assemblies and adjacent plug valves. These valves were installed during the original construction of the feeder and have been in service for over 62 years. Six of the air release/vacuum valves will also be relocated from a manhole to an above ground cabinet within the street-side parkway zone to prevent the potential of treated water in the distribution system becoming exposed to stormwater under certain operating conditions. Refurbishment or replacement of other facility components, including meter replacement or relocation, may be implemented based on the additional site evaluations.

West Valley Feeder No. 1 - Access Road & Valve Structure Improvements

The West Valley Feeder No. 1 and appurtenant valves were constructed and installed by Calleguas Municipal Water District in 1962. Metropolitan acquired the feeder in 1970. Most of the deteriorated valves were replaced and valve structures improved between 2006 and 2012. This project will replace the remaining deteriorated valves located in Chatsworth Park, add new valve structures to house isolation valves that are presently directly buried, install enclosures for air release/vacuum valves, and perform grading of an all-weather access road to support maintenance activities.

Valley View Hydroelectric Plant Rehabilitation

The Valley View Hydroelectric Plant was constructed in 1986. The mechanical components were rehabilitated in 2019. The electrical and control systems are yet to be rehabilitated and have been requiring increased maintenance. Many of the components are no longer manufactured or supported. This project will replace the electrical protection and control relays, data acquisition equipment, electrical panels, annunciator, vibration system, automated voltage regulator, governor and speed controller, switchyard circuit breakers, and other improvements to extend the service life and improve reliability.

Willits Street Pressure Control Structure

The Willits Street Pressure Control Structure (PCS), located in the city of Santa Ana, was built in 1944. This pressure control structure located on the Orange County feeder regulates pressure and conveys treated water to the Irvine Regulating Structure. This PCS is an underground structure consisting of three parallel trains of pressure control valves. At full capacity, two trains are in operation while the third train acts as a stand-by. The existing structure is congested and does not provide suitable access for maintenance, repairs or the replacement of valves. The maintenance access was impacted during street widening that required the size of the structure to be reduced. The modified structure configuration does not have a lifting mechanism to remove or transport these valves out of the structure for replacement or repairs. Additionally, the existing catwalk does not have adequate coverage. This project will construct a new pressure control structure to replace the existing Willits street PCS located on the Orange County Feeder. The work includes a new concrete substructure, relocating and replacing the control and isolation valves, new sampling connections for water quality, and all necessary electrical and ventilation equipment. Once the new structure is complete, the older structure will be abandoned, and the pipeline will be attached to the new structure during a brief outage.

Yorba Linda PCS Rehabilitation

The Yorba Linda Pressure Control Structure (PCS) was constructed in 1975 and controls pressure on the Yorba Linda Feeder prior to the influent flow reaching the Diemer plant. A recent inspection of the facility revealed extensive corrosion at the sleeve valves, damage and failure of mortar lining in appurtenant piping, observed damage to the valve body seat on the butterfly valves, and inadequate cathodic protection. This project will rehabilitate this PCS to restore reliability. This is a new project for this budget cycle.

Yorba Linda Power Plant Improvements

The Yorba Linda Power Plant is located on the Yorba Linda Feeder at the inlet to the Diemer plant and can generate up to 5 megawatts. Installation of a new turbine generator was completed in November 2015, and generator enclosure in May 2020. This project will improve emergency shutdown, alarm, and public address systems; and upgrade Human Machine Interface (HMI) panel to improve reliability and safety of the plant operation by replacing the existing shutdown system that requires operator intervention that could cause undesired pipeline pressure surges to a redundant and automated system that will engage in the event of wicket gate closing system failure. Extension of the Diemer plant's public announcement system into the Yorba Linda Power Plant and addition a new alarm system in key locations will enhance personnel safety and improve operator's response time. This project will also install a new wicket gate drive system and rehabilitate the turbine shutoff valve actuator system.

Pipelines, Tunnels, Canals Project Group

Casa Loma Siphon Barrel No. 1 Seismic Retrofit

In November 2016, leaks were detected on Barrel No. 1 of the Casa Loma Siphon. It was determined that the pipe has had significant horizontal and vertical movements. The leaks do not immediately jeopardize the structural integrity of the aqueduct but if repairs are not performed, the continued leakage over time could erode soil, undermine the siphon, and cause damage to the siphon structures. The Casa Loma Siphon Barrel No. 1 is vital to Metropolitan's conveyance system moving water from the desert pumping plants to Lake Mathews. The work is conducted in two stages. Under Stage 1, internal seals were installed on 13 joints as an interim measure to address the leaks. These repairs were completed in February 2017, during a planned shutdown of the CRA. Stage 2 will permanently repair the pipe joints within the siphon by replacing 148-inch diameter steel and concrete pipe segments that cross the Casa Loma Fault zone with two parallel barrels of 104-inch diameter earthquake resistant ductile iron pipe segments and steel pipe, which will accommodate relatively large ground displacements from an earthquake and the ongoing ground settlement.

Casa Loma Siphon No. 1 and San Jacinto Pipeline Protection

The Casa Loma Siphon No. 1 and the San Jacinto Pipeline cross the San Jacinto River in Hemet, CA. The river experiences periodic high flows during severe storms, exposing the pipelines at the river crossing to damage due to exposure, undermining, or flotation. The scope of the project is to construct a weighted protective cover system, consisting of cable-connected articulated concrete blocks, spanning approximately 200 feet in length over Casa Loma Siphon No. 1 and the San Jacinto Pipeline. This project will enhance infrastructure safety, security, and resiliency, and will improve the reliability of water deliveries.

Etiwanda Pipeline (South) Protection - Sta. 332+00 to 349+00

The City of Rancho Cucamonga is planning to construct a grade separation on Etiwanda Avenue where the Etiwanda Pipeline is located, south of the Etiwanda Reservoir near the tie-in point to the Upper Feeder. Metropolitan is required to either relocate or protect its pipeline, at its own expense, to allow for improvements by the City. The option to protect the pipeline was selected over the relocation option due to time constraints imposed by the grade separation project. The City will install cast-in drilled hole piles (CIDH) in isolation casing within the main bridge span to protect the pipeline. Metropolitan is responsible for the cost of the City's relocation of rectifier and electrical service cabinets, underground conduits, electrolysis test stations, anode well, and patrol road to access manholes; modification of manholes and vent piping for flowmeters and air release vacuum valves, and sump discharge lines.

Etiwanda Pipeline Lining Replacement

The Etiwanda Pipeline was constructed in 1993 to convey untreated water from the Rialto Pipeline to the Upper Feeder. This 6.4-mile-long welded steel pipeline is 144 inches in diameter. The northern portion of the pipeline, which is 5.4 miles long, conveys high-pressure water to the Etiwanda Power Plant. From that facility, the southern portion of the pipeline continues for one mile to an interconnection with the Upper Feeder. During an internal inspection, staff discovered that approximately 37 percent of the northern portion of the line has missing or delaminated mortar lining. At the present time, the structural integrity of the pipeline remains sound. Over time, however, the loss of mortar lining will expose the pipeline to accelerated rates of corrosion and eventual leakage. This project will remove existing and failing cement mortar lining and install a flexible polyurethane lining system. Stages 1 and 2 of this three-stage project have been completed, and rehabilitation of the remaining 2.5 miles of the middle reach of the feeder will be completed under Stage 3, which will also include installation of 1,200 feet of steel liner.

Lakeview Pipeline Relining

The Lakeview Pipeline was constructed in 1973 to provide water from the East Branch of the State Water Project (SWP) to the Skinner area. Since it was completed, the Lakeview Pipeline has been shut down on numerous occasions to repair leaking joints. The line has experienced significant deformation which has caused leaks at pipe joints and loss of mortar lining. Due to the significant potential for corrosion of the pipeline, and the lack of structural integrity in many locations, permanent repairs should proceed expeditiously. In March 2015, in response to the ongoing state-wide drought, the Stage 1 repairs were completed. This work included lining a one-mile portion of the Lakeview Pipeline known as the Bernasconi Tunnel with a steel liner. In conjunction with the recently completed Lakeview Pipeline/Inland Feeder intertie, this improvement enables up to 200 cubic feet per second (cfs) of water stored in Diamond Valley Lake to be delivered to the Mills plant. Stage 2 construction was completed in May 2021, which relined a 133-inch diameter section of pipe referred to as a “wye” branch near the east portal of the Bernasconi Tunnel and replaced a 60-inch diameter “tee” section of pipe located at the Lake Perris Control Facility. Completion of this stage, up to 120 cfs of water stored in Diamond Valley Lake can be reliably delivered to the Mills plant, while maintaining overall pipeline structural integrity. The Stage 3 work includes lining 3.7 miles of the Lakeview Pipeline between the Inland Feeder’s PC-1 control structure and the Perris Control Facility, along with installation of a 1,000-foot-long reach of 9.5-foot-diameter pipe to bypass the Perris Control Facility. Upon completion of the Stage 3 work, the Lakeview Pipeline will be capable of delivering up to 340 cfs from Devil Canyon through the Inland Feeder to the Mills plant, providing an alternate delivery route to the plant as backup to the Santa Ana Valley Pipeline. The Stage 4 work will include lining the remaining 6.7 miles of the Lakeview Pipeline that extends from PC-1 to the San Diego/ Casa Loma Canal junction structure.

Orange County Feeder Relining

The Orange County Feeder conveys treated water from the Weymouth Water Treatment Plant in La Verne to six member agencies in Los Angeles and Orange Counties. Recent internal inspections of the feeder have identified significant deterioration of the existing coal-tar enamel lining, which is 77 years old. While the pipeline’s structural integrity remains sound at present, the interior lining displays blistering and disbonding, which expose the pipeline to accelerated rates of corrosion and eventual leakage. The lining needs to be repaired in order to maintain long-term reliability of the pipeline.

This project repairs the lining on the 11-mile-long Feeder, which is being accomplished in three stages. Stages 1 and 2 of this three-stage project have been completed. Stage 3 will reline the remaining four miles of the middle reach of the feeder. Stage 3 work includes replacement of the lining, welding of corroded pipe joints, and replacement of deteriorated valves along the feeder.

Rehabilitation of Metallic and Concrete Pipelines Phase 1 - Select High Priority Feeders

Metropolitan's water delivery system consists of 830 miles of pipelines, of which 670 miles are comprised of reinforced concrete, welded steel, and cast-iron pipe. The majority of Metropolitan's non-PCCP lines were installed over 50 years ago. Experience has shown that degradation from corrosion of reinforced concrete and metallic pipelines can often develop undetected. Some of these pipelines are also showing signs of deterioration, as evidenced by several recent lining and joint repair projects (e.g., Etiwanda Pipeline, Orange County Feeder, and Lakeview Pipeline).

Phase 1 for high priority pipelines, including Santa Monica Feeder, Upper Feeder, Lower Feeder, and Middle Feeder, will include a complete risk assessment and prioritization of pipeline inspections, condition assessment of these high priority pipelines using prequalified inspection technologies, and recommendations for inspection technologies to be used for future condition assessments. This project also includes installation of permanent pipeline appurtenances required to access the pipeline and rehabilitation of pipelines to reduce the risk of failure, minimize repair costs, and prevent unplanned shutdowns. During the course of this project, other feeders may be identified and added to the high priority list.

Rialto Pipeline Rehabilitation at Station 2986

The Rialto Pipeline conveys untreated water from Lake Silverwood to the Live Oak Reservoir in La Verne. The pipeline supplies water from the East Branch of the State Water Project to the Weymouth Water Treatment Plant, and directly services three member agencies through 11 service connections. The size of the pipeline ranges in diameter from 96 to 120 inches and is part of the greater Rialto Pipeline System, which includes the Rialto Pipeline, Etiwanda Pipeline, and La Verne Pipeline.

In February 2010, an internal condition assessment of the pipe mortar lining and remote field eddy current inspection of prestressed concrete cylinder portions were performed. One pipe section with significant mortar damage was observed at Station 2986+09 through Station 2986+44, exposing roughly 26 linear feet of steel. This pipe segment was again inspected in December 2018 and 2020 where it was discovered that an entire 30-foot segment of pipe was completely devoid of mortar lining with a significant amount of the exposed steel needing immediate weld repair. This project will perform extensive weld repair of pipe wall and replacement of missing mortar lining. This project will also replace failed pipe spool and isolation valve at CB-11 service connection, eight 72-inch butterfly valve seats at San Dimas Pressure Control Structure, and six lubricated plug valves ranging in size from 4 inches to 16 inches; reconfigure CB-15 service connection to allow blow off discharge and provide access to one blow off and one pump well structure; and install internal pipe seals at San Dimas Pressure Control Structure.

San Diego and Auld Valley Canals Concrete Repairs

The scope of this project is a comprehensive repair of damaged concrete liner within the San Diego and Auld Valley Canals. The repair work will need to be performed during an extended shutdown of the two canals, to the extent that demands, and storage can be accommodated. An extended outage of approximately 30 days will facilitate repair to priority areas and reaches of the canals, will shorten the overall repair timeline, and will reduce the risk of further deterioration. Failure of the liner in either canal will interrupt or reduce raw water deliveries to the Skinner plant and to various downstream member agencies and sub-agencies. The canals are the sole conveyance route for Colorado River water and State Project water to the Skinner plant.

San Diego Pipelines 1 and 2/Rainbow Tunnel Improvements

The San Diego Pipelines 1 and 2 were built in the 1940s and have multiple diameters and pipe materials consisting of steel, precast concrete cylinder pipe, and precast non-cylinder pipe. Some of the steel section have cement mortar lining, the remaining sections all have coal tar lining. The Rainbow Tunnel has an approximate 72-inch diameter, and is horseshoe-shaped. A recent inspection identified sections where the lining needs replacement. Several valves at turnout structures have reached the end of their service lives and require replacement. This project will perform a detailed evaluation of the pipelines and tunnel and appurtenant structures, replace damaged lining, and refurbish or replace other components as needed.

San Diego Pipeline 1 and 2 Station 1214+00 Exposure Repair

On February 14, 2019, the Temecula area experienced heavy and sustained precipitation followed by additional storm events over the 2019-2020 storm season. The resulting accelerated stream flows exposed the buried San Diego Pipeline Nos. 1 and 2 where the pipelines cross an ephemeral stream channel. Emergency repairs were made in October 2020 under an emergency permit from the Regional Water Quality Control Board. As a condition of the permit, a permanent solution for the site must be constructed within two years of the authorization of the emergency permit. This project will develop and construct a permanent erosion control solution for the pipeline exposure on San Diego Pipeline Nos. 1 and 2. This is a new project for this budget cycle.

Santa Monica Feeder Cast Iron Pipe Rehabilitation

The Santa Monica Feeder was constructed in 1941 as part of Metropolitan's original distribution system. The feeder is approximately 25 miles long, with a diameter ranging from 28 inches to 120 inches. The feeder has various reaches comprised of cast iron, welded steel, and reinforced concrete pipe. The Santa Monica Feeder delivers treated water from the Eagle Rock Control Facility in the city of Los Angeles to four member agency service connections before reaching its terminus in the city of Santa Monica. This project will assess the condition of the cast iron portion of the Santa Monica Feeder using emerging inspection technologies. The cast iron portion of the pipeline is eight miles in length and located between the Hollywood Tunnel North Portal to the Santa Monica Feeder terminus near the Santa Monica Service Connection SMN-01. This is the last section of cast iron pipe in Metropolitan's distribution system. The assessment is anticipated to include leak detection, pipe wall thickness inspection, and internal seal installation by contractor for joint repairs as needed. Following the condition assessment, a long-term plan will be prepared to monitor, and replace and/or rehabilitate the Santa Monica Feeder cast iron pipe. In anticipation of potential prolonged outages, various operational modes will be investigated and designed to maintain reliable flow to service connections. Also, hydraulic and structural analyses will be performed on the pipeline with design recommendations to address various operational conditions and scenarios such as, seismic events and pressure surge episodes.

Upper Feeder - Lining Replacement at the Santa Ana River Bridge

The Upper Feeder was constructed between 1933 and 1941 with a 116-inch-diameter steel pipe and lined with coal tar enamel liner (CTE). This portion of the Upper Feeder is located above ground and crosses the river bed via a bridge. Exposure to the sun subjects the pipeline to a thermal cycle that is continuous heating and cooling of the pipe material. Over the past seven years, staff have performed inspections on this segment of the Upper Feeder and determined that approximately 90% of the pipe's internal lining has failed. Mild to moderate pitting on the interior of the pipe indicate rust tuberculation and corrosion. This project will reline approximately 1,000 feet of the 116-inch diameter pipeline with an approved liner material.

Distribution System - Other Project Group

Chloramine Booster Station at Three Locations within the Treated Water Distribution Systems

Metropolitan uses chloramines, formed by combining chlorine and ammonia, as a disinfectant in our distribution systems. Internal research has determined the most effective chloramine concentration to prevent microbial growth at low flow conditions. Addition of chlorine and liquid ammonium sulfate (LAS) in the treated water distribution systems will allow the total chlorine residual within the distribution system to be maintained at or above 1.8 mg/L, especially during low demand periods. LAS is recommended instead of aqueous ammonia because LAS has fewer regulatory requirements, as well as lower construction and operating costs. The project will determine the three optimum locations to install: (1) sodium hypochlorite and LAS tanks, (2) feed pumps and appurtenances, (3) piping, and (4) instrumentation and control systems to ensure the safety and reliability of the feed systems.

Cone Camp Intertie Bypass Rehabilitation

This project will rehabilitate the Cone Camp Intertie including the existing 24-inch bypass pipe around the 78-inch butterfly valve. Work may include replacement of the 24-inch bypass pipe and associated valves, and other features necessary to support the bypass operation. The Cone Camp Intertie was constructed in 2002 as a part of the Inland Feeder Highland Pipeline to allow the Inland Feeder to receive State Project Water (SPW) through San Bernardino Valley Municipal Water District (SBVMWD) Foothill Pipeline. At the intertie, a bypass pipeline is used to equalize pressure on both sides of the 78-inch butterfly shutoff valve prior to operating the valve. This bypass pipeline has been taken out of service due to pinhole leaks caused by microbiological corrosion due to stagnant water. Although normal operation of the Inland Feeder does not require the intertie, the intertie may be used to convey water for the Inland Feeder when Devil Canyon 2nd afterbay is offline. This is a new project for this budget cycle.

Diamond Valley Lake and Skinner Area Flow Meter Replacement

The flow meters at the Diamond Valley Lake (DVL) Inlet/Outlet Tower, DVL Connection Canal, DVL Secondary Inlet, Cabazon Radial Gate Facility, Lake Skinner Inlet, and DVL North and South siphons are critical to operation of Metropolitan's distribution network in the vicinity of DVL and the Skinner Plant. This project will either replace or refurbish these aging flow meters making them either new or like-new. This is a new project for this budget cycle.

Diamond Valley Lake Crane Rehabilitation

The scope of the project is to rehabilitate the 25-ton gantry crane at the Diamond Valley Lake Inlet/Outlet Tower. The project will also include a study to evaluate the possibility of increasing the crane capacity to enable it to be used as an alternative lifting device for the emergency drop gate in the event of a failure of the drop gate's normal hydraulic lifting system. This project will enhance infrastructure safety, security, and resiliency, and will enhance the reliability of water deliveries.

Diamond Valley Lake Oxygenation System

This project will construct a liquid oxygen (LOX) storage and feed system at Diamond Valley Lake to improve water quality, reduce impacts of cyanobacterial blooms, and maintain operational flexibility to ensure reliable and high-quality water deliveries under drought and emergency conditions. The LOX system will maintain oxygenated conditions in the deeper waters of DVL and prevent the formation of reduced compounds (sulfides, metals) that interfere with water treatment processes. This will allow for high-quality water to be released from the reservoir year-round. The system consists of: (1) a LOX tank; (2) evaporators to convert LOX to gas; (3) supply lines to deliver oxygen; (4) diffusers to mix the oxygen; and (5) a control system to regulate oxygen flow. Also, a cost benefit analysis will be performed during the early stage of the project to compare the life-cycle cost of purchasing LOX from a vendor versus installing a LOX generation facility at DVL.

Diamond Valley Lake Forebay Concrete Joint Seal Replacement

The concrete joint seals in the Diamond Valley Lake (DVL) Forebay have been in service for over 20 years and have far exceeded the typical service life of two to five years. Division of Safety of Dams (DSOD) had previously directed Metropolitan to address seal replacement at the DVL Spillway; that replacement was completed in 2018. Based on a Metropolitan inspection in July 2018, the Forebay seals are in similar condition to the Spillway seals. This project will remove deteriorated and de-bonded joint seals at the DVL Forebay (approximately 150,000 linear feet), and replace with a new, cost-effective and high-performance MWD-approved sealant.

East Lake Skinner Bypass & Bypass No. 2 Screening Structure Upgrade

The East Lake Skinner Bypass Slide Gates were built 54 years ago in 1967 and are in need of rehabilitation. The gates are binding during operation which is rendering them inoperable. In addition, the East Lake Skinner Bypass Afterbay Trash Rack needs to be replaced with a new stainless-steel rack to minimize the corrosion which caused the existing galvanized material to collapse under the weight of a severe algae bloom during bypass operations. The scope of work consists of reconditioning three of the East Lake Skinner Bypass Slide Gates, and to replace the East Lake Skinner Bypass Afterbay trash rack which is severely corroded and partially collapsed. In addition, this project will modify the East Lake Skinner Bypass Algae Screening Mechanisms Discharge Piping to bypass the Algae Shakers and upgrade the Lake Skinner Bypass No. 2 Forebay Trash Rack Lifting Mechanisms.

East Orange County Feeder No. 2 Seismic Retrofit at Diemer Water Treatment Plant

A recent assessment identified a slope near the south-western pad at the Diemer plant as having the potential to damage the East Orange County Feeder No. 2 pipeline during a significant earthquake. This structure requires further analysis to ensure that it meets Metropolitan's current structural standards and the facility is reliable in the event of seismic activity. This project will assess, design, and complete seismic retrofit construction near the south-western pad at the Diemer plant.

Garvey Reservoir Drainage & Erosion Control Improvements

Garvey Reservoir was constructed in 1954 as a component of the Middle Feeder system. The reservoir receives treated water from the Weymouth plant and has a maximum storage volume of 1,600 acre-feet. The reservoir is located within the city of Monterey Park on a hill that is surrounded on the west and south by residential properties that are lower in elevation. During significant storm events, surface runoff collects and flows downhill through improved drainage systems and natural drainage courses to Metropolitan's property boundaries. Connecting off-site drainage systems that were constructed by developers more than 52 years ago do not meet current minimum design standards and have deteriorated over time. Recognizing the mutual benefit of addressing runoff issues from the reservoir, Metropolitan entered into an agreement with the city of Monterey Park to implement drainage and erosion control improvements both within Metropolitan's property, and improvements to drainage in city streets. There are 11 geographically defined drainage zones at Garvey Reservoir to be mitigated. Zones 1 to 5 have been completed and zones 6, 7, 8, 10, and 11 are in construction. Improvements for drainage zone 9, the final drainage zone, are under discussion with the city.

Garvey Reservoir Sodium Hypochlorite Feed System Upgrades

Upgrades to the sodium hypochlorite feed system at Garvey Reservoir are needed to maintain treated water quality within the Central Pool portion of Metropolitan's distribution system. The existing hypochlorite system has exceeded its expected service life and has deteriorated over time, requiring frequent repairs. Failure of the chemical feed system would negatively affect water quality within the distribution system by not maintaining minimum chlorine residual. This project will replace the current hypochlorite system with new valves, piping, electrical systems, and instrumentation and updated controls that will allow both automated and remote control of the chemical feed system.

Lake Mathews Aboveground Storage Tank Replacement

The Lake Mathews existing diesel aboveground storage tank does not conform to current regulations and needs to be removed from service. In its present condition, the tank cannot be operated in a safe manner. The Lake Mathews Spill Prevention Countermeasure and Control Plan cannot be certified as long as the diesel aboveground storage tank remains in service. This project will replace the existing 10,000-gallon diesel fuel aboveground storage tank (AST) with its associated containment dike, venting, fill system, level monitoring, fuel dispensing system, catwalk, and continuous release detection system with a new 6,000-gallon AST system, and design and construct a roof over the storage tank containment and unloading area. This project will also install an eyewash station.

Lake Mathews Electrical Reliability

The existing electrical distribution system at Lake Mathews constructed during the 1930s needs to be upgraded for reliability. This system has been in service for over 77 years and serves the lake's outlet towers and junction shaft, hydroelectric plant, forebay, chlorination system, administrative offices, and maintenance and repair shops. The electrical distribution system is outdated, has experienced numerous overloads, and lacks capacity for planned additional equipment. The system needs to be upgraded to maintain reliability and meet future power demands. This project will evaluate and upgrade power distribution system, which may include use of alternate medium power distribution voltage (4.16 kV) in line with other Metropolitan facilities, underground and overhead power lines and condition of electrical poles, voltage stability for all facilities, the ability to isolate feeders to provide selective isolation and safer maintenance, and emergency generators capability to provide adequate backup. This project also plans to integrate the upgraded electrical system with Metropolitan's system-wide supervisory control and data acquisition system.

Lake Mathews Perimeter Fencing Upgrade

Lake Mathews is the terminus of the CRA. Water is stored in Lake Mathews Reservoir, withdrawn through the lake's main outlet towers into the forebay, and is then conveyed through the Upper Feeder and Lower Feeder to the Weymouth and Diemer plants, respectively. The existing chain link fencing along the approximately 15-mile perimeter of the Lake Mathews facility has deteriorated and is ineffective at preventing intrusions. The fencing can be easily cut, resulting in an increase in break-ins and illegal dumping through the fencing. This project will replace the existing five-foot tall chain link fencing with eight-foot tall, anti-cut, anti-climb security fencing, constructed of steel or wrought iron. This project will enhance infrastructure safety, security, and resiliency, and will improve security and emergency response.

Lake Mathews Sodium Hypochlorite Injection System

Update and redesign the Lake Mathews sodium hypochlorite injection system to relocate the injection point to a location that will minimize the impacts of chlorine injection on the forebay and appurtenant structures. The design will also consider effective Quagga Mussel control, enhancing safety and reliability of the injection system, and adherence to water quality goals and requirements. The project will develop options to replace the existing interim sodium hypochlorite system at the Lake Mathews Forebay with a system at Lake Mathews Outlet Tower No. 1 and Outlet Tower No. 2, and to provide continuous chemical injections from the towers through the Lake Mathews Forebay, Power Plant, and into the Upper and Lower Feeders.

Lake Skinner Oxygenation System

Lake Skinner is subject to seasonal thermal stratification when the lake water temperature prevents mixing of vertical layers resulting in anaerobic conditions and cyanobacteria blooms. These conditions in the lake can ultimately affect water treatment operations and the quality of the finished drinking water due to taste and odor compounds and sometimes cyanotoxins produced by the cyanobacteria. Lake Skinner currently has a compressor-based aeration system that pumps air to the bottom of the lake in an attempt to mix the water and prevent the thermal stratification but the system is undersized and has been at times, ineffective. This project will construct a hypolimnetic oxygenation system at Lake Skinner including an oxygen supply or liquid oxygen facilities, an anchored diffuser piping assembly in the lake, and associated electrical modifications to improve water quality conditions in Lake Skinner and ensure water supply reliability. This is a new project for this budget cycle.

Lake Skinner West Bypass Screening Structure Rehabilitation

The San Diego Canal West Bypass Screening Structure is located at the terminus of the San Diego Canal and is the starting point for water which bypasses Lake Skinner to downstream users. The bypass screening structure is fitted with an electrically powered revolving screen extending across the channel, which dips into the channel to intercept and collect algae mats and other floating debris. This system prevents algae mats and other debris from entering the treatment plant or member agency water systems via the bypass pipelines. The screening equipment was installed in the 1960s and has now been removed due to operational difficulties. The concrete support structure for the screening equipment constricts flow entering the bypass pipeline and canal must be operated near spill elevation in order to achieve the maximum flow of 280 cfs in the canal/pipeline under current conditions. This project will demolish the concrete support structure for the bypass screening structure to remove the flow constriction point and replace the deteriorated trash rack located upstream of the bypass pipeline entrance.

Live Oak Reservoir Bypass Pipeline Cathodic Protection

Constructed in 1973, the Live Oak Reservoir Bypass, Inlet, and Outlet Pipelines are dielectrically coated welded steel pipelines with a diameter of 97 inches and are approximately 0.6 miles long. The 24-inch dielectrically coated Desilting pipeline ties in to the Outlet pipeline, crosses the Bypass pipeline and is approximately 800 feet long. The Live Oak Reservoir Bypass connects the prestressed reaches of the Rialto Pipeline to the east and the west. The pipeline is one of the few reaches of welded steel pipe that is not yet cathodically protected. A failure of the Live Oak Reservoir Bypass would inhibit Metropolitan's ability to convey water through its system and potentially disrupt Metropolitan's ability to deliver water to several member agencies. The scope of work is to design and install a comprehensive cathodic protection system in the Live Oak Reservoir Bypass.

Lower Feeder Air Entrainment Improvement

When operated at flows higher than 300 cfs, air becomes entrained in the water traveling through the Lower Feeder due to large elevation drops within the conveyance system. When coagulant is added to this inflowing water in the rapid mixers at the Diemer plant, the result is clusters of floating foam mats on the water surface in the coagulation and sedimentation basins which causes operational, maintenance, and aesthetic concerns. Entrained air also increases filter run time. This project will reduce or eliminate entrained air through modifications and addition of components along the Lower Feeder including at the Corona and Temescal power plants, pressure control structures, pipelines, air stacks, and air release/vacuum valves. This is a new project for this budget cycle.

Lower Feeder Cathodic Protection System Rehabilitation

The existing cathodic protection systems for the Lower Feeder were installed in 1995. Recent surveys of the existing systems have indicated that they are no longer providing adequate protection due to gradual deterioration of their anodes. This project will rehabilitate or replace the equipment, such as impressed-current anode wells and rectifiers; and remove existing equipment as required by law. This is a new project for this budget cycle.

Middle Feeder North Drainage and Protection Restoration

The Middle Feeder North from Station 1067+00 to Station 1071+00 lies within both a Metropolitan fee parcel and easements between Graves Avenue and Mooney Drive in the unincorporated Los Angeles County community of South San Gabriel. A recent visual inspection and survey of the area determined that the current soil cover over the feeder has eroded to less than design minimums. This project will restore the design soil cover over Middle Feeder North conduit and improve drainage features to preclude this problem in the future. This is a new project for this budget cycle.

Orange County Feeder Cathodic Protection System Rehabilitation

The Orange County Feeder conveys treated water from the F. E. Weymouth Water Treatment Plant in La Verne to its terminus at service connection CM-1 in Newport Beach. The feeder is approximately 41 miles long and was installed in 1942. The feeder consists of approximately 21 miles of welded and un-bonded steel pipe, 19 miles of precast concrete pipe, and one mile of prestressed concrete cylinder pipe. Previously, cathodic protection could not be effectively applied to the subject reach; however, recent pipeline rehabilitation has made cathodic protection a viable option to prevent external corrosion and thus prevent future pipe leaks. The first three locations that were identified during the routine testing, which were no longer providing corrosion protection to the pipeline, have been replaced. This project will install a new cathodic protection system on the remaining portion of Orange County Feeder to protect approximately 11.2 miles of feeder. The scope of work includes design and installation

Orange County Feeder Dewatering Improvements

The Orange County Feeder originates at the Weymouth plant in La Verne and extends south for 41 miles to its terminus in the City of Newport Beach. Operations staff struggles with dewatering the pipeline due to development-driven relocations and aging infrastructure. This project will perform the analyses, equipment and facility modifications, and documentation to facilitate future pipe dewatering operations. This is a new project for this budget cycle.

Palos Verdes Reservoir Sodium Hypochlorite Storage and Chemical Feed System and Security Upgrades

This project will replace the 12,000-gallon fiber-reinforced plastic (FRP) sodium hypochlorite (NaOCl) storage tank and appurtenant fittings at the Palos Verdes Reservoir (PVR). The existing FRP tank, manufactured in 1992, is well past its recommended service life of 6-10 years. The FRP tank will be replaced with two 6,000-gallon titanium tanks, which are designed to last 50-70 years and do not corrode in the presence of sodium hypochlorite. Further, modifications to the tank farm feed systems are required to meet revised minimum flow and dosage requirements recently directed by Water Quality and Member Agency demands. Lastly, security cameras will also be added around the PVR facility in order to provide increased security monitoring.

Prevention of CRA Water Migration to SPW at Weymouth Junction Structure

Recently, quagga mussel veligers were discovered at the USG-03 service connection necessitating coordination with local water agencies and implementation of a control and mitigation plan. The affected areas were flushed and chlorinated, groundwater recharge basins were desiccated, and no additional veligers were found. It was determined that Colorado River Water (CRW) was able to inadvertently migrate through the Weymouth Water Treatment Plant (WTP) Junction Structure's sectionalizing valves into the La Verne Pipeline and travel through the Glendora tunnel to service connection USG-03. This project will install pressure monitoring devices connected to nearby existing Remote Terminal Units at key locations along the La Verne Pipeline. Pressure ranges and set points for alarms will be determined in order to provide adequate time for operations and field staff to respond to abnormal conditions in the system to detect CRA water intrusion. This project would minimize the potential for CRW to enter unaffected facilities that normally move State Water Project (SWP). This is a new project for this budget cycle.

Rialto Pipeline Cathodic Protection System Rehabilitation

The existing cathodic protection systems for Rialto Pipeline were installed between 1988 and 1995. Recent surveys of the existing systems have indicated that they are no longer providing adequate protection due to gradual deterioration of their anodes. This project will rehabilitate or replace the equipment such as impressed-current anode wells and rectifiers; and remove existing equipment as required by law. This is a new project for this budget cycle.

Santa Ana River Discharge Pad - Upper Feeder

Severe storm events eroded the north slope of the Santa Ana River near the Upper Feeder crossing. This damage resulted in large voids in the riverbank to the footing supporting the bridge span and the foundation of the emergency discharge bunker valve. The damage was repaired, and a recommendation was made during the repair to construct a concrete pad to prevent a reoccurrence of this type of damage. This project will construct a concrete discharging pad to prevent erosion from storms and discharge from the bunker valve.

San Gabriel Tower and Spillway Improvements

The San Gabriel Tower (SGT), 86-foot-tall free-standing with a 24-foot by 14-foot rectangular base, was constructed in 1936, north of the city of Azusa. It sits at the base of the steep and weathered San Gabriel Mountains, between the west portal of Monrovia Tunnel No. 1 and the east portal of Monrovia Tunnel No. 2. The tower is surrounded by Angeles National Forest and is adjacent to Morris Reservoir. The function of the SGT is to regulate and isolate flows from the Weymouth plant via the Upper Feeder pipeline to the Eagle Rock Control Facility located in the city of Los Angeles. It is situated between two active faults, the Sawpit and the Sierra Madre faults, which are both capable of generating a magnitude 6.5 earthquake. While the tower was designed and constructed to the codes and standards in place during the 1930s, significant advancements have been made since that time in predicting the response and performance of structures as a result of seismic ground shaking. Planned upgrades to the San Gabriel Tower include: (1) reducing the height of the tower to increase its structural stability; (2) replacing the slide gates and actuators to restore isolation capability for the Upper Feeder; (3) improving access to the tower and spillway, including the river crossing; (4) repairing the spillway's concrete; (5) stabilizing the adjacent rocky slope; and (6) installing a barrier such as new fencing or protective screen to prevent animal entry into the spillway. This project will also evaluate and repair the Morris Dam connection, which includes large needle and isolation butterfly valves, and evaluate condition of the conical plug valve at groundwater replenishment connection USG-03 before deciding to upgrade to control valves or installation of a crane system that allows safe installation of the various orifice plates to control flow.

Santa Monica Feeder Cathodic Protection

The Santa Monica Feeder is a mortar coated welded steel pipeline with a diameter of 49-inches and is approximately 4.25 miles long. The pipeline is one of the few reaches of welded steel pipe that is not yet cathodically protected. A failure of the Santa Monica Feeder would inhibit Metropolitan's ability to convey water through its system and potentially disrupt Metropolitan's ability to deliver water to several member agencies. The scope of work is to design and install a comprehensive cathodic protection system in the Santa Monica Feeder.

Santiago Control Tower Seismic Improvements

The Santiago Control Tower acts as a control and diversion facility for water supplied to the Santiago Lateral pipeline, the Santiago Lateral Spillway Discharge Pipeline, and the Lower Feeder pipeline. This project will evaluate the Santiago Control Tower's ability to resist expected seismic forces based on the latest geotechnical and geological considerations and retrofit the tower. A detailed geotechnical analysis is required to determine the structure's interaction with surrounding soil and analyze the soil stability of the structure. The structure is located close proximity to the Whittier Fault on a raised area adjacent to a slope.

Skinner Bypass Pipelines Cathodic Protection

The Lake Skinner Bypass Pipeline # 1 (97-inch diameter), Lake Skinner Bypass Pipeline #3 (49-inch diameter), and Skinner Plant effluent Conduit # 1 (7-inch diameter) alignments have portions traversing inside and outside of the Skinner Treatment Plant property. The three pipelines are dielectrically coated steel pipelines. The original impressed current cathodic protection system was installed in 1980. The system was turned off as concerns emerged about exposing prestressed pipelines to cathodic protection. In addition, several modifications to the pipelines made the existing system unsuitable for the present pipeline configurations. The existing cathodic protection system requires full rehabilitation to adequately protect the pipeline from corrosion. A failure of the feeders would inhibit Metropolitan's ability to convey water through its system and potentially disrupt Metropolitan's ability to deliver water to several member agencies. The scope of work is to design and install a comprehensive cathodic protection system in the feeders.

Soto St. Facility - Security & HVAC Replacement

The Soto Street Facility serves as the main headquarters for staff and equipment that support the Western Region Unit (WRU) Conveyance and Distribution System. The WRU Incident Command Post, located in the Administration Building, also serves as the backup Emergency Operations Center for the Eagle Rock Operations Center. The Soto Street Facility currently has two layers of access control protection during business hours: a single card reader at the outer vehicle gate, and a single contracted security guard. During periodic foot patrols of the facility, the access gate is left unmanned. In addition, the alarm system is currently inoperable, and there are no access card readers on any of the exterior building doors, which remain unlocked during business hours. There have been recent multiple security events at this facility. Finally, the existing air handling unit that serves the Soto Street Administration Building has been in service since the 1960s, when the building had a different configuration. The current HVAC system does not provide adequate airflow to all parts of the building.

This project will improve the security of the Soto Street Facility by adding access card readers and security cameras, providing security lamination to glass doors and windows, providing a fenced secure outdoor storage yard, replacing the alarm system, and upgrading the HVAC system for the Administration Building.

Upper Feeder Blow Off Structure Replacement

Blow-off structures provide a means to completely drain a pipeline for emergencies, inspections, repairs, and general maintenance. The Upper Feeder Blow-Off Structure, located in the city of Sierra Madre, discharges the Upper Feeder directly into the Little Santa Anita Wash. The valves and piping in this structure have been in service for almost 80 years and have reached the end of their service life. One valve is stuck in the closed position, and another is experiencing leakage. In addition to a variety of different sizes and configurations of pipe within the structure, the structure itself does not comply with some of the safety and design features of more modern structures. This project will replace and enhance the Upper Feeder Blow-Off Structure in order to ensure reliable dewatering capability and comply with OSHA standards. The work includes but is not limited to replacement of manhole, access ladder, and various valves and valve stem extensions; and addition of various pipe couplings, various valves, pumps, pipes, and catwalk platforms.

Wadsworth Pumping Plant Stop Logs

The Wadsworth Pumping Plant was built with 12 pump/generation units. Units 1, 5, and 9 were decommissioned to allow DVL generation to be certified as "renewable energy" by the California Energy Commission. Hydroelectric plants are required to have a nameplate capacity of 30 MW or less to be certified. At 3.3MW per unit, the nine remaining units provide a generation capacity of 29.7MW. Generated energy must be certified renewable for electric utilities to meet the requirement that 33% of their energy come from renewable resources by 2020. The stop logs would provide a means to isolate the three decommissioned pumps from the DVL forebay keeping them out of the water and dry. Isolating the pumps from water contact reduces corrosion damage to the pumps and provides flexibility in the event pump/generation units need to be re-commissioned or repaired. This project will fabricate three sets of stop logs to isolate three decommissioned Wadsworth plant generation/pumping units from the forebay. Each set of stop logs consists of three stop log sections, for a total of nine sections of stop logs to isolate three pump units.

Wadsworth Pumping Plant Fire Protection System Upgrades

The Wadsworth Pumping Plant is located near Hemet at Metropolitan's Diamond Valley Lake (DVL). The pumping plant includes 12 vertical turbine pumps that are used to pump water into DVL or to generate electricity when water flows out of DVL into the forebay/San Diego Canal. Each pump/generator has a dedicated CO2 fire suppression system to prevent fires from spreading from one unit to another. However, the system is designed so that if the fire suppression system is inactive, the pump/generator will not operate. Some components of the current fire suppression system and control panels have been in service for almost 22 years and need to be replaced. In addition, the fire alarm system for the Wadsworth building is antiquated, and replacement parts are no longer available. This project will upgrade Wadsworth's fire suppression system by: (1) replacing the existing individual CO2 fire suppression systems for the operational vertical turbine pumps, and (2) upgrading the Wadsworth building fire alarm system.

West Orange County Feeder Cathodic Protection

The West Orange County Feeder (WOCF) was constructed in 1956, and is mortar and dielectrically coated welded steel pipeline with a diameter of 43-inches and 55-inches. The pipeline is approximately 13 miles long. The WOCF connects to the cathodically protected Orange County Feeder (OCF), prestressed and steel reaches of the Second Lower Feeder (SLF), and the cathodically protected Lower Feeder (LF). The pipeline is one of the few reaches of welded steel pipe that is not yet cathodically protected. A failure of the WOCF would inhibit Metropolitan's ability to convey water through its system and potentially disrupt Metropolitan's ability to deliver water. The scope of work is to design and install a comprehensive cathodic protection system in the WOCF.

Western Conveyance and Distribution Region - Blind Flange Structures Washdown Improvements

Currently, a substantial number of blind flange pipeline access and turn-out structures in the western conveyance and distribution region do not have an accessible and reliable water connection for washdown of piping, valves, and equipment during preventive maintenance. This project will modify or enhance structures that contain blind flanges to provide washdown capabilities. This is a new project for this budget cycle.

District Housing and Property Improvements Program

Fiscal Year 2022/23 Estimate: \$12.0 million

Fiscal Year 2023/24 Estimate: \$15.7 million

Program Information: The District Housing & Property Improvements Program is comprised of projects to refurbish or upgrade workforce housing at Metropolitan to enhance living conditions to attract and retain skilled employees.

Accomplishments for FY 2020/21 and FY 2021/22

- New projects initiated:
 - CRA Kitchen and Lodging Improvements

- Major milestones achieved:
 - CRA Kitchen and Lodging Improvements – conceptual study and preliminary design completed
 - District Housing Property Improvements – assessments, conceptual and relocation studies, and preliminary design completed
 - Employee Village Enhancement - master planning, study and preliminary design for Gene, Iron Mountain, Eagle Mountain, and Hinds Pumping Plants completed

Objectives for FYs 2022/23 and 2023/24

Project	Total Project Estimate	Estimated Construction Completion	Major Milestones
CRA Kitchen and Lodging Improvements	\$ 19,000,000	2027	Begin construction at Eagle and Iron Mountain pumping plants
District Housing Improvements	\$ 72,000,000	2027	Begin construction at Gene, Iron Mountain, Eagle Mountain, and Hinds pumping plants
Employee Village Enhancement	\$ 44,000,000	2027	Begin construction at Gene, Iron Mountain, Eagle Mountain, and Hinds pumping plants

Housing & Property Improvements Project Group

CRA Kitchen and Lodging Improvements

Eagle Mountain and Iron Mountain Pumping Plants have kitchens and guest lodges that are used by staff during shutdowns and construction projects, and during extended periods of condition assessments and design of rehabilitation work. These facilities will be used frequently over the next decade as the planned rehabilitation of the 45 main CRA pumps moves forward.

The kitchen at Iron Mountain Pumping Plant has been in service for decades and while still functioning, its equipment is deteriorated and obsolete. The kitchen at Eagle Mountain Pumping Plant does not currently meet San Bernardino County Health Services' requirements for large-scale food storage, refrigeration, or handling. As a result, it has been removed from service. The 10-room guest lodge at Eagle Mountain Pumping Plant and the 16-room guest lodge at Iron Mountain Pumping Plant have both deteriorated after more than 42 years of service and require frequent short-term repairs.

An initial assessment discovered that replacement of these facilities would be more economical since renovation would require significant seismic, electrical, plumbing, and roofing upgrades to meet current codes. This project will replace the kitchen and lodge facilities with new buildings with higher capacity in preparation of increasing work to upkeep the facilities out in the desert to maintain the CRA conveyance system reliability.

District Housing Improvements

Metropolitan owns 99 houses throughout the five CRA pumping plants and rents to employees involved in operation and maintenance of the CRA. A pilot renovation of 11 houses was completed in 2019 and construction of ten new houses was completed in 2018. In the same year, the Board authorized an assessment to determine whether the best course forward was to replace or renovate the remaining 78 houses. The assessment revealed that replacement of the houses was the best option. In addition, a recent housing analysis determined that only 75 of 78 remaining houses need to be replaced at four of the five pumping plants along with construction of two maintenance and two storage buildings, one each at Eagle Mountain and Iron Mountain Pumping Plants, to support the long-term corrective and preventative maintenance activities after the houses have been replaced.

Employee Village Enhancement

Metropolitan owns houses throughout the five CRA pumping plants and rents to employees involved in operation and maintenance of the CRA. In addition, due to the remote location of the pumping plants, each of the pumping plants has an employee village to provide a sense of community and offer the residents a space away from the work areas. Amenities such as swimming pool and tennis courts are also part of these villages.

These villages and their current amenities are deteriorating due to the age and exposure to the harsh desert environment. This project will replace and enhance the village amenities at four CRA pumping plants (Hinds, Eagle Mountain, Iron Mountain, and Gene) that would focus on building a vibrant, healthy, and sustainable community for Metropolitan's staff.

Minor Capital Projects Program

Fiscal Year 2022/23 Estimate: \$8.7 million

Fiscal Year 2023/24 Estimate: \$8.0 million

Program Information: The Minor Capital Projects (Minor Cap) Program is comprised of projects, with an estimated cost of less than \$400,000, that require rapid response to address unanticipated failures, safety or regulatory compliance concerns, or to take advantage of shutdown opportunities. The Minor Cap Program authorizes the General Manager to execute projects that meet defined criteria without seeking additional Board approval.

Accomplishments for FY 2020/21 and FY 2021/22

- New projects initiated thru December 2021:
 - Forty-two projects were initiated

- Major milestones achieved thru December 2021:
 - Thirty-five projects were completed

Objectives for FYs 2022/23 and 2023/24

Project	Total Project Estimate	Estimated Construction Completion	Major Milestones
Various projects costing less than the Board approved maximum project cost * *Prior to Fiscal Year 2018/19 - \$250,000 Currently - \$400,000	\$56,000,000 for projects in open and new Minor Cap Appropriations	2027	Complete all projects within 3 years of initiation

Prestressed Concrete Cylinder Pipe (PCCP) Rehabilitation Program

Fiscal Year 2022/23 Estimate: \$51.2 million

Fiscal Year 2023/24 Estimate: \$53.2 million

Program Information: The PCCP Rehabilitation Program is composed of projects to refurbish or upgrade Metropolitan’s PCCP feeders to maintain water deliveries without unplanned shutdowns.

Accomplishments for FY 2020/21 and FY 2021/22

- New projects initiated:
 - Allen-McColloch Pipeline PCCP 2021 Relining

- Major milestones achieved:
 - Completed construction
 - Allen-McColloch Pipeline PCCP 2021 Relining
 - Second Lower Feeder Reach 2
 - Second Lower Feeder Reach 8
 - Completed design
 - Allen-McColloch Pipeline PCCP 2021 Relining
 - Second Lower Feeder Reach 3A
 - Second Lower Feeder Reach 8

Objectives for FYs 2022/23 and 2023/24

Project	Total Project Estimate	Estimated Construction Completion	Major Milestones
Electromagnetic Inspections of PCCP Lines	\$ 10,000,000	Ongoing	Continue inspections in conjunction with pipeline shutdowns
Second Lower Feeder PCCP Rehabilitation - Reach 3A	\$ 26,000,000	2023	Complete construction
Second Lower Feeder PCCP Rehabilitation - Reach 3B	\$ 67,000,000	2024	Begin construction
Sepulveda Feeder PCCP Rehabilitation – Reach 1	\$ 130,000,000	2025	Complete preliminary and final design

Allen McColloch Pipeline Project Group

Allen-McColloch Pipeline PCCP Rehabilitation

The planned rehabilitation work involves lining the existing PCCP segments with steel liner pipe designed as a stand-alone pipeline which can accommodate full internal and external pressures on the line. The project includes restoring the Allen McColloch Pipeline to “As Like New Conditions” as possible. This would include relocation of all air release and vacuum valves (AR/VV) that have not already been relocated above ground and evaluating and possible replacement of sectionalizing, service connection turnout, pumpwell, AR/VV, shutoff, and blowoff valves, etc. In addition, the project includes procurement of any needed permanent or temporary right of way and evaluation and possible replacement or modification of all pressure control structures, master meters, and meter structures.

Calabasas Feeder Project Group

Calabasas Feeder PCCP Rehabilitation

The planned rehabilitation work involves lining the existing PCCP segments with steel liner pipe designed as a stand-alone pipeline which can accommodate full internal and external pressures on the line. The project includes restoring the Calabasas Feeder to “As Like New Conditions” as possible. This would include relocation of all air release and vacuum valves (AR/VV) that have not already been relocated above ground and evaluating and possible replacement of sectionalizing, service connection turnout, pumpwell, AR/VV, shutoff, and blowoff valves, etc. In addition, the project includes procurement of any needed permanent or temporary right of way and evaluation and possible replacement or modification of all pressure control structures, master meters, and meter structures.

Rialto Feeder Project Group

Rialto Pipeline PCCP Rehabilitation

The planned rehabilitation work involves lining the existing PCCP segments with steel liner pipe designed as a stand-alone pipeline which can accommodate full internal and external pressures on the line. The project includes restoring the Rialto Pipeline to “As Like New Conditions” as possible. This would include relocation of all air release and vacuum valves (AR/VV) that have not already been relocated above ground and evaluating and possible replacement of sectionalizing, service connection turnout, pumpwell, AR/VV, shutoff, and blowoff valves, etc. In addition, the project includes procurement of any needed permanent or temporary right of way and evaluation and possible replacement or modification of all pressure control structures, master meters, and meter structures.

Second Lower Feeder Project Group

PCCP Rehabilitation Valve and Equipment Storage Building

For the PCCP Program, staff procures large-diameter isolation valves and other long-lead, critical equipment and material in advance of the start of construction. Advanced procurement helps to prevent potential manufacturing or logistical delays from impacting future construction contracts. These contracts are typically scheduled with pipeline shutdowns that are coordinated with member agencies and local cities years in advance. Procuring valves in advance also ensures that the valves are available in the event of material shortages or to address an unanticipated repair. Suitable facilities are needed to store and maintain the large equipment as they will be delivered to the region over the next two to three years. This project will construct an approximately 18,200 square-foot pre-engineered metal building with a reinforced concrete slab foundation and motorized roll-up doors to protect Metropolitan’s assets, enhance operational flexibility, and reduce risk of project delays for the PCCP Program.

Second Lower Feeder PCCP Rehabilitation

The planned rehabilitation work involves lining the existing PCCP segments with steel liner pipe designed as a stand-alone pipeline which can accommodate full internal and external pressures on the line. The project includes restoring the Second Lower Feeder to “As Like New Conditions” as possible. This would include relocation of all air release and vacuum valves (AR/VV) that have not already been relocated above ground and evaluating, installation of new isolation valve structures, construction of bypasses, and possible replacement of sectionalizing, service connection turnout, pumpwell, AR/VV, shutoff, and blowoff valves, etc. In addition, the project includes procurement of any needed permanent or temporary right of way and evaluation and possible replacement or modification of all pressure control structures, master meters, and meter structures.

Second Lower Feeder Rehabilitation Reach 3 Acoustic Fiber Optic PCCP Monitoring System

Prestressed concrete cylinder pipe (PCCP) is well-known in the waterworks industry to be at risk of sudden failure from loss of strength due to the breaking of pre-stressed wires. The Second Lower Feeder is included in Metropolitan’s list of five PCCP pipelines slated for rehabilitation. Rehabilitation is scheduled to occur over several years to reduce the duration that a portion of the pipeline is out of service, and the work is prioritized based on the condition of the pipe. Shutdown procedures for inspections, such as complete dewatering of Second Lower Feeder, have become increasingly difficult because of operational constraints. This project will design, install, start-up, an innovative monitoring system for wire breaks using an acoustic fiber optic PCCP monitoring system on approximately 5 miles of Second Lower Feeder thereby eliminating the need for staffed pipe inspections. The fiber optic cable system is sensitive to sound that will detect wire breaks. The cable extends to a data acquisition computer that continuously “listens” for the distinct sound of wires breaking. This is a new project for this budget cycle.

Sepulveda Feeder Project Group

Sepulveda Feeder PCCP Rehabilitation

The planned rehabilitation work involves lining the existing PCCP segments with steel liner pipe designed as a stand-alone pipeline which can accommodate full internal and external pressures on the line. The project includes restoring the Sepulveda Feeder to “As Like New Conditions” as possible. This would include relocation of all air release and vacuum valves (AR/VV) that have not already been relocated above ground and evaluating and possible replacement of sectionalizing, service connection turnout, pumpwell, AR/VV, shutoff, and blowoff valves, etc. In addition, the project includes procurement of any needed permanent or temporary right of way and evaluation and possible replacement or modification of all pressure control structures, master meters, and meter structures.

PCCP - Other Project Group

Electromagnetic Inspections of PCCP Lines

All PCCP lines within the distribution system are inspected every three to seven years. The frequency is based on the condition and history of repairs for each feeder. Three cycles of electromagnetic testing have been completed to date on Metropolitan's PCCP feeders. This project will perform the fourth cycle of inspections over the next eight years. Planned activities for the inspections include: scheduling and coordination of shutdowns; conducting the electromagnetic inspections; conducting internal visual inspections; shutting down and dewatering the feeders and returning them to service; analyzing the inspection results; and preparing comprehensive inspection reports.

Foothill Feeder Acoustic Fiber Optic PCCP Monitoring System

Prestressed concrete cylinder pipe (PCCP) is well-known in the waterworks industry to be at risk of sudden failure from loss of strength due to the breaking of pre-stressed wires. Currently, staff must dewater the Foothill Feeder in order to inspect the pipeline's condition manually. The proposed project installs an innovative acoustic fiber optic system that will provide continuous condition monitoring over approximately 11 miles of the Foothill Feeder without having to dewater and enter the pipeline, along with other associated monitoring work. This is a new project for this budget cycle.

West Valley Feeder No 1 PCCP Rehabilitation

An electromagnetic inspection conducted in April 2021 identified an increase in wire breaks since the previous 2014 inspection of the 54-inch Prestressed Concrete Cylinder Pipe (PCCP) portion of the West Valley Feeder No. 1. The planned rehabilitation work involves lining the existing PCCP segments with steel liner pipe designed as a stand-alone pipeline which can accommodate full internal and external pressures on the line and replacing any identified damaged lining in non-PCCP segments. The project includes restoring the West Valley Feeder No. 1 from approximately Station 1277+27.68 to the De Soto Avenue Sectionalizing Structure at Station 1290+16.70 to "as like new condition." This is a new project for this budget cycle.

Regional Recycled Water Program

Fiscal Year 2022/23 Estimate: \$ 3.9 million

Fiscal Year 2023/24 Estimate: \$16.0 million

Program Information: *The Regional Recycled Water Program includes the design and construction of the Advanced Water Treatment Demonstration Plant, which represents the initial step in development of a potential regional recycled water system for recharge of groundwater basins within Southern California. The biennial budget separately includes \$15 million per year for RRWP planning and design costs.*

Accomplishments for FY 2020/21 and FY 2021/22

- Major milestones achieved:
 - Demonstration Plant Direct Potable Reuse Modifications – design initiated

Objectives for FYs 2022/23 and 2023/24

Project	Total Project Estimate	Estimated Construction Completion	Major Milestones
Demonstration Plant Direct Potable Reuse Modifications	\$ 18,000,000	2025	Complete preliminary and final design

Regional Recycled Water - All Project Group

Demonstration Plant Direct Potable Reuse Modifications

Metropolitan's Advanced Water Treatment Plant (AWT) at the Joint Water Pollution Control Plant (JWPCP) in Carson was designed to demonstrate testing of potential treatment processes for Indirect Potable Reuse (IPR) applications. This project will expand Metropolitan's existing process train to accommodate testing of potential Direct Potable Reuse (DPR) treatment options for regulatory acceptance of a DPR treatment train for full-scale implementation, as part of the Regional Recycled Water Program (RRWP). Additional treatment processes will be implemented for chemical use, pathogen inactivation, and testing in accordance with the latest DPR framework provided by the California Division of Drinking Water.

Right-of-Way and Infrastructure Protection Program

Fiscal Year 2022/23 Estimate: \$7.8 million

Fiscal Year 2023/24 Estimate: \$3.8 million

Program Information: The Right-of-Way Infrastructure Protection Program (RWIPP) is comprised of projects to refurbish or upgrade above-ground facilities and right-of-way along Metropolitan’s pipelines in order to address access limitations, erosion-related issues, and security needs.

Accomplishments for FY 2020/21 and FY 2021/22

- Major milestones achieved:
 - Completed preliminary design:
 - Los Angeles Region – Stage 1 Improvements
 - Orange County Region – Stage 3 Improvements
 - Completed final design:
 - Orange County Region - Stage 1 Improvements
 - Western San Bernardino Region – Stage 1 Improvements
 - Completed construction
 - Orange County Region - Stage 1 Improvements

Objectives for FYs 2022/23 and 2023/24

Project	Total Project Estimate	Estimated Construction Completion	Major Milestones
Right-of-Way Infrastructure Protection Program - Western San Bernardino County Operating Region (Stage 1)	\$ 6,700,000	2023	Complete construction
Right-of-Way Infrastructure Protection Program – Los Angeles County Operating Region	\$ 9,300,000	2025	Begin construction of Stage 1

Los Angeles Region Project Group

Right-of-Way & Infrastructure Protection - Los Angeles County Region

This project identifies and addresses right-of-way and security issues; identifies and executes needed improvements within the Los Angeles County Operating Region; prepares environmental documentation; acquires regional programmatic environmental permits; and monitors and reports to permitting agencies for ten years following completion of construction. In order to expeditiously complete this project, sites within this region are grouped and prioritized and staged for construction depending on the site requirements.

Orange County Region Project Group

Right-of-Way & Infrastructure Protection - Orange County Region

This project identifies and addresses right-of-way, access, and security issues; identifies and executes needed improvements within the Orange County Operating Region; prepares environmental documentation; acquires regional programmatic environmental permits; and monitors and reports to permitting agencies for ten years following completion of construction. In order to expeditiously complete this project, sites within this region are grouped and prioritized and staged for construction depending on the site requirements.

Riverside/San Diego Region Project Group

Right-of-Way & Infrastructure Protection Program - Riverside and San Diego County Region

This project identifies and addresses right-of-way, access, and security issues; identifies and executes needed improvements within the Riverside and San Diego County Operating Region; prepares environmental documentation; acquires regional programmatic environmental permits; and monitors and reports to permitting agencies for ten years following completion of construction. In order to expeditiously complete this project, sites within this region are grouped and prioritized and staged for construction depending on the site requirements.

Western San Bernardino Region Project Group

Right-of-Way & Infrastructure Protection Program - Western San Bernardino County Region

This project identifies and addresses right-of-way, access, and security issues; identifies and executes needed improvements within the Western San Bernardino County Operating Region; prepares environmental documentation; acquires regional programmatic environmental permits; and monitors and reports to permitting agencies for ten years following completion of construction. In order to expeditiously complete this project, sites within this region are grouped and prioritized and staged for construction depending on the site requirements.

RWIPP - Other Project Group

Right-of-Way & Infrastructure Protection Program - Colorado River Aqueduct

The Right-of-Way Infrastructure Protection Program (RWIPP) identifies, prioritizes, and executes site improvements throughout Metropolitan's service area. This project encompasses site improvements along the CRA and addresses access limitations, erosion-related improvement work, and security needs along the surface of the CRA's rights-of-way. Under the initial stage of the program, site improvements needed along the CRA will be identified, a comprehensive regional compliance and permitting program will be developed, and a programmatic environmental document will be prepared to secure environmental approval for multiple projects along the CRA rather than pursuing individual approvals on a project-by-project basis. This project will add the CRA to the RWIPP, which already includes the Orange County, Western San Bernardino, Riverside/San Diego, and Los Angeles operating regions.

Right-of-Way & Infrastructure Protection Program - Property Acquisition

The scope of this project includes procurement of right-of-way or property to support access or needed repairs to pipelines and facilities. Activities include developing conceptual solutions, layout drawings, and final design criteria of needed improvements; preparing pre-appraisal documentation for acquisition of easements and right-of-way; conducting field surveys and topographic mapping; ordering and reviewing title reports and supporting recorded documents; initiating consultations with permitting agencies for required permits; preparing legal descriptions, exhibit maps, and other exhibits as needed for acquisition planning, permits, and real estate negotiations; completing right-of-way mapping and preparing Record of Survey maps to be filed with the county of origin; and setting monuments and witness posts.

System Flexibility/Supply Reliability Program

Fiscal Year 2022/23 Estimate: \$31.6 million

Fiscal Year 2023/24 Estimate: \$40.6 million

Program Information: The System Flexibility/Supply Reliability Program is comprised of projects to increase the capacity and flexibility of Metropolitan’s water supply and delivery infrastructure to meet service demands. Projects under this program address climate change affecting water supply, regional drought, and alternative water sources for areas dependent on State Project Water.

Accomplishments for FY 2020/21 and FY 2021/22

- New projects initiated:
 - Delta Properties Infrastructure Improvements
 - Inland Feeder - Citrus Reservoir and Pump Station Intertie
 - Inland Feeder - Rialto Pipeline Intertie
 - New Westside Pump Stations
 - Wadsworth Pump Discharge to Eastside Pipeline Bypass

- Major milestones achieved:
 - Completed construction:
 - Greg Avenue Pump Station Rehabilitation
 - Delta Properties Infrastructure Improvements - Completed installation of first eight flow meters
 - Completed design
 - Perris Valley Pipeline - Tunnels

Objectives for FYs 2022/23 and 2023/24

Project	Total Project Estimate	Estimated Construction Completion	Major Milestones
Delta Islands Pump Station Rehabilitation	\$ 5,600,000	2024	Complete design
Delta Properties Infrastructure Improvements	\$ 960,000	2024	Complete construction
Delta Smelt and Native Species Preservation Wetlands	\$ 2,700,000	2024	Complete design and construction
Inland Feeder – Citrus Reservoir and Pump Station Intertie	\$ 23,700,000	2026	Complete design
Inland Feeder – Rialto Pipeline Intertie	\$ 2,200,000	2023	Complete construction
Perris Valley Pipeline - Tunnels	\$ 79,000,000	2025	Begin construction
Wadsworth Pump Discharge to Eastside Pipeline Bypass	\$ 11,400,000	2023	Complete construction

System Flexibility/ Supply Reliability - All Project Group

Delta Islands Pump Station Rehabilitation

In 2016, Metropolitan purchased four islands/tracts (about 20,000 acres) in the central Delta: Bacon and Bouldin Islands, and Holland and Webb tracts islands. Collectively, these lands represent a crucial part of the Delta for multiple potential values that are consistent with the State's co-equal goals of ecosystem restoration and water supply reliability for California. As part of this purchase, each property has an existing infrastructure that contains a system of individual siphons that bring diverted river water onto the property irrigation canals that conveys excess water by gravity to pump stations to be pumped off the property to prevent flooding. This project will rehabilitate and upgrade aging pump stations to increase system reliability and minimize the service disruption that could result in loss of revenue if tenant operations are impacted. This is a new project for this budget cycle.

Delta Properties Infrastructure Improvements

California State Senate Bill (SB 88) requires monitoring and reporting of certain diversions within the Delta. Metropolitan's Delta properties will need to comply. This project will investigate existing diversion points, identify permanent flow meter locations, coordinate with the Delta Watermaster, and install approximately 88 or more meters with telemetry and support equipment. First eight flow meters were installed during FY 2020/21. Next set of 25 flow meters are planned to be installed during FY 2021/22, and rest of the flow meters are planned to be installed during the following two years.

Delta Smelt and Native Species Preservation Project

The Delta Smelt is a small, euryhaline fish species endemic to the San Francisco Estuary. Since the 1980s, the Delta Smelt population has exhibited a decline in abundance leading to it being listed as endangered under the California Endangered Species Act, which may potentially create additional regulatory operational constraints on water exports for state and federal water contractors. Metropolitan will work with multiple state and federal government agencies and researchers from UC Davis to advance research objectives through multiple collaborative study efforts. This project will utilize natural pond habitats located on tracts of land within the Delta to construct tule marsh wetlands, supplementation ponds, and associated hydraulic water conveyance systems including irrigation ditches and potential groundwater wells to address issues and questions including methods for successful reintroduction. This project also includes an evaluation to determine which of Metropolitan's Delta Islands would be the most suitable location for the project. Other goals related to this project could involve use of floating peat wetlands, setting back the existing levee, and reintroduction of tidal energy gradients. This is a new project for this budget cycle.

Etiwanda Pump Station

This project will construct a pump station to enable Metropolitan to pump CRA water from the Upper Feeder to the Rialto Pipeline in case of a disruption of supplies from the East Branch due to severe drought or earthquake. This project will include construction of new interconnecting pipeline, new suction and discharge manifolds, valves, electrical power and control facilities, and other features necessary to support the pump station. The Etiwanda Pipeline extends in a north-south direction for approximately 6.5 miles and connects the Rialto Pipeline with the Upper Feeder to provide the feeder with State Project Water (SPW). The Etiwanda Reservoir and Hydroelectric Plant (HEP) were constructed to generate power as the water is conveyed. This is a new project for this budget cycle.

Groundwater Well Rehabilitation and Treatment

This project will take groundwater wells owned and operated by Metropolitan's member agencies or their sub-agencies and rehabilitate them and/or to construct new groundwater wells to increase local groundwater production in Metropolitan's service area. Local groundwater supplies within Metropolitan's service area are currently underutilized due to contamination, political constraints, or cost concerns. This project will also add water treatment systems where needed to treat contaminated groundwater. Addition of the treatment systems will be primarily focused for State Project Water (SWP) dependent areas. This project will improve resiliency against severe drought or earthquake and reduce dependency on imported water supplies. This is a new project for this budget cycle.

Hayfield Groundwater Storage and Extraction

This project will improve the spreading basin and construct a well field extraction and conveyance system to withdraw stored CRA water and discharge it back into the CRA at the Hinds Pumping Plant. The initial stage of the project will focus on installing a limited conveyance system capable of extracting the 100,000 acre-ft stored in the Hayfield Groundwater Basin. This stage will include a groundwater well installation, pump and motor, and approximately 1,500 feet of small diameter pipe. The Hayfield basin is located south of the Julian Hinds Pumping Plant, adjacent to the CRA. The project will improve drought resilience and enhance reliability of CRA operation. This is a new project for this budget cycle.

Inland Feeder-Citrus Reservoir and Pump Station Intertie

This project will construct an intertie between the Inland Feeder and a San Bernardino Valley Municipal Water District (SBVMWD) and Department of Water Resources (DWR) pump station. The intertie will include pipelines, valve vaults with valves, electrical and control systems, and other features necessary to support the intertie operation. Construction of an intertie between the Inland Feeder and a SBVMWD and DWR pump station would enable Metropolitan to deliver water from DVL to the Rialto Pipeline service area. After completion of this project along with completion of Inland Feeder-Rialto Pipeline Intertie and Wadsworth Pump Discharge Eastside Pipeline Bypass, up to 160 cfs will be able to be delivered from Diamond Valley Lake to the Rialto Pipeline. This project will improve resiliency against severe drought or earthquake by providing the Rialto Pipeline region a second source of water besides State Water Project (SWP) supplies.

Inland Feeder-Rialto Pipeline Intertie

This project will construct an intertie pipeline between the Inland Feeder and the Rialto Pipeline south of Department of Water Resources (DWR) Devil Canyon. The intertie will be approximately seven feet in diameter and 200 feet long, and will include a large diameter valve, meter, and valve and meter structures, and other features necessary to support the intertie operation. Currently flows from the Inland Feeder must pass through higher elevation DWR facilities which reduces flow and expends more energy. An intertie will allow delivery of up to 60 cfs of water from San Bernardino Valley Municipal Water District (SBVMWD) and DWR via a water exchange program. After completion of this project along with completion of Wadsworth Pump Discharge Eastside Pipeline Bypass and Inland Feeder-Citrus Reservoir and Pump Station Intertie, up to 160 cfs will be able to be delivered from Diamond Valley Lake to the Rialto Pipeline. This project will improve resiliency against severe drought or earthquake by proving the Rialto Pipeline region a second source of water besides State Water Project (SWP) supplies.

La Verne Pipeline & Weymouth Plant Intertie and Upper Feeder Modification

This project will provide an alternate source of supplies for groundwater replenishment at Service Connection USG-03. USG-3 is a replenishment connection located at the end of the Glendora Tunnel and is typically fed by the Rialto Feeder/Live Oak Reservoir, which is untreated State Project Water (SPW). In times of low SPW supplies, an alternative connection from CRA supplies will allow continued delivery of supplies. This project may include an intertie between the Weymouth plant and the La Verne Pipeline, and modification of a blow-off and/or air release & air vacuum valve on Upper Feeder near Azusa Canyon, and other features necessary to provide an alternate source of supplies at USG-3. This project will improve resiliency against severe drought or earthquake. This is a new project for this budget cycle.

Lake Perris Seepage Water Conveyance Pipeline

Metropolitan and Department of Water Resources (DWR) have partnered to design and construct facilities to capture and convey Lake Perris leakage water to the CRA. DWR will design and construct a seepage collection wellfield near the foot of the Lake Perris Dam, and this project will design and construct a conveyance pipeline extending from the DWR wellfield to the CRA.

New Westside Pump Stations

This project will construct a new or expand existing pump stations to convey approximately 100 cfs of CRA water into areas reliant on State Project Water (SPW). This may involve constructing two new pump stations, one at Venice PCS and one at Sepulveda Canyon PCS or expanding pumping capacity at the Greg Avenue Pump Station or some other facilities. Project elements will include pipelines, vertical or horizontal pumps, motors, interconnection piping to the Sepulveda Feeder; valve control structures; mechanical equipment for surge control; electrical modifications; and a small building at each site. This project will improve resiliency against severe drought and seismic events in the west side of Metropolitan's service area by mitigating the reduction in State Water Project (SWP) supplies.

Perris Control Facility & Hydroelectric Plant Upgrades

The Lake Perris Control Facility (LPCF) includes a pressure control structure, pump back system with four electric and two diesel pumps, and a hydroelectric plant. This facility controls flows from delivered from the Department of Water Resources Silverwood Reservoir located at Devil's Canyon, and Lake Perris to the Lakeview Pipeline. To improve Mills Plant reliability, water from Diamond Valley Lake and Inland Feeder can be delivered to Mills plant by gravity flow but would require some modifications to the Lake Perris Control Facility's pressure control structure and HEP. The project will upgrade the LPCF systems to handle the maximum head of 1934 feet (from the Inland Feeder) by upgrading components of the pressure control structure and replacement of the hydroelectric plant.

Perris Valley Pipeline – Tunnels

The objective of the Perris Valley Pipeline is to supply additional water deliveries from Mills plant to EMWD and WMWD per their request. Construction of this 6.5-mile-long pipeline was initiated in 2007, to be implemented under two contracts: the North Reach consisting of 2.7 miles of pipeline and two service connections (WR-24 and EM-23), and the South Reach consisting of 3.8 miles of pipeline and two additional service connections (WR-35 and EM-24). In 2009, the North Reach was completed and placed in service. In 2010, 3.3 miles of the South Reach were completed. The Perris Valley Pipeline Interstate 215 Crossing project will complete a remaining half-mile-long section approximately midway along the South Reach and enable placing the South Reach in service. This project consists of construction of an approximate 1,700-foot-long tunnel and tie-ins to the previously constructed reaches.

Rialto Pipeline and Mills Plant Pump Station

Several service connections within Metropolitan's service area rely on State Water Project water supplies to deliver water. One such area is along the Rialto Pipeline. This project will enable backup water supply deliveries from the Colorado River Aqueduct (CRA) or Diamond Valley Lake (DVL) to these areas. It will allow more operational flexibility by enabling DVL or CRA water to be delivered to the Rialto Pipeline as well as the Mills plant, and will also enhance reliability in a seismic event or during planned shutdowns. This new pump station at PC-1 control structure, which will include pumps, valves, suction and discharge manifolds, interconnection pipelines, and electrical power and control facilities, may be constructed to also serve as a power generation facility. After completion of this project along with the Wadsworth Pump Discharge to Eastside Pipeline Bypass and the Inland Feeder-Rialto Pipeline Intertie, water from both the CRA and from DVL can be delivered to both the Rialto Pipeline and to the Mills plant. The Pump Station will meet the future demands of both Mills and Rialto Pipeline service areas. This is a new project for this budget cycle.

Service Area Interconnection Enhancement

This project will construct new or enhance existing water delivery and treatment infrastructure between Metropolitan and its member agency systems and between the member agency and sub-agency systems to reduce SWP reliant areas and provide increased flexibility for future long-term shutdowns. This infrastructure may include but are not limited to service connections, pipelines, pump stations, and treatment facilities. This project will improve resiliency against severe droughts or earthquakes. This is a new project for this budget cycle.

Wadsworth Pump Discharge to Eastside Pipeline Bypass

This project will construct a bypass pipeline connecting the Wadsworth Pumping Plant discharge pipeline to the Eastside Pipeline to allow continuous pumping from the Diamond Valley Lake (DVL) forebay to supply DVL water to the Mills plant and the Rialto Pipeline via PC-1 Pump Station in case of a supply disruption from the State Water Project's (SWP) East Branch due to severe drought or earthquake. The bypass will be approximately seven feet in diameter and 700 feet long and will include a large diameter valve with a valve structure, and other features necessary to support the bypass operation. In addition, a surge tank system will be installed to protect the Inland Feeder from pressure surges. After completion of this project along with completion of Inland Feeder-Rialto Pipeline Intertie and Inland Feeder-Citrus Reservoir and Pump Station Intertie, up to 160 cfs will be able to be delivered from Diamond Valley Lake to the Rialto Pipeline. The Wadsworth Pumping Plant is located near Hemet at DVL. The pumping plant includes 12 vertical turbine pumps that are used to pump water into DVL or to generate electricity when water flows out of DVL into the forebay/San Diego Canal.

System Reliability Program

Fiscal Year 2022/23 Estimate: \$48.5 million

Fiscal Year 2023/24 Estimate: \$37.7 million

Program Information: *The System Reliability Program is comprised of projects to improve or modify facilities located throughout Metropolitan's service area in order to utilize new processes and/or technologies and improve facility safety and overall reliability. These include projects related to Metropolitan's Supervisory Control and Data Acquisition (SCADA) system and other Information Technology projects.*

Accomplishments for FY 2020/21 and FY 2021/22

New projects initiated:

- Applications-Servers Upgrade from Old Windows OS
- Arc Flash Software Model Development
- Enterprise GIS Disaster Recovery
- Etiwanda Test Facility
- Headquarters Building Physical Security Improvements - Stage 2
- HQ HVAC System Equipment Upgrades – Phase 1
- Information Technology Service Management System
- Two-Way Radio System Upgrade
- Weymouth Area Paving

Major milestones achieved:

- Business Systems Disaster Recovery Upgrade – deployment completed
- Control System Upgrade – Phases 1 & 2 - completed
- Data Center Modernization Upgrade Phase I – backup data center completed
- Information Technology Service Management System – deployment completed
- Information Technology System – Communication Infrastructure Reliability Upgrade – deployment completed
- IT Network Reliability Upgrades – deployment completed
- La Verne Shops Improvements – Equipment Installation and Building Completion – design completed
- Lake Mathews Facility Wastewater System Replacement – construction started
- Lake Mathews IT Disaster Recovery Facility Upgrades – deployment completed
- Maximo Upgrade – deployment completed
- MWD HQ Boardroom Technology Upgrade – deployment completed
- Skinner Area Paving– construction started
- Water Ordering and Energy Scheduling System – deployment completed

Objectives for FYs 2022/23 and 2023/24

Project	Total Project Estimate	Estimated Construction Completion	Major Milestones
AMR System RTUs and Radio Modem Upgrade Project	\$ 13,000,000	2023	Complete deployment
Applications-Servers Upgrade from Old Windows OS	\$ 2,800,000	2024	Complete deployment
Control System Upgrade - Phase 4	\$ 6,400,000	2024	Begin Phase 4
Data Center Backup Infrastructure Upgrade	\$ 1,600,000	2022	Complete deployment
Data Center Modernization Upgrade	\$ 8,800,000	2022	Complete Phase 2 deployment
Desert Microwave Tower Site Upgrades	\$ 8,100,000	2024	Complete design and begin construction
Enterprise Data Analytics	\$ 3,300,000	2022	Complete deployment of pilot
Enterprise GIS Disaster Recovery	\$ 300,000	2022	Complete deployment
Fuel Management System Upgrade	\$ 1,300,000	2022	Complete deployment
La Verne Shops Improvements - Equipment Installation and Building Completion	\$ 14,000,000	2023	Complete construction
Maximo Mobile Upgrade	\$ 500,000	2022	Complete deployment
Security Operation Center	\$ 4,500,000	2022	Complete construction
Two-Way Radio System Upgrade	\$ 7,700,000	2022	Complete deployment of pilot
Headquarters Building Improvements	\$ 78,600,000	2022	Complete construction
WiFi Upgrade	\$ 5,300,000	2022	Complete deployment at Headquarters

IT/SCADA - Infrastructure Project Group

AMR System RTUs and Radio Modem Upgrade

The Automatic Meter Reading (AMR) system is a critical component for transmitting meter information to allow for billing of member agency water deliveries and analysis of official meter instrumentation. The current system was mostly installed between 2008 and 2009. Portions of the AMR System must be updated because of equipment obsolescence and diminishing vendor support, as they are approaching their end of life. This project is planned to be completed in three phases. The first phase consists of a pilot study to evaluate various communication technologies, field test each of the selected communication technologies, and installation of 900 MHz radio modems and master radio station near Garvey Reservoir. The second phase consists of replacement of the remaining radio modems and radio master stations. The third phase consists of replacement of the AMR Remote Terminal Units (RTUs), operator interface terminals, digital displays, configuration laptops, battery chargers for Uninterruptible Power Supply (UPS), associated networking equipment and servers, and other appurtenances to complete the upgrades. It is anticipated that the Control System Upgrade Conceptual Design project (Phase 2 of the Control System Upgrade) will recommend that the technology used in the AMR system be made consistent with the technology used in the SCADA (Supervisory Control and Data Acquisition) system. Thus, the third phase (AMR RTUs) will be started after the Control System Upgrade Phase 4 (final design) is initiated.

Applications-Servers Upgrade from Old Windows OS

A significant number of Metropolitan's systems, including a number of critical enterprise-level business and water applications, are currently running on outdated Microsoft Windows platforms (e.g., Windows 2003, 2007, and 2008). These platforms are either already no longer being supported or will shortly cease to be supported by the Microsoft Corporation. Microsoft's support includes software updates and security-related patches to fix technical issues and mitigate potential new security risks. Losing these software and security updates will increase cyber-security risks for the unsupported platforms. This project will upgrade all older application environments to Windows 2016. Phase 1 of the project will identify and document required changes, and will group applications into four deployment waves. Phase 2 will deploy the upgrades on each of the four groups identified in Phase 1.

Arc Flash Software Model Development

An arc flash is the light and heat produced from an electric arc supplied with enough electrical energy to cause substantial damage, harm, fire, or injury. Arc flash risk analysis is required per National Fire Protection Association (NFPA), National Electrical Code (NEC), and Occupational Safety and Health Administration (OSHA) standards. Metropolitan currently uses a generic tabular approach to quantify the arc flash hazard; this approach is no longer in compliance with the latest NFPA 70E standards. Comprehensive modeling that considers the effects of the surrounding equipment and accurately identifies the arc flash hazards is now required. This project will develop software models for Metropolitan facilities that are susceptible to arc flash hazards. The models will provide complete and consistent information that will identify equipment improvements to improve safety and to meet regulatory compliance. This project will also install arc flash labels for all equipment required to be labeled per the NFPA standards.

Asset Monitoring and Management System

This project will establish the foundation for leveraging data already maintained by Metropolitan (under multiple different software platforms) into a common framework in order to efficiently conduct future infrastructure reliability projects and assessments across Metropolitan. This project is needed to support a common condition monitoring framework across Engineering Services (ESG) and Water System Operations (WSO) groups, as well as to support condition-based maintenance initiatives as part of General Manager's initiatives and WSO's business plan.

This project includes building software tools to access and aggregate ESG, WSO, and other asset-related data, such as data from finance, to facilitate infrastructure reliability investigations on one class of assets (revenue meters). Eventually, the software tools developed as a part of this project will be used for future condition assessments in ESG and WSO.

Asset Monitoring System Stage 1 Conveyance and Distribution

Currently, asset condition and performance data are maintained in multiple data systems. At times, data is redundant, not consistent, or missing resulting in delays in decision making and increased uncertainty. This project will create an integrated dashboard interface inter-connected with existing disparate data systems and utilize geographic information system (GIS) functionality to visualize key information related to asset health, condition, performance, location, and other key data in the conveyance and distribution system. Subsequent stages will address treatment plants, reservoirs, power transmission lines, support facilities, communication sites, fleet, real property, and advanced water purification. This is a new project for this budget cycle.

CIP Budgeting System Improvements

The Capital Investment Plan (CIP) process has been in place for over 20 years and since inception, the process has been largely manual. The scope of this project is to consolidate the CIP proposal, risk form, and cash flow form into one seamless single proposal form. This project will also create a new evaluation form, which will be designed to leverage the available historical evaluation data, new scores suggested by the proposal form, and risk/consequence data to provide a clearer reference of information when evaluating projects. This project will reduce staff time to generate proposals and required CIP documents, and also reduce the scoring efforts. This is a new project for this budget cycle.

Control System Upgrade

Metropolitan's control system spans the CRA, Metropolitan's five water treatment plants, and the entire conveyance and distribution system. The system-wide control system upgrade is planned to be implemented in a phased approach through the following projects to upgrade hardware, software, and a communications network. Currently, the phases are planned to consist of the following projects:

- Phase 1 - Preliminary investigations
- Phase 2 - Conceptual design of the new control system
- Phase 3 - Selection and demonstration testing
- Phase 4 - Final Design of Mills Area
- Phase 5 - Implementation Mills Area
- Phase 6 - Final Design of Skinner Area
- Phase 7 and later - Continued final design and installation/construction of the new control system in multiple staged contracts

Data Center Backup Infrastructure Upgrade

Critical business and water applications rely on backup processes to restore the applications as soon as possible in an emergency. As Metropolitan's data volume progressively increases, so does the duration of the processes to backup, restore, and recover operations. Metropolitan's current backup software was deployed 15 years ago and uses magnetic tape as the storage medium. This project will replace the backup infrastructure with newer and faster technology and will redesign the backup/restore processes and procedures using the latest components of the backup software.

Data Center Modernization Upgrade

The purpose of this project is to assess, redesign, and upgrade the MWD Headquarters (HQ) and Lake Mathews data centers to provide sufficient computing power and modernize the data centers to meet current and future capacity, security, and reliability needs. This project will conduct a detail assessment, design, and relocate the HQ and Lake Mathews data centers to improve security and reliability.

Desert Microwave Tower Site Upgrades

This two-phase project will improve the reliability, performance, and capacity to Metropolitan's microwave radio wide-area-networks (WANs). Phase 1 will address the most critical components that need to be replaced or upgraded in the Desert Region microwave tower sites. Phase 2 will upgrade the remainder of the sites throughout Southern California. Lessons learned from the Diamond Valley Lake (DVL) microwave proof-of-concept will be used in this project. The microwave network uses wireless transmission over radio frequency energy in the 6-18 Giga Hertz range.

Distribution System Online Analyzers Replacement

Online analyzers continuously monitor water quality in the treated water distribution system and help ensure that safe reliable water reaches our member agencies. They provide prompt indication of water quality issues and an early warning to allow actions to be taken to minimize impacts. The existing online analyzers are almost 20 years old and have exceeded their typical service life. They are outdated, no longer sold or supported by vendors, and replacement parts are becoming increasingly difficult to obtain. At approximately 23 locations, this project will (depending on the location): decommission existing analyzers; install chlorine, turbidity, UV and total ammonia analyzers; install conductivity and pH probes; and install prefabricated sheds. This is a new project for this budget cycle.

Engineering Information System Upgrade

The goal of this project is to upgrade ProjectWise (Engineering's Information System) to the latest version, install and configure additional ProjectWise modules, and integrate ProjectWise with other Metropolitan systems such as DocuSign, Outlook, SharePoint, and Deliverables Management to implement additional functionalities in ProjectWise. The intent is to streamline the workflow in Engineering design and improve access to information and documents in ProjectWise.

Enterprise Asset Planning System

Currently, short-term asset renewals are addressed by staff submitting Capital Investment Plan (CIP) proposals that identify upcoming needs to maintain a reliable system. This project will acquire a software application and implement a comprehensive solution to forecast long-term asset lifecycle costs. The resulting decision support tool will support the strategic planning for renewal of Metropolitan assets based on condition, performance, outage constraints, staff resource limitations, planned budget, shutdown schedules, relative value, and risk. This is a new project for this budget cycle.

Enterprise Data Analytics

Building an Enterprise Data Warehouse & Analytics to answer both operational and strategic questions facing Metropolitan. The Data Warehouse will be built of individual data marts modeling a specific business area providing integrated reporting through Extract/Transform/Load (ETL) procedures and common dimensions. This Enterprise Data Warehouse will contain both business and operational data. It will be designed to combine these two data types in order to provide a financial dimension to operational data. By linking data like EBS (Financial), SCADA, GIS and Water Supply/Demand, staff can model different scenarios to answer questions and to discover trends and anomalies previously not visible due to isolated reporting.

Enterprise GIS Disaster Recovery

This project will add the Enterprise GIS (EGIS) infrastructure to the Metropolitan IT Disaster Recovery Facility (DRF) in Riverside County. This includes the purchase, installation, and configuration of new hardware and software to meet Business Impact Analysis (BIA) study requirements for the EGIS infrastructure. The current recovery time for EGIS infrastructure is estimated at greater than a week. The BIA Recovery Time Objective (RTO) for the EGIS infrastructure is less than 72 hours, meaning that the EGIS infrastructure should be functional within 72 hours after an outage. This project will reduce the RTO for the EGIS infrastructure from 72 hours to 1 hour, so that EGIS data could potentially be used to assist in emergency operations.

Fiber Installation at Iron Mountain, Eagle Mountain, and Hinds Pumping Plants

Metropolitan currently relies on microwave radio equipment to provide a voice and data communication backbone for the business network, the Supervisory Control and Data Acquisition (SCADA) network, Automated Meter Reading (AMR), and two-way radio network. Information Technology Group's strategic vision is for more reliable fiber optic cables to become the primary communications path connecting all desert sites. This project will connect Iron Mountain, Eagle Mountain, and Hinds Pumping Plants to the public telecommunications network using fiber optic cable thereby enhancing reliability and increasing bandwidth of communications for desert facilities. The fiber optic would follow the paths of existing power transmission lines and terminate in the areas near switchyards and will require repeater stations. A separate project to install a fiber optic line from Gene Pumping Plant to Parker Dam is scheduled for completion in 2023. This is a new project for this budget cycle.

Fuel Management System Upgrade

This project's objective is to upgrade the twelve-year-old Fuel Management System (FMS), which is no longer supported by the manufacturer. The FMS provides essential management controls over fuel inventories, dispensing, and security. It identifies and authorizes the dispensing of fuel and records fuel transactions and fuel tank data in a centralized database. This project will replace the necessary hardware and software to upgrade the FMS and to integrate it with Metropolitan's Computerized Maintenance Management System (CMMS), Maximo.

Gene Communication System Upgrade

Metropolitan's microwave radio wide-area network (WAN) was constructed in the late 1990s and is approaching the end of its useful service life. The network is comprised of 72 transmission tower sites located throughout Southern California, including 24 which support the CRA. It transmits telephone, voice, data, and video communication between all Metropolitan facilities, utilizing point-to-point microwave transmission. While microwave transmission is highly effective, it is limited to line-of-sight propagation; thus, it cannot pass through mountains or other similar obstacles.

Gene Pumping Plant relies on a microwave tower at Black Metal Mountain and does not have a redundant site to support the plant if the system at Black Metal Mountain were to fail. Furthermore, the desert region now requires high-capacity carrier-grade communication links to provide reliable data, voice, and video transmission to support the need of new IT and supervisory control and data acquisition system (SCADA) infrastructures. The type of information that rely on this network are real-time data from the supervisory control and data acquisition system, automated meter reading system, security cameras and teleprotection, and system alarms to Metropolitan's control facilities, and provides access at remote sites to the email, geographical information system, Oracle financial, timekeeping, and PeopleSoft applications. This project will install approximately 22 poles and two miles of fiber optic cable from Parker Dam to Gene Pumping Plant administration building to connect to high-quality, high-speed data system to improve a variety of technological challenges at the desert facilities.

Hydraulic Model Enhancements

Metropolitan uses its current state-of-the industry hydraulic model daily in support of operational and facility planning requests. While the model has significant hydraulic simulation capabilities, this project proposes to enhance the software to better address water quality analyses, hydroelectric power plant power production estimating, hydraulic surge transient analysis, flood simulations, and other studies. The proposed enhancements also include storing this information on the cloud for improved data access. This is a new project for this budget cycle.

Hydraulic Modeling Analysis Toolkit and Water Quality Calibration

Metropolitan's Engineering Services Group completed development of a system-wide hydraulic model in January 2017 after a multi-year development effort. Even while model development was still underway, many uses for the hydraulic model were identified. This project includes developing tools to support hydraulic model analysis to increase efficiency and enhance productivity while using the hydraulic model for analysis. The project also includes development and calibration of water quality modeling capabilities.

Maximo Mobile Interface Software

Metropolitan uses Maximo software to schedule, plan, and execute maintenance work. Currently, Maximo web-based software is not designed for mobile use and desktop or laptop computers are used to generate work orders as the primary method to distribute and plan work for field staff. This project will install and configure a mobile software system that will allow field employees to interact with the Maximo Computer Maintenance Management System from iPad mobile devices. The new system will maximize the value of the new mobile devices, increase the options and opportunity to implement a proactive data driven maintenance strategy, improve response time for corrective actions, and improve timely access to information such as manuals, construction plans, and work plans. This is a new project for this budget cycle.

Maximo Mobile Upgrade

The goal of this project is to replace existing mobile devices used in WSO with latest tablet technology. The project will enable the use of capabilities of the existing mobile software system that are not available on the existing hardware devices. The project includes an initial pilot evaluation with a purchase of 30 units to evaluate different models and test features. The overall goal will be to purchase several hundred devices following the completion of the pilot evaluation. The new devices will eliminate or reduce the need for desktop computers at field sites and vastly increase the functionality of the existing Maximo mobile devices.

Replacement of Network Switches at MWD Headquarters Building

Network switches are the backbone of the Information Technology (IT) network and connect all IT systems and infrastructure components. There are currently 12 network switches that were installed at Metropolitan Headquarters in 2014 which have reached end of their life cycle and are going out of support. Replacement of these network switches is needed to mitigate risks presented by old and out of support switches. This project will consist of multiple deployments of 12 new network switches at Metropolitan Headquarters. This is a new project for this budget cycle.

Security Operations Center

This is the second phase of the Cyber Security Upgrades project. The first phase concluded that additional cyber projects were needed to mitigate evolving threats. This phase will assess and remediate exposures and cyber security threats throughout Metropolitan with special emphasis on the business and SCADA networks. Maintaining a secure computing infrastructure requires application of ongoing cyber countermeasures to protect against new cyber threats that are identified on a continual basis. The scope of this project includes engaging a security consultant to perform an independent assessment of Metropolitan's IT infrastructure and environment to identify potential vulnerabilities and deploy effective solutions to strengthen our cyber security.

Security Operations Center - Cyber Security Upgrade Phase 2

Cyber security remains a high priority and is a key part of the Information Technology Strategic Plan. Cyber criminals, including cyber terrorists from rogue nations, are launching increasingly sophisticated threats targeting critical infrastructure agencies such as water utilities. This project will assess and remediate exposures and cyber threats throughout Metropolitan with special emphasis on the business and Supervisory Control and Data Acquisition (SCADA) networks. The proposed security measures will enhance incident response times, protect against social engineering attacks, enhance SCADA security, and protect the rapidly growing network of Metropolitan's connected objects including SCADA sensors and telemetry data. This is a new project for this budget cycle.

Standby Generator Relocation at Six WAN Sites

Metropolitan's Wide Area Network (WAN) provides a critical communication and data link between facilities across the distribution system. The Standby generators at six WAN sites must be relocated for consistency with the current fire codes and to enhance safety. These generators are needed to provide backup power in the event of loss of primary power. The planned improvements will reduce the risk of damage to communication equipment and the buildings in the event of a fuel leak. Metropolitan forces will relocate the standby generators at six WAN sites to reduce the risk of fire damage to Metropolitan's communication systems. The standby generators will be moved to new locations in separate outdoor enclosures, consistent with current fire codes.

Two-Way Radio System Upgrade

Metropolitan's current Two-Way Radio system is approaching the end of its service life, and both vendor and after-market support will cease in the next few years. The existing Two-Way Radio system is Metropolitan's essential communication system for public/employee safety, and for communications when Metropolitan performs tasks involving member agencies. This project will upgrade or replace specific components of the Two-Way Radio system, reusing the majority of the infrastructure; replace some unsupported radios; and will provide improvements to address poor reception at some locations. The upgraded Two-Way Radio system will include features anticipated to provide higher capacity, higher levels of cybersecurity, additional management and monitoring features, and multi-level resiliency.

Water Quality Laboratory Instrumentation Modernization and Data Acquisition Automation

Metropolitan's La Verne Water Quality Laboratory houses a significant number of analytical and water sampling instruments that support many of Metropolitan's business functions, including demonstrating regulatory compliance with drinking water standards and water treatment optimization. Historically, Metropolitan has approached replacement of obsolete instrumentation through individual purchases. This strategy has limited the rate of upgrades or replacement. In addition, many of the laboratory's instruments include vendor-provided dedicated computer workstations, loaded with software that is sometimes maintained by the vendor, and sometimes by Metropolitan's IT staff. This has resulted in cybersecurity vulnerability, as well as multiple non-standard computer images, operating systems, and software versions. Finally, the diversity of instrumentation in the laboratory has made it difficult to acquire data from the various instrumentation systems. This project will upgrade laboratory instrumentation to accommodate cybersecurity issues, prevent obsolescence of laboratory instrumentation, and allow integration of data acquisition efforts.

Western Region Microwave Tower Sites Upgrade Project

The western region microwave network consists of 52 sites with microwave radios that provide a voice and data communication backbone for the business network, the Supervisory Control and Data Acquisition (SCADA) network, Automated Meter Reading (AMR), and the two-way radio network. A majority of Metropolitan's current microwave radios are over twelve years old and have reached the end of their service lives, are no longer supported by the manufacturer, and replacement parts and software updates are no longer available leaving microwave infrastructure vulnerable to equipment failure. Also, inspection of the electrical grounding systems has revealed deficiencies in grounding requirements of some sites and, due to regulatory changes, some propane generators may require upgrades. This project will decrease the frequency of microwave system troubleshooting and repair activities and increase in network service reliability. The scope is to procure microwave radio equipment and associated antennas with waveguides; design microwave network and system infrastructure; install equipment on towers and inside buildings; design and install battery backup systems; rectify any grounding issues; and review the condition and level of code compliance of the propane generator systems and upgrade as necessary. This is a new project for this budget cycle.

WiFi Upgrade

This WiFi Upgrade project will improve the reliability, performance, and capacity to Metropolitan's wireless access point (WAP) local-area-networks (LANs) at Headquarters and various field facilities. It will also provide a secure, reliable and robust WiFi System to support increasing business demands and reliance on Metropolitan's wireless infrastructure. The scope for this project includes (1) migration and implementation design plan, (2) removal of obsolete access points and controllers, (3) installation of cable in building ceiling for access points, (4) installation of new access points, and (5) configuration and installation of new controllers.

Operations Support Project Group

Apprentice Training Center Facility

The current apprentice training center (ATC) has come to the end of its useful life and lacks the needed space for break rooms and training without reconfigurations. As a result, some training modules are outsourced to other vocational training colleges and programs. This project will refurbish and make modifications to the former Diamond Valley Lake (DVL) Visitor Center building to enable its use as Metropolitan's apprentice training center facility. The former visitor center building was completed in 2008 and shares several building components with the adjacent Western Science Center Museum. The project will address the need for additional space dedicated to individual apprentice training center functions such as break rooms, classrooms, restrooms with added capacity and ample space for library and storage areas. The project will also address the aging and obsolete building systems that are currently shared with the adjacent Western Science Center Museum. To meet Metropolitan building standards, upgrades will be made to security, access, architectural, mechanical, electrical, plumbing systems, and other building features and equipment. Completion of this project will provide the necessary facilities for apprentice training well into the future for the development of the workforce that will operate and maintain Metropolitan's conveyance, distribution, and treatment systems. This is a new project for this budget cycle.

CRA Aircraft Facility Improvements

Metropolitan owns and operates several airstrips along the Colorado River Aqueduct (CRA) that are deteriorating with age. There is also no designated landing area for helicopters or an enclosed area to store aircraft. Currently, planes must be taken offsite for hangar storage in Lake Havasu. The project will design and construct various improvements to runway pavement and landing communication systems at the four aircraft facilities located near the CRA Pumping Plants (Gene, Iron Mountain, Eagle Mountain, and Hinds). This includes (1) rehabilitation of the existing asphalt paved runway, (2) rehabilitate the existing asphalt paved access road leading to the runway and construct new asphalt paved access road to replace the existing access road without asphalt pavement, (3) replacement of the existing incandescent bulb lighting along the runways at Iron Mountain and Eagle Mountain with energy efficient Light Emitting Diode (LED) bulbs, (4) installation of a weather reporting station at Eagle Mountain and Hinds Pumping Plants, (5) construction of a new helipad at Eagle Mountain Pumping Plant and, (6) construction of a new aircraft hangar and parking area at the runway facility near Gene Pumping Plant. This is a new project for this budget cycle.

CRA Pumping Plant Access Road Rehabilitation

The Colorado River Aqueduct (CRA) pumping plant access roads must accommodate heavy traffic loads for deliveries of chemicals, materials, equipment, and staff. The existing asphalt roads are distressed and show numerous areas of longitudinal and alligator cracking. The harsh desert climate conditions have caused the pavement to age and become distressed more quickly. These roads are the sole means of access to the pumping plants, making reliable use of the roads critical to allow equipment, chemical, and material deliveries, ingress for first responders, and general access. This project will rehabilitate approximately 11 miles of the existing access roads leading to the Intake, Iron Mountain, Eagle Mountain, and Hinds Pumping Plants using a combination of pavement overlay and pavement replacement with new aggregate base subgrade. This project will also include pavement markings. This is a new project for this budget cycle.

District-wide Fall Protection Improvements

Working at elevated areas within 6-feet of an edge that have 6-foot falling height, requires fall protection per California Occupational Safety and Health Administration (Cal-OSHA) regulations. The current procedures require that when employees need to enter a rooftop area to service equipment, they must develop and implement a specific plan for safe access; complete a job safety hazard checklist to address all fall hazards; and utilize safety belts, lanyards, or other approved fall protection systems as required. This project will construct guardrail and skylight fall protection on building rooftops, and other types of fall abatement projection for other serviceable areas on facilities with fall protection deficiencies at the District's five Colorado River Aqueduct pumping plants, five water treatment plants, and other miscellaneous facilities throughout the service area per Cal-OSHA Title 8 requirements. Engineered controls such as guardrails and skylight screens will provide the highest level of protection ensuring safety, limiting District liability, improving staff productivity, and ensuring compliance with Cal-OSHA requirements. This is a new project for this budget cycle.

District-wide Zero and Near-Zero Emissions Fleet Infrastructure

Identifying new ways to reduce greenhouse gas (GHG) emissions and reduce Metropolitan's carbon footprint is essential to the implantation of Metropolitan's Climate Action Plan (CAP). This project will design and construct infrastructure to meet mandated Zero Emission (ZE) and Near-Zero Emission (NZE) state and local regulations and comply with California Environmental Quality Act (CEQA) GHG reductions identified in CAP. This project would be implemented in phases, starting with development of a comprehensive transition plan to a ZE and NZE fleet, implementation of transition plan that includes interim and long-term infrastructure design, installation of recommended infrastructure (e.g., charging and/or dispensing stations), and installation of infrastructure related to solar and/or battery energy storage and other sustainability opportunities. The fleet includes passenger vehicles; light-, medium-, and heavy-duty on-road vehicles, off-road construction vehicles/equipment; forklifts; and employee and rideshare vehicles.

Eagle Rock Security Upgrade

The Eagle Rock Operations Control Center (OCC) was built in 1995 in the City of Pasadena. The OCC coordinates and controls Metropolitan's water conveyance and distribution system throughout its entire service area. As the main hub of this system, the OCC is pivotal for the management of water deliveries through Metropolitan facilities. The site currently consists of (1) a two-story building that houses the OCC, the Emergency Operations Center, and several staff offices, (2) a two-story older structure that holds the Business Incident Command Post, Security Water Center, several offices, and a Control Systems shop, and (3) several concrete structures used for transporting water. A vulnerability assessment of the OCC site was conducted in 2017. This assessment identified several security issues of concern as a result of trespassing onto the property. A security assessment identified the site's use by hikers in the area, site accessibility by individuals who have established homeless encampments in the area, and illegal dumping. Proposed site improvements include replacement of the main and lower entrance gates, and existing intercom system at the gates; and installation of additional security cameras, lighting fixtures, flood lights with motion detectors, fencing, gates around the perimeter of building, signage, new electrical and communication conduits, and other related security features.

HVAC System Assessments & Upgrades - Field Facilities

Metropolitan's facilities include nearly 700 structures with over 2,000 pieces of heating, ventilation, and air conditioning (HVAC) equipment. Approximately 80% of the HVAC equipment used by Metropolitan supports process systems that are required to treat or distribute water, and for regulatory compliance. The majority of Metropolitan's HVAC equipment is over 32 years old, requiring more corrective maintenance to remain operational, and consuming more electricity than newer, more energy efficient units. This project consists of a five-year, phased replacement of outdated HVAC infrastructure with certified energy efficient equipment, and will address regulatory changes in EPA guidelines, which are phasing out the refrigerants currently used in most of MWD's HVAC systems. The project will also (1) modernize HVAC controllers into a cohesive building automation network to allow Metropolitan staff to more efficiently respond to HVAC interruptions, more quickly troubleshoot problems, provide early detection of problems before catastrophic failures, and ensure optimal performance of the HVAC systems; and (2) upgrade existing or install new air filtration systems with high efficiency particulate air (HEPA) filtration and germicidal equipment such as UV disinfection to occupied buildings to provide enhanced protection from airborne viral and bacterial particulates.

La Verne Shops Improvements

The La Verne Shops are located on the grounds of the Weymouth plant and have been in service since 1941. The shops were expanded in the 1960s, and were expanded again in the 1980s to support a major rehabilitation of the pumps along the CRA.

A shop modernization program was started in 2002, and included building expansions and upgrades, and shop equipment replacement or refurbishment. Most of the shop equipment is 27 to 37 years old, with a few pieces close to 47 years old, and a 20-year-plan to replace and refurbish the shop equipment has been developed. The building expansions and upgrades included expanding the existing shop buildings, upgrading portions of the existing buildings, and replacing and refurbishing shop equipment. The first four stages of this project are complete, which included building expansion and refurbishment/replacement of most of the equipment.

The fifth and final stage focuses on the procurement and installation of new fabrication and machine shop equipment, including a hydraulic shear, hydraulic press brake, waterjet cutting system, horizontal band saw, and vertical machining center. This new equipment will replace existing equipment that is up to 35 years old and is not viable to refurbish. This last stage will also include refurbishment of various remaining existing machines; safety upgrades to roof ladders and walkways; and installation of new electrical circuit, unit power center for an uninterruptible power supply, ductbanks for various utilities, shop heaters, air compressors, various utilities, and other appurtenances to support the shop operations.

La Verne Field Engineering Building Replacement

This project provides a new Field Engineering Building to replace the existing one, which does not meet Metropolitan's current seismic building standards, and is limited in function due to HVAC deficiencies and work space constraints. The Field Engineering Building, located at Metropolitan's La Verne Facility, was designed and built over 52 years ago in accordance with building codes current at that time.

This project will include a detailed value engineering study to confirm the recommended approach to construct a new building in lieu of retrofits to the existing structure. This project will also include a comprehensive siting study to ensure that the proposed footprint of the new building does not interfere with the current and future requirements of Metropolitan's La Verne Facility. This project will enhance infrastructure safety, security, and resiliency.

La Verne Support Buildings Seismic Improvements

As part of Metropolitan's seismic upgrade program, a rapid evaluation was conducted and identified seismic deficiencies in Weymouth Softener Buildings Nos. 1, 2, and 3, Weymouth Central Stores Storage/Paint Shop - Building 32/32A, and the Weymouth General Storage Building - Building No. 33. This project will evaluate future uses of these structures, construct improvements to address these deficiencies, as well as, should it provide value to the District, improve non-structural features in each building such as roofing, insulation, and other building characteristics. This is a new project for this budget cycle.

Lake Mathews, Garvey and CUF Support Facilities Seismic Upgrade

As part of Metropolitan’s seismic upgrade program, a rapid evaluation was conducted and identified seismic deficiencies in the Garvey microwave station; the Lake Mathews Hazardous Materials Building, meter shop, auto shop, and heavy equipment shop; the Chlorine Unloading Facility Main Office; and other buildings at these locations. This project will construct improvements to address these deficiencies, as well as, should it provide value to the District, improve non-structural features in each building such as roofing, insulation, and other building characteristics. This is a new project for this budget cycle.

Lake Mathews Facility Wastewater System Replacement

The wastewater system at Lake Mathews has been in operation for nearly 82 years and is no longer reliable. Despite receiving regular maintenance, the system is exhibiting signs of failure including plumbing and septic tank backups, clogged leach fields, and slow-draining collection pipes. On-site treatment of the wastewater via septic tanks will be discontinued, and new collector lines will be connected to the local sewer system that was installed in the early 2000s. Western Municipal Water District has a nearby sewer main that includes a connection point specifically installed for Metropolitan’s future use. This connection can accept wastewater by gravity from the entire on-site system. This project will remove the on-site wastewater system and construct wastewater system that ties into the Western Municipal Water District’s sewer line to reduce the risk of costly unplanned repairs and to maintain system reliability.

Etiwanda Test Facility

Metropolitan had previously used its Yorba Linda Facility to evaluate and equipment, test operational concepts and qualify equipment. The water used for testing was obtained from the Santiago Lateral and discharged into the Santa Ana River. Environmental constraints on the discharge of water made the facility’s use impractical, and the test facility was shutdown. This project constructs a new test facility at Etiwanda Reservoir in order to test new emerging technologies, emerging regulations related to metering, and to validate non-standard service connections. Specifically, a new facility would allow staff to test equipment such as valves, meters, coatings, and other treatment and distribution devices; conduct expedited test to maintain a pre-approved equipment list for low bid procurement; simulate problematic flow meter installations and low flow conditions; and test the accuracy of existing flow meter installations.

New La Verne Warehouse

The Central Stores Warehouse at La Verne is Metropolitan’s main warehouse for storing materials, supplies and equipment used by field personnel to support Metropolitan’s operations. It is comprised of four main buildings (Buildings 30, 31, 32A, and 33). A recently completed seismic evaluation found that the buildings may be damaged from a maximum credible earthquake. The cost to retrofit the all four buildings is cost prohibitive. In addition, the buildings lack the storage space necessary to house Metropolitan’s materials, supplies and equipment. The buildings also are not suitable to safely store adequate supplies of medical grade supplies and essential commodities for emergency preparedness such as for pandemics. Furthermore, they lack equipment to handle large assets like the large diameter specialty valves. This project will construct a new warehouse, which will provide approximately 55,000 square feet of indoor floor space with approximately 30,000 square feet of outdoor storage yard covered under canopies. This project will also demolish Buildings 30 and 31 and restore and seismically retrofit the Buildings 32A and 33 to meet the current building code. The new warehouse and retrofitted buildings will support Metropolitan’s ongoing operations and maintenance, capital construction efforts, and emergency preparedness.

System-wide Paving & Roof Replacements

Similar to infrastructure throughout Metropolitan, pavements and roofs deteriorate over time due to wear and tear from use, weathering and precipitation. The planned pavement and roofing rehabilitation projects will encompass water treatment plants, pumping plants, various maintenance facilities and access roads within Metropolitan's service areas. These projects will also improve the subgrade and drainage systems as required.

This project will allow various paving and roof replacements throughout Metropolitan's facilities to be authorized by the General Manager similar to the Minor Capital Projects Program. Establishing a project to fund a limited amount of paving and roof replacement on an annual basis will allow these needed replacement projects to proceed expeditiously.

Water Quality Laboratory Building Seismic & HVAC Upgrades

This project addresses seismic upgrades, building expansion, and other building improvements for the Water Quality Laboratory. The Water Quality Lab was constructed in accordance with the building codes at the time of construction and is treated as an essential facility. However, industry knowledge of earthquakes and seismic design has greatly improved over the years, leading to the development of more stringent, modern seismic codes for this type of facility. To minimize the risk of damage to the plant during a major earthquake, seismic upgrades are recommended. Also, new regulatory requirements associated with Quagga Mussels, per- and polyfluoroalkyl substances (PFAS), and other water quality concerns will be addressed.

In addition to the seismic upgrades, a building expansion and functional layout improvements such as laboratory and office space reconfiguration, lab equipment replacements, accessibility improvements, HVAC and roof replacements, and other related building improvements necessary to renovate the building to support Metropolitan to meet current and future water quality regulations.

System Reliability - Security and Other Project Group

Coyote Creek PCS HEP Perimeter Security Upgrade

The Coyote Creek Pressure Control Structure (PCS) and Hydroelectric Plant (HEP) facility falls under North American Electric Reliability Corporation (NERC) and Federal Energy Regulatory Commission (FERC) oversight and must adhere to critical infrastructure regulations set by these agencies. The current perimeter security fencing and security measures at this site do not meet the NERC/FERC security standards. This project will replace all perimeter fencing and both entry gates, relocate the rear vehicle gate to the front of the driveway at Lambert Road, and install multiple network security detection systems to detect and deter unauthorized individuals from accessing the site. This is a new project for this budget cycle.

Diamond Valley Lake Network Security Detection Systems

In 2018, a serial arsonist set 11 fires in the Diamond Valley Lake (DVL) area. This project will install multiple network detection security systems around DVL to cover areas with historically high security incidents. The network detection security system will utilize ground-based radar and thermal imaging as necessary to monitor for trespassing, criminal activity, security incidents, illegal dumping, fire, and medical emergencies. This is a new project for this budget cycle.

Eastern Region Security Camera Replacement

The existing camera system that serves the Eastern Region of Metropolitan's distribution system requires frequent maintenance, is obsolete and is not integrated with the current enterprise system, and its coverage is incomplete. This project will replace the existing camera system with new enhanced camera system and install other security related equipment in this region to enhance the theft and trespassing detection and deterrence, lower maintenance costs, and better leverage the available bandwidth and data storage capabilities to provide better video feeds and recordings. This is a new project for this budget cycle.

Etiwanda Reservoir Security Upgrades

Etiwanda Reservoir has experienced incidents of trespassing and illegal dumping. This project will replace the gate near residences with a high security gate that is cut and climb resistant and install multiple network security detection systems to detect and deter unauthorized individuals from accessing the site. This is a new project for this budget cycle.

Headquarters Building Automation System Upgrades

The building automation system controls all lighting, carbon monoxide monitoring system, HVAC, and associated mechanical equipment in Metropolitan's Headquarters Building. The system is required to operate the building in an energy efficient manner, consistent with Title 24 energy efficiency standards. In the event of a building automation system failure, thermal control within the data center would be lost and garage exhaust fans within the parking garage would become inoperable, resulting in damage to critical facilities and unsafe conditions, respectively. The existing building automation system is obsolete and is no longer supported by the manufacturer.

This project will replace the existing building automation system with a new nonproprietary system and will support integration of the new fire and smoke control systems that will be installed under the Headquarters improvements project.

Headquarters Building Interior and Exterior Lighting and Control System Upgrade

The existing fluorescent lighting fixtures in the Metropolitan Headquarters building are 23 years old and past their service lives. As the fixtures and components continue to age, the risk of fire hazard will increase and in July 2019, a fire incident occurred on the first floor due to the deterioration of fixture components. This project will replace and upgrade interior and exterior lighting with new energy efficient light emitting diode (LED) fixtures controlled by a new lighting control system which allows for programmable on/off, dimming, daylight harvesting, and occupancy sensing. This project will bring the building lighting up to the current California Title 24 building standards and may qualify for Los Angeles Department of Water and Power's Commercial Lighting Incentive Program. This is a new project for this budget cycle.

Headquarters Chiller Plant Upgrade

Metropolitan's Headquarters' original central plant cooling equipment was installed in 1997 when the building was constructed. This equipment provides the comfort cooling requirements for the Metropolitan Headquarters Building. Chillers and cooling tower equipment typically has a lifespan of 10 to 25 years and the existing equipment in the building is no exception. Costs to maintain the aging, obsolete, and inefficient equipment continue to increase. This project will replace the central plant cooling equipment with new chillers, cooling towers and related mechanical, electronic and electrical systems that meet today's energy efficiency and seismic standards. This is a new project for this budget cycle.

Headquarters Facility Replacement of Modular Furniture

The service life of office modular furniture is about 20 years and the existing furniture in Metropolitan Headquarters Building predates the building since it was originally purchased and used when Metropolitan worked out of Cal Plaza. Additionally, the furniture supplier has discontinued this line of products. This project includes space planning, which will develop new furniture standards and guidelines that address changing organizational needs; replacement of obsolete modular furniture; installation of new common use space/privacy rooms/meeting rooms/storage; additional enclosed offices; associated power, communication and network installations in walls, ceilings, and floors; and other work to comply with safety codes. This is a new project for this budget cycle.

Headquarters Improvements

Analysis has confirmed that the Headquarters Building does not meet current building code criteria for an Essential Facility. While the building remains safe to occupy, seismic strengthening to meet updated code levels is recommended in order for operations and business functions to continue following a major earthquake. This upgrade will increase the Headquarters Building's level of seismic performance and safety to that of an existing state-owned building and will reduce the risk of significant damage and resulting business interruption due to a major earthquake.

Construction of the seismic upgrades poses logistical challenges associated with the major retrofit of a high-rise building while the facility remains operational. During the anticipated three-year duration of construction, two to three floors of the high-rise tower will be vacated sequentially to allow a contractor to execute the repairs. Metropolitan staff will be relocated in stages to the five-story wing of the building.

Seismic upgrade work provides an opportunity to complete improvements to specific building systems in a cost-effective manner, while the floors are unoccupied and building finishes are removed. The Headquarters Building is over 20 years old, and some of its features need to be upgraded or replaced. These features include the fire/life safety systems including existing fire sprinkler piping at the parking garage, some of the kitchen equipment and ceiling/wall finishes, HVAC system equipment including cooling towers, air handler units, chillers, air disinfection systems, and associated mechanical, electrical, and control systems, restroom facilities on several floors, and video rooms and video production equipment.

Headquarters Security Improvements

The comprehensive security upgrades for Metropolitan's Union Station Headquarters have been prioritized and staged to minimize rework and impacts to operations. The Stage 1 work is complete, which enhanced perimeter windows and doors by providing needed blast protection. The Stage 2 work, currently in construction, provides security system upgrades inside the building with entry validation, surveillance and intrusion protection, and additional security features in the main entry rotunda area, board room, executive dining lounge, and security control room. Stage 3 is in design phase and will enhance perimeter security along the exterior of the building and courtyard including bollards and gates.

Hinds Pumping Plant Perimeter Security Upgrades

Existing portions of the current perimeter fencing at Hinds Pumping Plant are deteriorated and do not deter intruders. The inability to properly monitor the area has resulted in incidents of theft and illegal dumping. This project will install a complete and continuous anti-cut anti-climb perimeter fence and multiple network security detection systems at Hinds Pumping Plant to detect and deter unauthorized individuals from accessing the site. This is a new project for this budget cycle.

Lake Mathews Network Security Detection Systems

Existing portions of the current perimeter fencing at the Lake Mathews facility are deteriorated and do not prevent intruders. The inability to properly monitor the area has resulted in incidents of theft and illegal dumping. This project will install multiple network detection security systems around Lake Mathews to cover areas with historically high security incidents. The network detection security system will utilize ground-based radar and thermal imaging to monitor for trespassing, criminal activity, security incidents, illegal dumping, fire, and medical emergencies. This is a new project for this budget cycle.

Perris PCS Perimeter Security Upgrades

The current fencing at the Perris Pressure Control Structure (PCS) is inadequate, evidenced by a recent intrusion. This project will replace all perimeter fencing with a high security fence that is cut and climb resistant with a 3-strand barbed wire top guard, and install multiple network security detection systems with the intent to lower the District's exposure to theft, arson, and vandalism. This is a new project for this budget cycle.

Power Switch Yard Protection

Several of Metropolitan's switch yard facilities fall under North American Electric Reliability Corporation (NERC) and Federal Energy Regulatory Commission (FERC) oversight and must adhere to infrastructure regulations set by these agencies. This project will install ballistic barriers and chain link roofs at all power switch yards throughout the District to protect equipment from projectiles and drone attacks. This is a new project for this budget cycle.

Security System Upgrade

The electronic security system is the backbone of Metropolitan's physical security system. Studies indicate that replacement of the 17-year-old system is not yet required; however, incremental upgrades are needed to extend the life of the system. Work includes hardware and software upgrades to network controllers, computer servers, card readers, and the video management system.

Valley View PCS HEP Perimeter Security Upgrades

The Valley View Pressure Control Structure (PCS) and Hydroelectric Plant (HEP) facility falls under North American Electric Reliability Corporation (NERC) and Federal Energy Regulatory Commission (FERC) oversight and must adhere to critical infrastructure regulations set by these agencies. Upgrades to perimeter security fencing and security measures are needed to comply with NERC/FERC security standards. This project will replace fencing and gates to meet security standards and will install multiple network security detection systems to detect and deter unauthorized individuals from accessing the site. This is a new project for this budget cycle.

Wadsworth/DVL Control & Protection System Upgrade

This project is the final phase of the Wadsworth Pumping Plant/DVL control system upgrade and includes replacement of the entire Diamond Valley Lake (DVL) control and communications systems, the protection relay system, UPS, vibration monitoring system, and pump/turbine drive controls.

West Portal Perimeter Security Upgrade

The West Portal site of the San Jacinto Tunnel does not have a continuous perimeter fence. The location is susceptible to intruders. This project will install a complete and continuous anti-cut anti-climb perimeter fence with barbed wire top guard at West Portal to meet security standards and will install multiple network security detection systems to detect and deter unauthorized individuals from accessing the site. This is a new project for this budget cycle.

Western Region Security Camera Replacement

The existing camera system that serves the Western Region of Metropolitan's distribution system requires frequent maintenance, is obsolete, is not integrated with the current enterprise system, and its coverage is incomplete. This project will replace the existing camera system with new enhanced camera system and install other security related equipment in this region to enhance the theft and trespassing detection and deterrence, lower maintenance costs, and better leverage the available bandwidth and data storage capabilities to provide better video feeds and recordings. This is a new project for this budget cycle.

Treatment Plant Reliability Program

Fiscal Year 2022/23 Estimate: \$24.9 million

Fiscal Year 2023/24 Estimate: \$17.2 million

Program Information: *The Treatment Plant Reliability Program is comprised of projects to replace or refurbish facilities and components of Metropolitan's five water treatment plants in order to continue to reliably meet treated water demands.*

Accomplishments for FY 2020/21 and FY 2021/22

Diemer Plant

New Projects Initiated:

- Diemer Electrical Improvements
- Diemer Filter Rehabilitation
- Diemer Power and Distribution Panel Upgrades

Major Milestones Achieved:

- Diemer Basin Rehabilitation - construction of the west basins completed
- Diemer Filter Building Seismic Upgrades - construction of seismic upgrades for the west filter building completed
- Diemer Filter Valve Replacement - construction of valve replacement for the west filters completed
- Diemer Water Sampling System Improvements - construction completed

Jensen Plant

New Projects Initiated:

- Jensen Control Room HVAC
- Jensen New Caustic Soda Tank Farm at the Combined Filter Effluent
- Jensen Reservoir Bypass Gate Refurbishment

Major Milestones Achieved:

- Jensen Modules 2 and 3 Flocculator Rehabilitation – construction completed
- Jensen Ozone PSU and Critical Component Upgrade – design completed
- Jensen Electrical Upgrades - Stage 2 – construction completed

Mills Plant

New Projects Initiated:

- Mills Ozone PLC Control and Communication Equipment Upgrade
- Mills Electrical Upgrades – Stage 2

Major Milestones Achieved:

- Mills Electrical Upgrades – construction of Stage 1 completed
- Mills Electrical Upgrades – construction of Stage 2 started
- Mills Ozone PLC Control and Communication Equipment Upgrade – procurement contract awarded

Skinner Plant

New Projects Initiated:

- Skinner Fluoride Tank Replacement

Major Milestones Achieved:

- Skinner Survey Building Roof Replacement – construction completed
- Skinner Ozone PLC Upgrade – installation completed

Weymouth Plant

New Projects Initiated

- None

Major Milestones Achieved:

- Weymouth Basins 5-8 and Inlet Channel Refurbishment – final design completed
- Weymouth Chlorination System Upgrades – construction completed
- Weymouth Domestic Water System Improvements – construction completed
- Weymouth Water Quality Instrumentation Improvements – construction completed

Objectives for FYs 2022/23 and 2023/24

Project	Total Project Estimate	Estimated Construction Completion	Major Milestones
Diemer Chemical Feed Systems Improvements	\$ 11,300,000	2026	Complete design
Diemer Filter Rehabilitation	\$ 49,700,000	2026	Complete design
Jensen Electrical Upgrades - Stages 1 & 2	\$ 54,000,000	2022	Complete Stage 2 construction
Jensen Ozone PSU and Critical Component Upgrade	\$ 14,300,000	2023	Complete construction
Jensen Site Security Upgrade	\$ 2,100,000	2024	Complete construction
Mills Electrical Upgrades - Stage 2	\$ 14,500,000	2024	Complete construction of Stage 2
Mills Fluorosilicic Acid Tank Replacement	\$ 2,500,000	2024	Complete construction
Mills Perimeter Security and Erosion Control Improvements	\$ 5,800,000	2024	Complete construction
Skinner Fluorosilicic Acid Tank Replacement	\$ 1,600,000	2024	Complete construction
Skinner Ozone Contactor Roof Elastomeric Coating	\$ 2,300,000	2023	Complete construction
Skinner Sulfuric Acid Transfer Line Rehabilitation	\$ 1,400,000	2025	Complete design
Weymouth Basin 5-8 and Inlet Channel Refurbishment	\$ 65,000,000	2024	Begin construction
Weymouth Filter Valve Replacement	\$ 24,400,000	2024	Begin construction
Weymouth Hazardous Waste Staging and Containment	\$ 2,600,000	2023	Complete construction

Diemer Project Group

Diemer Administration Building HVAC Replacement

The existing HVAC system in the Diemer plant's Administration Building consists of two 20-ton, chilled and hot water coiled air-handling units, which maintain multi-zone work-space environments on both floors. The 57-year-old units are beyond their expected operating life and have caused issues with regular maintenance activities. This project will replace the existing HVAC units with new energy efficient units and upgrade the temperature control system for the building. The project will also replace chiller, boiler, compressor, and make ductwork modifications. Seismic anchorage of the equipment will be incorporated to meet the current building code.

Diemer Chemical Feed System Improvements

The chemical feed equipment for ammonia, alum/ferric chloride, sodium hydroxide, fluorosilicic acid, liquid polymer, and dry polymer at the Diemer plant has aged and its reliability has deteriorated over the years. Most equipment is over 22 years old and has experienced failures. Some of the repair parts are no longer manufactured and are difficult to obtain. Loss of chemical feed or inadequate feeding capacity could disrupt plant operations. In addition, design criteria for some of the chemicals have changed and the existing equipment is unable to cover the required range for chemical feed. This project will replace the worn-out feed equipment and optimize the system design to improve system reliability and to protect treated water quality.

A canopy over the caustic soda tank farm and a new fluoride tank farm is needed to improve operations at the Diemer plant. Heat tracing around caustic feed lines is required to feed 50% caustic soda during the winter months. However, rainwater trapped within the chemical containment area could submerge the heat tracing wires. A canopy will minimize rainwater accumulation within the containment area and eliminate electrical hazards. The plant's fluoride tanks have reached the end of their service life and lack access for inspection and maintenance. This project will install a canopy over the existing caustic soda feed equipment; and replace the two fluoride storage tanks, associated feed equipment, and the roof over the fluoride tank farm.

Diemer Power and Distribution Panel Upgrades

Power and distribution panels that were installed during the original Diemer plant construction, are more than 57 years old. These panels, circuit breakers, and feeder conductors (wires that feed the panels) have exceeded their normal life span and have deteriorated. This project will upgrade the aged electrical equipment to meet the current electrical code and enhance the plant's reliability. The improvements will allow the electrical equipment to be taken out of service for preventive maintenance, replacement, and testing in a safe working condition.

Diemer Erosion Control Improvements

The Diemer plant is located on the top of a hill in the city of Yorba Linda and consists of numerous fill slopes. Due to the large water-bearing structures at the Diemer plant, some of these slopes are within the State of California Department of Water Resources Division of Safety of Dams (DSOD)'s jurisdiction. Some slopes within the Diemer plant have eroded and are in need of rehabilitation. This project will provide site improvements for grading, drainage, and erosion/sediment control to erosion-damaged slopes at the plant site.

Diemer Filter Rehabilitation

The Diemer plant has 48 independent filter units that are normally operated from the main control room, although they also have the capability to be operated locally if needed. Over the life of the Diemer plant, staff has performed regular maintenance on the filters to support reliable plant operation. However, as regulations and source water conditions have changed, filter performance reliability has decreased. Metropolitan's Water Quality recently developed recommendations for the rehabilitation of all Weymouth filters, including reconfiguration of underdrains, media, troughs and surface wash systems. Due to the similarities between the filters at Diemer and Weymouth, staff recommends implementing the same filter modifications at the Diemer plant.

This project will rehabilitate all of the Diemer plant's filters to improve their performance and enhance treatment plant reliability. The planned rehabilitation work includes replacing the filter media with optimized size and depth specifications; replacing the surface wash system with larger piping and improved flow configuration; replacing the underdrains; modifying flow distribution flumes; and raising and replacing the existing troughs to accommodate a higher depth of filter media.

Diemer Ozone Network Upgrade

Ozone is the primary disinfectant at Metropolitan’s water treatment plants. At the Diemer plant, the programmable logic controllers (PLCs), which control the ozone process, have exceeded their service lives; are discontinued; and the existing firmware has security flaws. This project will replace the PLC processors, upgrade the network modules to ethernet, modify the existing fiber optic cable infrastructure to support the new district standard ethernet, and other appurtenances necessary to complete the upgrade. The existing PLC configuration will be migrated to the new processors and the operations manual will be updated to reflect the associated changes. This is a new project for this budget cycle.

Diemer Wastewater Reclamation Facilities Reliability Improvement

Approximately 40 percent of Diemer plant’s existing Wastewater Reclamation Plant (WWRP) is constructed on long slender piles and earthen fill, which form a level surface at the top of a slope. Seismic rehabilitation is required to ensure reliability of the WWRP facility. In addition, submerged WWRP equipment is continually subjected to abrasive and corrosive operating conditions caused by the solids in the used filter backwash water. The WWRP’s two identical treatment trains share a common influent channel and both must be removed from service during maintenance. This project will retrofit the WWRP with reliability improvements, including a new coal grit removal facility and new headworks to allow independent shut-down of each individual process trains. Seismic stabilization will be accomplished by replacing the existing sedimentation basins with smaller footprint inclined plate settlers to reduce the footprint and move the process away from the seismically vulnerable fill portion of the pad. The project also includes modifications to the existing chemical feed system, sludge line, and utilities at the west slope.

Diemer Water Sampling System Improvements

The existing sample lines at the Diemer plant do not meet the 10-minute turnover rate requirement from sample point to laboratory sample taps due to long sample lines and pressure limit for the existing polypropylene tubing used to transport the samples. This project will upgrade the existing sample lines and all sample pumps to allow higher operational pressure to shorten the transport time. In addition, new chlorine analyzers, turbidimeters, and pH analyzers will be installed closer to the sample locations to eliminate variable analytical results caused by algae growth, solids deposition, temperature variation, and excessive detention time in the sample lines. These local analyzers will reduce distances from sample point to analyzer to better represent actual conditions in the process stream.

Jensen Project Group

Jensen Bull Creek Repair

The Bull Creek channel located on the east side of the Jensen plant has suffered significant erosion from continued stormwater flow during the past wet seasons. This project will rehabilitate approximately 800 feet of the Bull Creek channel to prevent erosion through the use of biological and engineered solutions. The work includes: installation of rip rap and slurry backfill along the channel; repairing damaged concrete liner on the channel sides, restoration of the broken apron next to the railroad bridge, and revegetation of native species to keep sediments in place and reduce erosion. In addition, a catch basin and other stormwater management infrastructure will be constructed along the San Fernando service road to the Jensen plant, to mitigate excessive erosion on the north bank of the Bull Creek.

Jensen Chemical Feed Improvements

This project will improve several chemical feed systems at the Jensen plant, including replacing two fluorosilicic acid (fluoride) tanks, rehabilitation of sulfuric acid tanks, construction of a new caustic soda tank farm near the filtered water line, and containment upgrades for the liquid polymer system.

The Jensen plant relies on two 9,000-gallon cross-linked high-density polyethylene (HDPE) tanks for the storage of fluorosilicic acid. Internal inspections have identified cracks in the two fluorosilicic acid tanks. This project will replace the fluoride tanks with tanks of the same capacity and improved mechanical properties to provide an expected service life of 20 years.

A recent internal inspection of one of two sulfuric acid tanks at the Jensen plant identified corrosion in the tank wall material and welds. Reconfiguration of the transfer piping and basket strainer is needed to minimize clogging and facilitate chemical transfer between the tanks. This project will rehabilitate Jensen's two sulfuric acid storage tanks, apply new protective coating to the sulfuric acid tank farm, and complete minor modifications to the sulfuric acid feed system piping within the acid tank farm.

The Jensen plant's existing caustic soda tank farm was installed in 1970, and needs to be replaced. Caustic soda is used to increase the pH for corrosion control. The caustic soda dosage varies based on source water quality and the amount of other chemicals (e.g. sulfuric acid and alum) applied during the treatment process. Currently at the Jensen plant, sulfuric acid is added to suppress the pH and control bromate formation and then caustic soda is added to reduce corrosion in the distribution system. This project allows the Jensen plant to meet current water quality design criteria for bromate control with the addition of ammonia and chlorine added upstream of the ozone contactor. This approach would significantly reduce the plant's usage of both sulfuric acid and caustic and reduce overall chemical costs. With the ammonia-chlorine process to control bromate, caustic soda would only need to be added to the filtered water. This allows the new caustic soda tank farm to be sized, designed, and built specifically for adding caustic soda to the filtered water. This project will replace the existing tank farm with a new facility located near the filtered water line.

In addition, the liquid polymer unloading facility does not have a permanent spill containment system. This project will provide a permanent single concrete unloading facility for both chlorine neutralizing caustic soda and liquid polymer chemicals, equipped with a new sump and discharge piping to provide secondary containment. In addition, the ferric chloride handling facility and the Liquid Polymer Building will be removed.

Jensen Chlorine Caustic Scrubber Tanks Replacement

Similar to the other four water treatment plants, the Jensen plant uses caustic scrubbers to neutralize chlorine gas in the event of an accidental leak in the chlorine containment building. The existing scrubber systems are experiencing corrosion and the best option for rehabilitation of this safety system is replacement of the scrubber tanks. This project replaces the caustic scrubber tanks and associated equipment. This is a new project for this budget cycle.

Jensen Control Room HVAC

The Jensen plant was placed into service in 1972. During recent wildfire events, it was observed that existing HVAC systems do not meet the objective of reliably maintaining air quality in the control rooms that must be staffed at all times. This project will provide improved air quality in the Jensen control rooms to ensure that the plant can be reliably operated during periods of poor outdoor air quality. This project will: (1) install dedicated high-efficiency heating, ventilating, and air conditioning (HVAC) system for the main plant control room in the administration building and the secondary plant control room in the ozone generator building, and (2) seal the two control rooms from other portions of the building to reduce smoke or other air quality contaminants from entering the control room.

Jensen Electrical Upgrades

The Jensen plant's electrical system was designed to meet then-current electrical codes when the plant was constructed over 42 years ago. The aging electrical equipment has deteriorated through long-term continuous use, lacks redundancy, and is difficult to maintain and repair. Much of the equipment is underrated by current standards and does not have adequate short-circuit interrupting capability, which results in an elevated risk of unplanned outages and equipment damage. This project will replace aging equipment and provide needed redundancy for critical components of the plant's electrical system. To expedite completion of the most critical electrical upgrades while minimizing impacts to plant operations, the upgrade work has been prioritized and staged. The Stage 1 work improved the medium voltage switchgear on the western portion of the plant and provided electrical infrastructure for the Jensen Solar Power Plant. Stage 2 improvements are underway to upgrade UPC-7, UPC-9, and their associated motor control centers to support critical process equipment such as the washwater pumps, service water pumps, washwater return pumps, filters, thickeners, sludge pumps, and ammonia facilities. Stage 3 improvements will upgrade the remaining components of the electrical system on the eastern portion of the plant, including geotechnical seismic analysis of the east side of the plant to determine areas of seismic vulnerability.

Jensen Entrance Improvements

Both main Jensen plant gates at San Fernando and Balboa entrances need to be redesigned to improve security and traffic flow consistent with Metropolitan's other Treatment Plants. This project will enhance security of the Jensen plant's entrances. Project scope includes replacement of security gates; installation of traffic control devices to improve security at the entrance points of the Jensen plant; and installation of fire-resistant plants and irrigation along the west side of the plant.

Jensen Hazardous Waste Containment Facility

The Jensen plant currently stores its hazardous waste in a storage area that was repurposed from a general equipment storage area. The existing site has inadequate storage space for the facilities' needs. In addition, the waste containment area roof covering does not provide adequate protection from the rain and sun. This project will replace and relocate the Jensen plant Hazardous Waste Consolidation Site (commonly known as 90-day storage).

Jensen Module 1 and Washwater Pump Rehabilitation

Washwater pumps are used to pump water from the combined filter effluent to the washwater tanks. The tank water is then used to back wash filters. If washwater pumps are unavailable, the plant cannot perform filter backwashes that are necessary to maintain operation of the filtration process. Jensen's Module No. 1 washwater (WW) lift pumps were installed with the original plant construction and have been in service for 52 years. Inspection and testing has revealed significant corrosion in the pumps' housings, and diminished pump output. The pumps have reached the end of their useful life and should be rehabilitated. This project will rehabilitate the Module No. 1 vertical turbine washwater lift pumps, modify the piping for the Module No. 1 service water and washwater lift pumps, and will replace the open motors with closed motors.

Jensen Modules 2 and 3 Traveling Bridge and Basin Rehabilitation

This project will rehabilitate Modules Nos. 2 and 3 traveling bridges and sedimentation basins at the Jensen plant to enhance solids removal efficiency. Planned work includes replacing the existing traveling bridge end-truck structure, drive system, rails, and racks; replacing suction pumps and flexible hoses; retrofitting the suction piping; replacing sludge line piping, rehabilitating/replacing launder gates and launders; upgrading the bridge control system and power supply; replacing the 48-existing basin inlet gate actuators; recoating bridge trusses; replacing basin guardrails; and installing improvements to prevent bird nesting within the basin.

Jensen Ozone PSU and Critical Component Upgrade

Ozone is used as the primary disinfectant at Metropolitan's treatment plants. However, the critical systems associated with ozone generation have deteriorated or have become obsolete after 17 years of operation and need to be upgraded. This project will upgrade the units that provide power to the Jensen plant's ozone generators and will replace outdated components of other critical systems associated with the plant's ozone generation, which have reached the end of their service life, and are no longer supported by the original equipment manufacturer. The systems to be upgraded include the following areas: (1) power supply unit (PSU); (2) nitrogen supply system; (3) ozone destruct units; (4) dissolved ozone; (5) cooling water loop; (6) ozone generator dielectrics; (7) liquid oxygen vaporizers; and (8) other components of the ozone system. This project also will make modifications to re-purpose one existing PSU chiller as a backup HVAC chiller.

Jensen Raw Water Emergency Bypass

The Jensen plant is located within proximity of a number of faults, which are capable of generating large earthquakes. In the event of a large earthquake that can cause extensive damages to the plant and disables the water treatment capability, the plant does not have an emergency raw water bypass to deliver raw water under a boil water order in such a need were to occur. This project will improve resiliency against severe earthquake and enhance operational flexibility by constructing a raw water emergency bypass for the Jensen plant.

Jensen Reservoir Bypass Gate Refurbishment

The Jensen plant's existing reservoir bypass gates were installed in 1972 and allow the reservoirs to be isolated in case of water quality issues. The bypass gates are corroded and are currently inoperable because portions of the bronze bearings are degraded and missing. This project will enhance infrastructure security, and resiliency, and will improve the reliability of water deliveries by replacing the reservoir bypass gates.

Jensen Site Security Upgrade

The outdated Jensen plant's security system needs an upgrade to minimize risk of an intrusion. The existing camera system is undersized and aged. Planned upgrade includes installation of additional card readers and motion-activated lights in sensitive areas; replacement of existing aging security cameras with high resolution cameras; addition of new cameras, motion detection devices, and public announcement speakers to monitor the perimeter of the plant and deter intruders; replacement of security signage to meet current code; security upgrades of first floor windows; addition of horizontal structural support to strengthen the existing gates; and addition of new defensive barrier plants and trees to screen the west side of the Jensen plant.

Jensen Solids Handling System Upgrades

Efficient recovery of water from residual solids is critical for the operation and efficiency of the Jensen plant, the current system consisting of solids thickeners on the Jensen site, and solids lagoons located at the adjacent Los Angeles Department of Water and Power (LADWP) site.

The solids thickeners play a key role in the recovery of water from the residual solids. During thickener operation, operators rotate valves daily to divert flow of residual solids to different thickeners. These valves leak and are difficult to access. This project will reconfigure Solids Pump Station No. 2 to allow better access to the valves; and upgrade the solids splitter vault to facilitate remote operation.

Metropolitan has an ongoing lagoon use agreement with LADWP, which allows for Metropolitan's use of four of the lagoons located at the Los Angeles Aqueduct Filtration Plant (LAAFP) to process solids generated and conveyed from the Jensen plant. Under this agreement, two of the lagoons can be used until October 1, 2062, and the other two until October 1, 2022. To reliably support the Jensen plant operation and provide operational flexibility during unfavorable source-water quality or higher water demand, it was recently determined that construction of two new lagoons to replace the two existing lagoons that must be returned to LADWP is not sufficient. This project will design and construct a new mechanical solids handling facility at the Jensen plant instead of constructing two new lagoons to replace the ones that must be returned to LADWP. This new mechanical facility will be sized to handle all of Jensen plant's solids handling needs when treating as much as 500 mgd.

San Fernando Road Rail Crossing Rehabilitation

The Jensen plant receives water treatment chemical supply by rail. Metropolitan's chlorine vendor is transitioning to heavier chemical railcars which require heavier gauge rails to meet Federal Railroad Administration regulations for hazardous chemical transportation requirements. This project will rehabilitate the deteriorated railroad crossing at San Fernando Road, upgrade the strength of the rails and turnout, add concrete crossing panels to handle heavy truck traffic, replace damaged asphalt, and install crossing arms and signage. This is a new project for this budget cycle.

Mills Project Group

Mills Basin Solids Removal Improvements

Currently, the Mills plant removes solids from each sedimentation basin using a bridge-mounted siphon system and discharges the solids to the retention basins. However, the siphon flow cannot be adequately controlled. As a result, excessive amounts of water are often siphoned to the retention basins, causing increased solids drying time and reduced retention basin capacity. This project will upgrade the traveling bridges' solids removal equipment and controls to improve the solids removal process at the Mills plant's Modules Nos. 3 and 4. The new equipment and controls will allow the plant to optimize its solids removal process by simultaneously reducing the amount of water removed from the basin and reducing excessive solids build-up in the basins.

Mills Electrical Upgrades

The electrical system at the Mills plant has deteriorated through long-term use, is difficult to maintain and repair, and needs improved backup capability. Failure of a single electrical device could impact the treatment process. The electrical upgrades at the Mills plant will be completed in three stages. Stage 1 upgrades addressed the highest priority work, including replacement of obsolete circuit breakers, expansion of the electrical building for UPC-9, installation of new air conditioning system, installation of MCCs and distribution of power feed to chemical feeds systems, washwater return pumps, modules 3 and 4 filter surface wash pumps, and improvement of power reliability for key process equipment. Stage 2 upgrades will add a second incoming 12 kV service from Riverside Public Utilities and upgrade the plant's main switchgear and standby generator switchgear. Stage 3 upgrades will install climate control systems and doors at two electrical buildings, modify electrical manholes, replace digital metering modules for all motor control centers, and add fiber optic cabling.

Mills Fluorosilicic Acid Tank Replacement

The Mills plant relies on two 6,250-gallon cross-linked high-density polyethylene (HDPE) tanks for the storage of fluorosilicic acid. These tanks have a recommended service life of 10 years and have been in service since 2007. Recent inspections have identified leakage at the bolted connections of both tanks. This project will replace the fluorosilicic acid storage tanks with capacity of 7,900-gallon and improved mechanical properties to provide an expected service life of 20 years. The project will also replace coating in the containment area as necessary.

Mills Modules 3 and 4 Flash Mix Chemical Containment Upgrades

The existing flash mix areas at Mills Plant Modules 3 and 4 contain chemical feed equipment for ammonia, polymer, caustic, alum, sodium hypochlorite and chlorine. The equipment is contained within a low concrete curb. To reduce the risk of chemical releases, improved containment is needed. This project will replace the chemical piping in the area with double-walled piping with a leak detection system; replace flow meters, valves, actuators, and control panels, and install flow meter display units in a weatherproof enclosure outside of the containment areas.

Mills Ozone PLC Control and Communication Equipment Upgrade

The Mills plant ozonation equipment utilizes a type of Programmable Logic Controller (PLC) that was introduced to the commercial market in 1988. Computer hardware from that era is now outdated, and the PLC manufacturer has announced that it will no longer produce or support this equipment. Inventories of spare parts will no longer be maintained once exhausted. Failure of a PLC and/or its communication module could cause a disruption in the ozone control system. This project will replace the equipment and modify the software to operate with the new equipment for the Mills ozone control system. The upgraded system will feature Metropolitan-standardized PLCs in an open-architecture approach that staff will be able to maintain and upgrade in the future.

Mills Perimeter Security and Erosion Control Improvements

The Mills plant has approximately 14,500 linear feet of perimeter fencing that is primarily a chain link with a height of six to eight feet. The fencing and several of the entry gates are deteriorating and may be vulnerable to security breaches. In addition, stormwater runoff has eroded an area on the southern boundary of the plant. This project will replace 7,700 feet of the existing fence with security fencing along the plant's southern, northern and western boundaries, replace existing guard shack and motorized sliding gate at the Barton Street entrance with motorized double swing gate with associated controls, replace three existing secondary gates with taller security gates with security cameras, and install one security camera at each of the sliding gates. Grading and erosion control improvements, such as installation of v-ditches and flow re-direction, will also be performed to prevent sediment from leaving the site. All improvements will be consistent with Mills plant's architectural design guidelines, and with Metropolitan's approach to facility security.

Mills Raw Water Emergency Bypass

The Mills plant is located within proximity of a number of faults, which are capable of generating large earthquakes. In the event of a large earthquake that can cause extensive damages to the plant and disables the water treatment capability, the plant does not have an emergency raw water bypass to deliver raw water under a boil water order in such a need were to occur. This project will improve resiliency against severe earthquake and enhance operational flexibility by constructing a raw water emergency bypass for the Mills plant.

Skinner Project Group

Skinner Finished Water Reservoir Slide Gates Rehabilitation

The three operational slide gates (Inlet, Outlet, and Bypass) that control the inlet and outlet flows from the Skinner Finished Water Reservoir have been exposed to a corrosive and wet environment since 1991. Visual inspections identified leaking gates and continuing deterioration of the slide gates' exterior coatings. These gates have been in service for 28 years and have not been recoated. This project will rehabilitate the three Skinner Finished Water Reservoir slide gates. The gates will be removed from the gate frames, thoroughly inspected for carbon steel material loss, blasted and recoated to extend their service life. The existing gate frames will be replaced with new frames and other installation components (i.e., guides, wedge blocks, and seals). In addition, the rejection structure will be modified to separate the stormwater and rejection water pipelines and prevent potential stormwater from flowing into the finished water reservoir.

Skinner Fire Protection System Expansion

The installation of a new Battery Energy Storage System (BESS) at the Skinner plant requires improvements to the plant's fire protection system. This project constructs a new fire hydrant, water pipes, and other improvements to provide a permanent fire protection water source for the Skinner's solar facility and BESS to comply with the fire codes. This is a new project for this budget cycle.

Skinner Fluorosilicic Acid Tank Replacement

Fluorosilicic acid tanks will be removed and replaced with two 8,200-gallon above-ground (Fluoride) tanks at the Skinner Plant. New extrusion-molded linear HOPE tanks will be installed. To minimize changes in the tank farm, the new tanks will match the dimensions and capacity of the existing tanks. Scope will include modification to the tank farm to provide access during construction and associated piping work to connect the new storage tanks to the existing chemically compatible PVDF tank farm piping. The new tanks will be mounted on the existing tank pads.

Skinner Module 7 Filter Inlet Valve Gearbox Replacement

Replace existing sixteen (16) units of discontinued and failing filter inlet valve gearboxes on Module 7 East and West Filter basins with new gearboxes to maintain a reliable filter operation at Skinner Plant. Removal of existing gearboxes and installation of new units will be undertaken by Skinner District Forces with the assistance of Engineering. Scheduling of the equipment replacement will be in accordance with Skinner Plant's water treatment operational requirements and with the water demand and supply conditions within the Skinner service area. Minor field adjustments will be done to align the existing actuators and vertical valve extension stems with the new valve and gearbox assemblies at the bottom of the filter influent channel.

Skinner Ozone Contactor Roof Elastomeric Coating

Leakage through cracks in Skinner plant's ozone roof deck was found in 2010. Cracks in the concrete roof deck can allow rain and nuisance water to be drawn down into the contactors which then mixes with the freshly ozonated water, creating a potential cross-connection. The water and air penetrating through the existing concrete roof decks exposes the rebar and structural steel in the decks, creating the potential of eventual structural failure to the roof decks. In addition, in order to keep the constant vacuum in the contactors, the Ozone Destruct Units have to work excessively which consumes additional electricity and affects the Destruct Units reliability and long-term life span. This project will abrasive blast, apply primer, and coat 61,000 square-feet of the Ozone Contactor Building concrete roof deck with an elastomeric coating to reduce potential structural damage and operational impact.

Skinner Ozone Contactors 1-2 and Influent Channel Concrete Refurbishment

Ozone gas and ozonated water are extremely corrosive oxidizers and can penetrate concrete walls to cause significant corrosion of structural steel and equipment. This project will inject chemical grout into the existing concrete walls of the Skinner Ozone Contactor Nos. 1 and 2 and the influent channel, in order to prevent ozone gas and ozonated water from penetrating the concrete walls.

Skinner Ozone Generator PLC Control & Communication Equipment Upgrade

The Skinner plant ozonation equipment utilizes a type of Programmable Logic Controller (PLC) that was introduced to the commercial market in 1988. Computer hardware from that era is now outdated, and the PLC manufacturer has announced that it will no longer produce or support this equipment. In addition, inventories of spare parts will no longer be maintained once exhausted. Failure of a PLC and/or its communication module could cause a disruption in the ozone control system. This project will replace the equipment and modify the software to operate with the new equipment for the Skinner ozone control system. The upgraded system will feature Metropolitan-standardized PLC's in a new code format to enable future maintenance and modifications as may be operationally necessary.

Skinner Plant 1 - Concrete Joint Sealant Replacement

Concrete joint sealant throughout Skinner Plant 1 is cracked, delaminating, degraded, or missing as it has exceeded its service life. The degradation has allowed vegetation growth and moisture, sediment, and other outside contaminants to enter and penetrate into the concrete joints. This project will remove severely degraded concrete joint sealant throughout Plant 1, prepare and primer the existing joints, and replace with new concrete joint sealant.

Skinner Raw Water Emergency Bypass

The Skinner plant is located within proximity of a number of faults, which are capable of generating large earthquakes. In the event of a large earthquake that can cause extensive damages to the plant and disables the water treatment capability, the plant does not have an emergency raw water bypass to deliver raw water under a boil water order in such a need were to occur. This project will improve resiliency against severe earthquake and enhance operational flexibility by constructing a raw water emergency bypass for the Skinner plant.

Skinner Sulfuric Acid Transfer Line Rehabilitation

The sulfuric acid transfer system at the Skinner plant is used to move chemical between tanks and is also used to homogenize the chemical within individual tanks. This critical water treatment system recently experienced a leak in a transfer pipeline. This project will replace degraded transfer and recirculation pipes with pipe made from more appropriate material, and includes adding pressure relief valves and alarms, and other appurtenant work to improve the safety and reliability of the sulfuric acid transfer system. This is a new project for this budget cycle.

Skinner WTP Service Building 1 Rehabilitation

Service Building 1 Rehabilitation will replace the sanitation facilities and roofing system and improve the staff work/meeting/lunch areas of the building. The scope includes the following: replace the roofing system; replace/upgrade all MEP and HVAC systems (mechanical; electrical; plumbing, heating, and air conditioning) to current building codes; upgrade IT requirements; comply with ADA requirements; improve employees shared facilities and offices (bathroom, locker rooms, break rooms, meeting rooms, cubicles); and abate all hazardous materials. Option to replace the building will be considered during the early phases of this project.

Weymouth Project Group

Oxidation Demonstration Plant Rehabilitation

Constructed in 1992, the 5.5 MGD Oxidation Demonstration Plant (ODP) provides a 1:100 demonstration-scale test facility of Metropolitan's full-scale plants. This demonstration scale testing capability is needed to ensure that Metropolitan continues to meet all current and future drinking water regulations. Currently, much of ODP's infrastructure has reached the end of its service life, which adversely affects the facility's continued safe and reliable operation. Among other associated improvements, the project will remove obsolete equipment; install new ozone generators, a new liquid oxygen (LOX) storage tank, and associated equipment; install variable frequency drives (VFDs) for the backwash pumps; rehabilitate secondary containment system for all chemicals used at the plant; and upgrade other electrical, mechanical, and control systems to make the plant operation more efficient, reliable, and safe. This is a new project for this budget cycle.

Weymouth Administration and Control Building Seismic Upgrades

The Weymouth Administration Building has been in service since 1941 and houses the plant's control room and administrative staff. The building needs to be seismically upgraded to current standards since this building is over 77 years old and is a critical facility to the operation of the water treatment plant. The project includes reinforcement of the walls for the plant's filter outlet channel and abandoned inlet channel.

In conjunction with the seismic upgrades, the California Building Code (CBC) requires the installation of a fire sprinkler system and accessibility improvements. Electrical, mechanical, and plumbing components impacted by the upgrades will also be reconfigured and modernized. The Weymouth plant's water quality sampling laboratory and office space will also be updated and optimized where required. The existing laboratory has been in continuous service for nearly 32 years.

Weymouth Basins 1 & 2 Rehabilitation

Basins Nos. 1 & 2 were built in 1939 as part of the original Weymouth plant construction. Each basin has a treatment capacity of 57.5 million gallons per day. These basins were originally designed to treat Colorado River Water (CRW). With the addition of State Project Water (SPW), the plant periodically requires higher coagulant dosages than CRW. As a result, the basins operated at a higher solids loading rate than the rate for which the basins were originally designed. This situation has dramatically increased run time on the basins' circular sludge rakes, which remove sludge from the basins. As originally designed, the sludge rakes only operated 1 to 2 hours every 4-7 days. Under current conditions, the sludge rakes are operated 6 to 12 hours each day which results in more frequent maintenance. These basins also have had issues with low solids-settling rates within the basins and high particle loading to the filters, or short-circuiting. The project includes the rehabilitation of the flocculation basins, settling basins, sludge collection equipment, baffling, and edge weirs.

Weymouth Basins 5 - 8 and Inlet Channel Refurbishment

The basin inlet channels deliver water to each of the Weymouth plant's eight flocculation/sedimentation basins. The inlet channel serving Basins Nos. 1-4 is a concrete box culvert constructed in 1940, while the inlet channel serving Basins Nos. 5-8 was constructed in 1962. A structural assessment of the basin inlet channels has found that they should be upgraded to reduce the risk of damage from a major seismic event. Inspections have also identified that wooden baffle walls have deteriorated after repeated wet and dry cycles and have shown a propensity to support algae and microbial growth.

For the inlet channel serving Basins Nos. 1-4, this project will strengthen the conduit and will reconfigure the channel to provide additional flexibility. For the Basins Nos. 5-8 refurbishment, the project includes repairing the steel guides; replacing the drive and paddle shaft assemblies; replacing the baffle boards, supports, and paddle wheel boards in the flocculation section. The project also includes filling the interior corners of each cell with sloping concrete fillets to direct residual solids into the path of the rotating scrapers; refurbishing the structural members of the catwalks; replacing the sedimentation basin sludge collector rakes, drives, and pumps; replacing launders, launder isolation gates, and drains; installing utilities, handrails, and other work necessary to complete the basin refurbishment. Replacement of inlet channel gates for Basins 1 through 8 and inlet channel seismic structural upgrades for Basins 5 through 8 are also part of this project.

Weymouth Chlorine Delivery Railroad Tracks Replacement

The Weymouth plant receives chlorine deliveries via rail cars. The railroad spur to the Weymouth plant was originally installed in the 1930s to transport material and equipment for the construction of the Weymouth plant. This project will replace the track dedicated to the Weymouth plant, improve traffic control and intersections as necessary, and install new rail car scales. This is a new project for this budget cycle.

Weymouth Chlorine Maintenance Shop Expansion

With the completion of the Weymouth Chlorine System Upgrades project, the amount of equipment to maintain has increased resulting in insufficient space in the existing shop to perform necessary maintenance and accommodate storage of equipment and spare parts. Storage cabinets and electrical panels have been added where desks and workspace were located. Also, due to the space limitations, spare equipment is currently stored in the two storage bays which poses the potential of the equipment being compromised in the event of a leak. This project will expand the existing Chlorine Maintenance Shop including a room addition to ensure adequate working space and storage exist to address these space, storage, and maintenance needs to reliably maintain the chlorine equipment for the expanded chlorine process. This is a new project for this budget cycle.

Weymouth Dry Polymer System Upgrade

Cationic polymers are used as a coagulant aid for the washwater reclamation plant, and nonionic polymers are needed to meet filter performance regulations when treating high State Project Water (SPW) blends. Depending on the quality of the source water, both dry polymers may need to be applied simultaneously. However, the current dry polymer system only has one mixing train available. Since these feed systems share a common polymer mixer, it is difficult to operate both systems at the same time. Additionally, the existing dry polymer mixer uses a type of batch mixer that can only make a single batch at a time and frequently clogs. The mixer is housed in a metal structure that does not meet current seismic codes although it was constructed to meet the codes at that the time of construction.

The project will construct a new dry polymer mixing facility to replace the existing facility. The scope of the project includes construction of a new building designed to meet current seismic standards, installation of a dry polymer mixing system to allow simultaneous mixing and feeding of cationic and nonionic polymers, independently; and construction of a covered containment area to house feed equipment and new polymer storage tanks.

Weymouth Filter Valve Replacement

The original filter valves in Building No. 1 were installed in two stages in 1941 and 1949, and were replaced in the early 1970s with similar valves. These valves are not consistent with modern American Water Works Association (AWWA) standards. The filter valves in Building No. 2 were installed during the second plant expansion in 1962 and are similar in dimension to the valves in Building No. 1. The existing filter valve bodies exhibit corrosion, the rubber seats are worn, and many valves leak after 47 to 57 years of continuous operation. In addition, the frequency of repairs to the actuators is increasing, and spare parts are difficult to obtain. This project will replace all filter valves and actuators in both Filter Building Nos. 1 and 2 with Metropolitan furnished AWWA-standard valves and current industry-standard actuators. This project will also replace or refurbish appurtenant equipment which is ancillary to the reliable operation of the filter valves, such as flow meters, underdrain valves, electrical and control systems, pipes, and other equipment.

Weymouth Hazardous Waste Staging and Containment

The existing hazardous waste storage area requires a number of upgrades to enhance compliance with current codes and to provide enhanced safety measures, such as providing spill containment, eyewashes and safety shower, a canopy, leak detection, and sump. These utilities are all available at the existing sulfuric acid tank farm, which is no longer utilized. As the existing hazardous waste storage area does not provide containment to capture spills or leaks there is potential for hazardous waste to runoff to the storm drain system as well as exposure to plant personnel.

This project will relocate the existing Hazardous Waste Staging and Containment Facility to the existing sulfuric acid tank farm in order to account for deficiencies at the existing facility. The existing sulfuric acid tank farm, located approximately 100 feet from the existing hazardous waste area, is a 30' x 30' containment area with a roof, sump, SCADA controls, eyewash station, power, and potable water that can be cost effectively utilized to relocate the hazardous waste facility.

Weymouth Solids Handling Rehabilitation

Residual solids generated during the water treatment process are sent to the gravity thickeners to separate water from the solids before being sent to belt presses in the solids handling facility for further dewatering. Dewatered solids are then pumped to elevated hoppers for storage prior to offsite disposal. Mechanical equipment at the solids handling facility has experienced frequent failures, and the facility itself requires full-time staffing to operate. Regular failures occur with the system's bridge breakers, which break apart dewatered solids so that they can be pumped to the hoppers. The facility also experiences frequent issues with the hoppers. After the belt presses dewater the solids, polymer solution is added to the discharge side of the cake pumps to facilitate pumping. This produces a cake-like material that often sticks to the hoppers' mechanical components and impedes opening and closing of the hopper gates. Rehabilitation of the solids handling facility is necessary to maintain its long-term function, reduce maintenance and operational labor costs, and reduce chemical costs.

This project will identify and implement the most feasible rehabilitation of the facility and to evaluate the capacity of the facility's decant lines. Options for rehabilitation include: (1) eliminating the existing cake pumps and installing a conveyor belt system to transfer the dewatered solids to the hopper system without the addition of liquid polymer; (2) transferring solids to a separate storage area where the solids are held prior to being hauled offsite. This project will also evaluate modifications within the building that would facilitate future equipment repairs and replacement; and (3) constructing sludge lagoons that would replace the belt press facility as the main solids handling facility to process residual solids.

Weymouth Wastewater Pumpback Improvements

When ozone is used as the plant's primary disinfectant, the ozone generators will produce the amount of ozone needed based on flow into the plant. The plant inlet flow can experience fluctuations when the washwater return pumps that send flow back to the head of the plant, cycle on and off. Ideally, the flow to the ozone contactors would be consistent. However, the existing pump station has a small forebay as compared to the capacity of the washwater pumps. The forebay receives flow from both the Washwater Reclamation Plant and the Oxidation Demonstration Plant (ODP) clearwell. Significant changes in flow from these two facilities may increase fluctuation in ozone dose requirements.

This project will evaluate options to improve minimizing fluctuations in the treated washwater flow returned to the plant inlet and implement the most effective and feasible option. Options for improvements include: (1) construction of a new stand-alone pumpback structure with adequate buffering instead of making improvements to the existing washwater pumpback structure; and (2) modifying the ODP clearwell pumps with variable speed pumps; upgrading washwater pump station pump program to moderate changes in pump speed; reconfiguring the ODP clearwell pumps so that one pump is dedicated for backwash, one pump is dedicated for pumpback, and one pump as a spare for either of the two pumps; and other improvements identified during early stages of the project

Weymouth Wheeler Gates Security Improvements

Construction vehicles and chemical delivery trucks access the Weymouth plant through the Wheeler entrance gate. This project will provide safety and security improvements to the Weymouth plant's Wheeler gate, including construction of a new guard enclosure; improved lighting, security cameras, and communication features; crash rated gates at vehicle and train entrances; perimeter wall and fencing along Wheeler Avenue; two traffic lanes at the entrance and exit; chemical delivery staging and containment area; and vehicle rejection turn-about outside the plant entrance gate.

Treatment - General Project Group

CUF Dechlorination System Upgrade

The chlorine unloading facility (CUF) is used to transfer liquid chlorine from rail cars to cargo trailers for delivery to Metropolitan facilities. The goal of this project is to enhance compliance with discharge regulations and allow the transfer of liquid chlorine from rail cars to cargo trailers to occur over a wide range of operating conditions. This project will evaluate available technologies; perform a pilot study, if needed, to determine the most feasible technology; and will explore methods and technologies of neutralizing chlorine in order to improve chlorine transloading ability throughout the year. This project will upgrade the existing system that neutralizes chlorine at CUF.

Water Quality Program

Fiscal Year 2022/23 Estimate: \$0

Fiscal Year 2023/24 Estimate: \$0.8 million

Program Information: The Water Quality Program is comprised of projects to add new facilities to ensure compliance with water quality regulations for treated water, located at Metropolitan’s treatment plants and throughout the distribution system.

Accomplishments for FY 2020/21 and FY 2021/22

- New projects initiated:
 - None
- Major milestones achieved:
 - Weymouth Hypochlorite Feed Facilities – Completed project
 - Weymouth ORP - Ozonation Facilities Construction, and Completion Activities – Completed project

Objectives for FYs 2022/23 and 2023/24

Project	Total Project Estimate	Estimated Construction Completion	Major Milestones
Mills Enhanced Bromate Control	\$ 5,700,000		Complete final design

Water Quality - All Project Group

Mills Enhanced Bromate Control Facilities

The Mills plant is currently using a temporary system built for bromate reduction. This system has been running successfully and has proven the effective use of chloramines in bromate control and the reduced operational costs over a wider range of influent water quality conditions. This project will replace the temporary feed, metering, monitoring, and injection (chlorine and ammonia) system with a permanent system which will incorporate new doubled walled piping, double wall containment, new flow metering, new chlorinators, new analyzers, and new ammonia feed tank. The full implementation of this project will significantly reduce the current operational costs of bromate control as well as provide greater control of bromate formation over a wide range of influent water quality conditions. The project also includes replacement of two existing chlorinators with new units for lower chlorine dosage control flexibility.

Selected Demographic and Economic Information for Metropolitan’s Service Area

The area served by Metropolitan represents the most densely populated and heavily industrialized portions of Southern California. Metropolitan estimates that approximately 19 million people lived in Metropolitan’s service area in 2020, based on official estimates from the California Department of Finance and on population distribution estimates from the Southern California Association of Governments (SCAG) and the San Diego Association of Governments (SANDAG). Recent population projections prepared by SCAG in 2020 and by SANDAG in 2019, which will be used as base data for Metropolitan’s 2020 Integrated Water Resources Plan, show expected population growth of approximately 17 percent in Metropolitan’s service area between 2010 and 2035, which is slightly lower than the approximately 18 percent population growth rate projected by SCAG in 2012 and SANDAG in 2013 (which projections were used as base data for Metropolitan’s prior 2015 Integrated Water Resources Plan update).

The economy of Metropolitan’s service area is exceptionally diverse. In 2019, the economy of the Six County Area was larger than all but twelve nations of the world. The Six County Area economy ranked between South Korea (\$1.642 trillion) and Spain (\$1.394 trillion), with an estimated gross domestic product (“GDP”) of \$1.596 trillion. The Six County Area’s gross domestic product in 2019 was larger than all U.S. states except California, Texas and New York.

Table 14. Ranking of Areas by Gross Domestic Product

Country	Dollars (in Billions)
United States	21,433
China	14,343
Japan	5,082
Germany	3,846
California	3,133
India	2,875
United Kingdom	2,827
France	2,716
Italy	2,001
Texas	1,844
Brazil	1,840
New York	1,772
Canada	1,736
Russian Federation	1,658
South Korea	1,642
Six County Area	1,596
Spain	1,394
Australia	1,393
Mexico	1,258

Source: Countries - World Bank; U.S. - Bureau of Economic Analysis; California and Six County Area - U.S. Department of Commerce

Summary of Recent Trends and Outlook for the Six County Area Economy

There are a number of recent events that support the outlook for faster growth in the national and Six County Area economy. Congress approved a \$1.9 trillion COVID-related spending plan and these funds have begun to be distributed to residents, businesses and local governments. The Federal Reserve Bank has committed to keep the

federal funds rate at current low levels for at least the rest of 2021. Three coronavirus vaccines have been approved and as of mid-April an average of over 3 million doses are being given to residents daily according to the Center for Disease Control and Prevention (CDC).

On the basis of these events, forecasts of national economic growth are being revised upwards. The U.C.L.A. Anderson School economic forecast released in March 2021 has GDP growing by 6.3% in 2021 and 4.6% in 2022. The same forecast sees increased job growth and reduced unemployment rates in California for 2021, 2022 and 2023. Job growth in the state is forecast to outpace national growth rates while the state's unemployment rate, while declining, is forecast to remain above the national rate. The forecast has 4.1% and 3.1% for job growth in California in 2021 and 2022 compared to 3.6% and 2.9% for the nation. Despite recent economic headwinds from inflation and the omicron surge, the U.C.L.A. forecast continues to hold a positive outlook for California's economic recovery and growth in 2022 and 2023.

Job growth in the Six County Area after February 2020 was restrained by reopening restrictions that were stricter than throughout the nation and by large job losses in tourism and motion picture production sectors that have a high concentration in the Six County Area. These major causes of slow job growth are related to the coronavirus pandemic and are temporary and will be eliminated over time once the pandemic is under control. Through March 2021 the Six County Area had recovered 37.3% of the jobs lost between February and April of 2020. This is below the 43.2% recovery for the state the 62.4% job recovery in the nation. The Six County Area economy made substantial recovery gains in February and March 2021 as coronavirus cases, deaths and hospitalizations improved in the region, the number of vaccinations accelerated and activity restrictions were lifted. The Six County Area added 144,100 jobs between January and March 2021. The April and May 2021 data should also show large job gains as many businesses, tourist attractions, such as Disneyland, and sports venues have recently reopened to limited capacity or have announced reopening dates in April and May.

The Six County Area slightly outpaced the nation in nonfarm wage and salary job growth from the beginning of 2013 through the end of 2019. By December 2019 job levels were 934,600 or 10.7% above the pre-recession peak level in July 2007. Job growth for the entire Six County Area in 2019 was 127,600 jobs or a gain of 1.3% compared to a 1.4% increase in jobs for the state and nation for the comparable period. In 2019, unemployment rates ranged from a low of 2.9% in Orange County to a high of 4.4% in Los Angeles County. Unemployment rates declined from 2018 levels in all Six County Area counties.

Over the longer term, international trade has been a leading growth sector in the Six County Area. Container volume rose 79% between 2000 and 2019 despite a 3.3% decline in 2019 as a result of tariff increases. Trade gains support job growth in warehousing, wholesale trade and trucking particularly in the Riverside-San Bernardino county area. In 2019, the Six County Area accounted for \$10.3 billion in new venture capital funding (a record high level) behind the New York metro and ahead of New England. Air passenger travel at the major airports in the Six County Area reached record levels in 2019 up 2.0% over 2018 to 135.5 million trips led by gains at Burbank, Ontario and San Diego airports.

Population growth averaged 115,400 between 2010 and 2020 according to the California Department of Finance (DOF) estimates, and growth slowed in the past five years and declined by 12,500 in 2020. The Six County Area had 22.2 million residents in 2020, approximately 56% of the State's population. Income, taxable sales and assessed valuation in the Six County Area have increased since 2013 along with record levels in foreign trade and film permits. At the end of 2019, gains in income, taxable sales and assessed valuation outpaced the growth in consumer price indices in the Six County Area all of which helped local government revenue growth.

Long-term job growth is driven by the Six County Area's economic base—those sectors that sell most of their goods and services in national and world markets outside of the Six County Area. Recent projections by CCSCE, SCAG and SANDAG report that the Six County Area will see job growth that slightly exceeds the national average during the next 10 to 30 years, led by gains in Professional and Business Services, Wholesale Trade, Information and the tourism component of Leisure and Hospitality.

Data on the Economic Impact of the COVID-19 Virus Through April 2021

The U.S. and Six County Area economies had job losses and unemployment rate increases in 2020 associated with activity restrictions related to the coronavirus pandemic. Both economies have begun to recover in 2021 as virus cases, hospitalizations and deaths have decreased. In March 2021 the national economy added 916,000 jobs and the unemployment rate fell to 6.0%. The Institute of Supply Management (ISM) purchasing managers index for manufacturing rose to 64.7—the tenth straight increase and their comparable index for the service sector rose to 63.7. Readings over 50 indicate sector growth.

The U.S economy has recaptured a substantial amount of the losses in jobs, unemployment and labor force in March 2021, though levels remain below pre-pandemic peaks. The economy recovered 62% of the jobs lost between February and April 2020 and 78% of the increase in the national unemployment rate was reversed in March 2021. The U-6 unemployment rate shown below, which includes people working part-time but wanting full-time work and those marginally attached (not currently in the labor force but wanting to work), was 10.9% in March 2021 down from 22.8% in April 2020 but still well above the 7.0% rate in February 2020. Of note, 3.8 million residents left the workforce between February 2020 and March 2021 and were not counted in the unemployment statistics.

Recent Employment Trends (Non-Farm Wage and Salary Jobs in Thousands)

	Feb 20	Apr 20	Mar 21	% Recovered
Jobs	152.5	130.3	144.1	62 %
Unemployment rate	3.5 %	14.8 %	6.0 %	78 %
U-6 unemployment	7.0 %	22.8 %	10.9 %	75 %
Labor Force	164.40	156.50	160.60	52 %

Source: Bureau of Labor Statistics, U.S. Department of Labor

There are a number of events in recent months that support the outlook for faster growth in the national and Six County Area economy. Congress approved a \$1.9 trillion COVID-related spending plan and these funds have begun to be distributed to residents, businesses and local governments. The Federal Reserve Bank has committed to keep the federal funds rate at current low levels for at least the rest of 2021. Three coronavirus vaccines have been approved and as of mid-April an average of over 3 million doses are being given to residents daily according to the Center for Disease Control and Prevention (CDC).

On the basis of these events, forecasts of national economic growth are being revised upwards. A range of recent national forecasts are shown in the table on the following page. The Congressional Budget Office (CBO) forecast was released February 1, 2021 before the \$1.9 trillion spending program and vaccine ramp up happened while the other forecasts were published in March 2021. The International Monetary Fund (IMF) forecast looked at the global economy but did contain partial forecasts for the U.S.

U.S. Economic Forecast

		2021	2022	2023
GDP Growth				
	UCLA (3/21)	6.3	4.6	2.7
	IMF (3/21)	6.4	3.5	---
	Conference Board (3/21)	5.5	---	---
	CBO (3/21)	4.60	2.90	2.7
Unemployment Rate				
	UCLA (3/21)	5.6 %	4.4 %	3.8 %
	IMF (3/21)	5.8 %	4.1 %	---
	Conference Board (3/21)	5.7 %	5.0 %	4.7 %
Job Growth				
	UCLA (3/21)	3.6 %	2.9 %	1.7 %

Source: Congressional Budget Office (CBO) and International Monetary Fund (IMF)

The Six County Area suffered substantial job losses and increases in unemployment rates in 2020. Job levels fell by 768,100 (8.0%) and the Six County Area unemployment rate rose from 4.0% in 2019 to 10.9% in 2020. These job losses and unemployment rate increases were larger than in the nation as a result of the more stringent activity restrictions in the Six County Area.

Recent Employment Trends (Non-Farm Wage and Salary Jobs in Thousands)

County				Unemployment Rate	
	2019	2020	% Change	2019	2020
Los Angeles	4,561.6	4,146.7	(9.1)%	4.6 %	12.8 %
Orange	1,673.5	1,524.7	(8.9)%	2.8 %	8.8 %
Riverside-San Bernardino	1,552.1	1,487.8	(4.1)%	4.1 %	9.7 %
San Diego	1,503.2	1,385.3	(7.8)%	3.3 %	9.2 %
Ventura	312.9	290.6	(7.1)%	3.7 %	8.6 %
Total Six County Area	9,603.2	8,835.1	(8.0)%	4.0 %	10.9 %

Source: California Employment Development Department

The first wave of job losses occurred in March 2020 and accelerated in April 2020. The Six County Area saw a decline in jobs of nearly 1.6 million or 16.2% between February and April 2020. The first waves of job losses were concentrated in the Leisure and Hospitality sector that includes amusement parks, hotels and restaurants. The Six County Area economy made substantial recovery gains in February and March 2021 as coronavirus cases, deaths and hospitalization rates improved in the region, the number of vaccinations accelerated and activity restrictions were lifted.

The Six County Area added 144,100 jobs between January and March 2021. The April and May 2021 data should show large job gains also as many businesses, tourist attractions, such as Disneyland, and sports venues have recently reopened to limited capacity or have announced reopening dates in April and May.

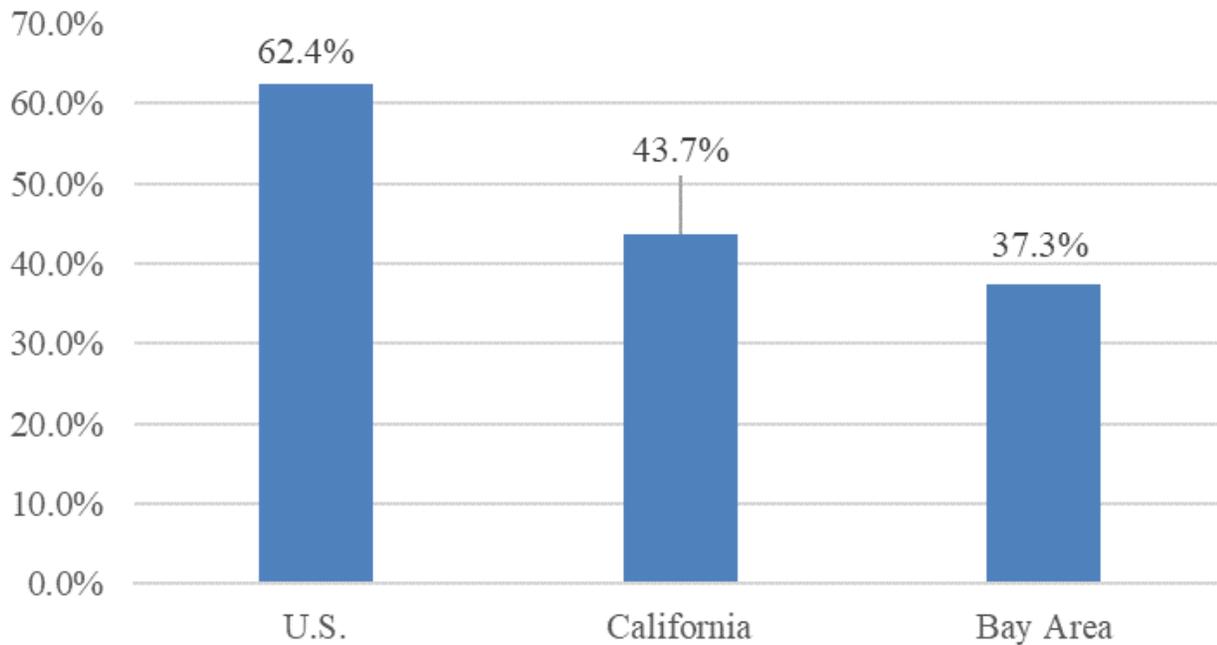
Recent Employment Trends (Non-Farm Wage and Salary Jobs in Thousands)

County	Feb 20	April 20	Jan 21	Mar 21	Change Jan-Mar	% Recovered
Los Angeles	4,622.8	3,850.3	4,046.9	4,097.8	50.9	32%
Orange	1,688.7	1,411.9	1,492.1	1,522.9	30.8	40.1%
Riverside-San Bernardino	1,589.0	1,366.7	1,482.5	1,511.8	29.3	65.3%
San Diego	1,522.8	1,268.6	1,364.6	1,396.0	31.4	50.1%
Ventura	317.0	265.8	286.4	288.1	1.7	43.6%
Total Six County Area	9,740.3	8,163.3	8,672.5	8,816.6	144.1	41.4%

Source: California Employment Development Department (EDD); data are seasonally adjusted

Through March 2021 the Six County Area had recovered 37.3% of the jobs lost between February and April of 2020. This is below the 43.7% recovery for the state and the 62.4% job recovery in the nation.

Jobs Recoverd by March 2021 as % of Losses



Source: U.S. Department of Labor and the California Employment Development Department (EDD)

The job recovery rate in the Six County Area was restrained by the more severe reopening restrictions in California and the above average concentration of tourism and motion picture production jobs in the Six County Area. These trends are shown below in the job recovery rates for major industry sectors in the Six County Area. Note that data in this table are not seasonally adjusted.

Job levels increased between January and March 2021 and that increase should continue in the coming months as activity restrictions are being reduced or eliminated. The largest gains (109,200 jobs) were in the Leisure and Hospitality sector concentrated in the restaurant sector with smaller gains from amusement park reopenings. The transportation and warehousing sector added jobs during the pandemic from the increase in online shopping and the strong port activity. Motion picture production, including TV and commercial production, added jobs in February and March 2021 after a long period of restricted activity. Government sector jobs fell after April 2020 but should begin now to recover with school reopenings and the infusion of billions of dollars in federal stimulus funding.

Six County Area Job Trends by Sector

	Feb 20	April 20	Jan 21	Mar 21	Jan-Mar 21	% Recovered Mar 21-April 20
Construction	470,100.0	403,400.0	452,900.0	453,800.0	900.0	76 %
Manufacturing	741,600.0	660,100.0	672,500.0	679,600.0	7,100.0	24 %
Wholesale Trade	422,500.0	367,700.0	389,800.0	392,900.0	3,100.0	46 %
Retail Trade	919,100.0	731,400.0	874,200.0	872,100.0	-2,100.0	75 %
Transp. & Wareh.	415,600.0	383,700.0	442,400.0	451,200.0	8,800.0	212 %
Information	305,100.0	229,900.0	231,200.0	238,400.0	7,200.0	11 %
Financial Activities	482,400.0	450,700.0	455,100.0	454,600.0	-500.0	12 %
Prof & Bus Serv.	1,444,600.0	1,268,300.0	1,329,300.0	1,361,600.0	32,300.0	53 %
Educ & Health Serv.	1,638,200.0	1,472,300.0	1,547,700.0	1,569,300.0	21,600.0	59 %
Leisure & Hosp.	1,188,900.0	651,300.0	722,300.0	831,500.0	109,200.0	34 %
Government	1,329,800.0	1,293,800.0	1,217,900.0	1,226,400.0	8,500.0	(187)%
Total Non-Farm	9,720,700.0	8,161,400.0	8,603,100.0	8,816,100.0	213,000.0	42 %

Includes sectors not shown and data not seasonally adjusted
Source: EDD

Unemployment rates increased in March and April 2020 throughout the Six County Area. By March 2021 unemployment rates had declined but remained above February 2020 levels in each of the Six County Area metro areas.

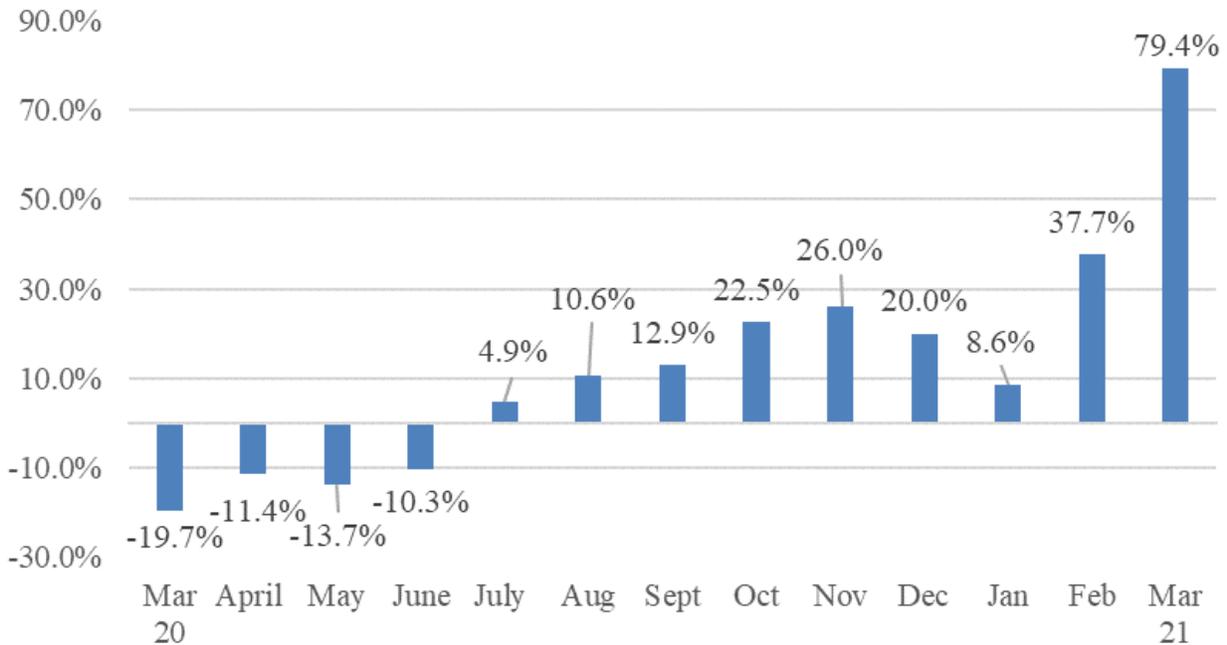
Unemployment Rates

County	Feb 20	April 20	Jan 21	Mar 21	% Chg Feb 20-Mar 21
Los Angeles	4.7 %	18.2 %	12.7 %	10.9 %	6.2 %
Orange	2.8 %	14.4 %	7.3 %	6.4 %	3.6 %
Riverside-San Bernardino	3.9 %	15.2 %	8.6 %	7.7 %	3.8 %
San Diego	3.2 %	15.9 %	8.0 %	6.9 %	3.7 %
Ventura	3.7 %	13.9 %	7.4 %	6.4 %	2.7 %

Source: EDD

The ports of Los Angeles and Long Beach reported declines in container volumes for the first six months of 2020 from the corresponding months in 2019. Part of the decline was attributable to the increase in tariff duties. However, from July 2020 through March 2021 container volumes has risen compared to a year earlier despite slow economic growth. There was a surge in volumes in February and March 2021 as the economic outlook improved and the ports saw record container volumes in the first quarter of 2021.

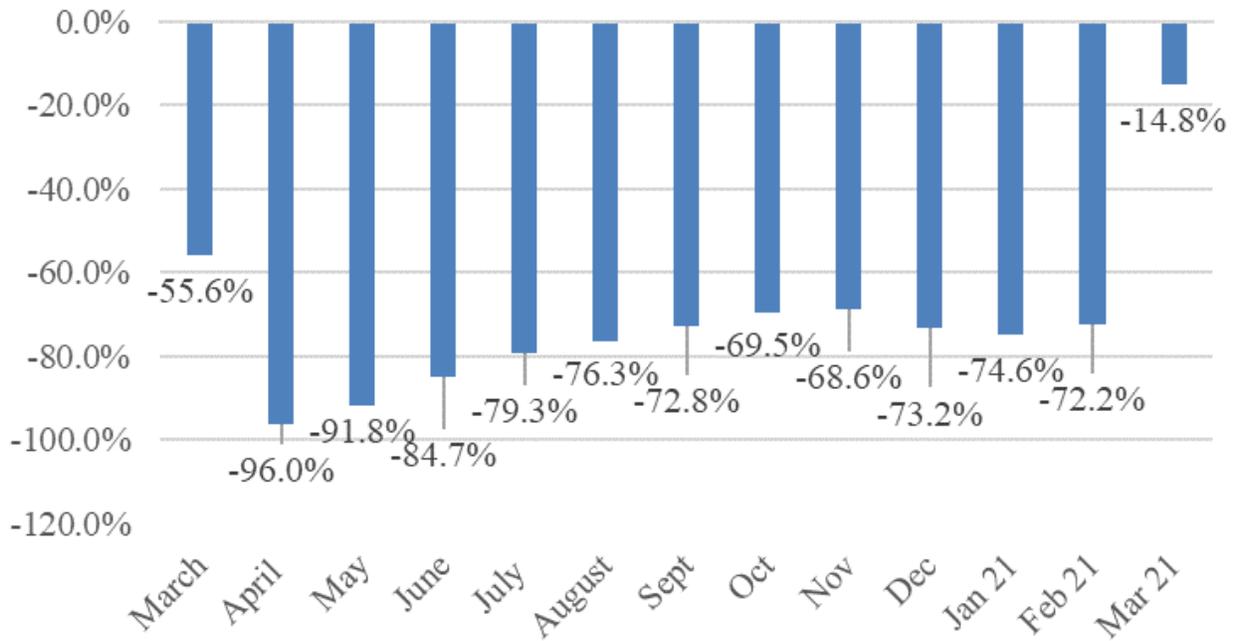
% Change in Container Volumes vs. Year Earlier



Source: Ports of Los Angeles and Long Beach websites

Airport travel in the Six County Area was down by 2/3 or more in every month from April 2020 through February 2021. Airport travel began to recover more in March 2021 with 2.6 million passengers compared to 1.6 million in February 2021. The March 2021 travel volume was the highest since 3.3 million in March 2020 that includes 2 weeks before travel restrictions were increased. Tourist attractions such as Disneyland are reopening with partial capacity as are sports venues.

Six County Area Airport Travel vs Year Earlier



Source: Airport websites

The U.C.L.A. Anderson School economic forecast released in March 2021 forecasts increased job growth and reduced unemployment rates in California for 2021, 2022 and 2023. Job growth in the state is forecast to outpace national growth rates while the state’s unemployment rate, while declining, is forecast to remain above the national rate.

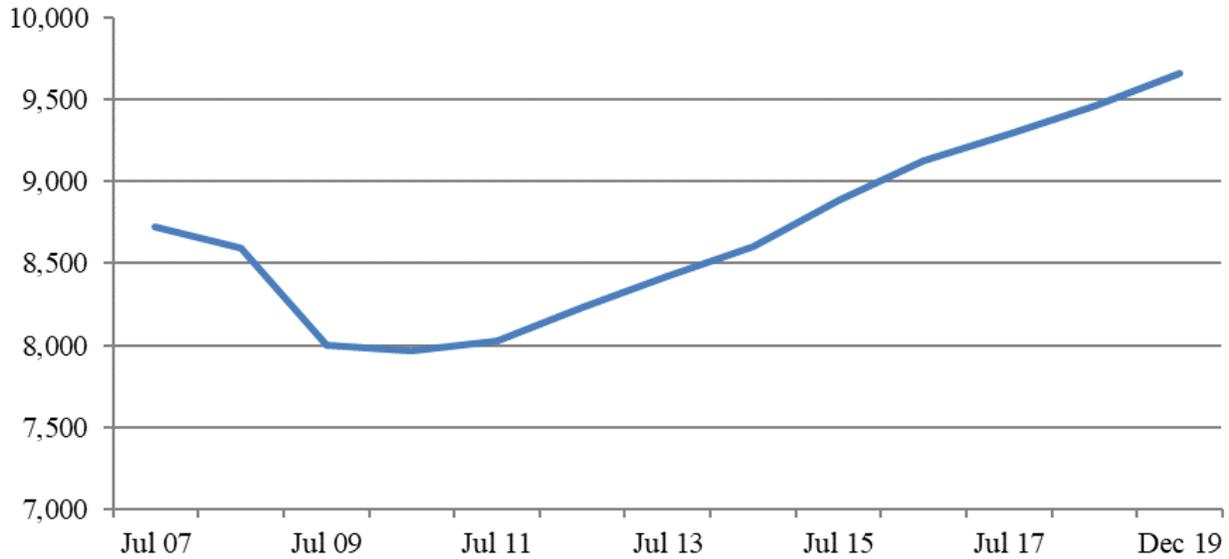
UCLA Economic Forecasts March 2021

		2021	2022	2023
Job Growth				
	California	4.1 %	3.1 %	2.3 %
	U.S.	3.6 %	2.9 %	1.7 %
Unemployment Rate				
	California	6.8 %	5.1 %	4.1 %
	U.S.	5.6 %	4.4 %	3.8 %

Six County Area Job Growth Trends Through 2019

The Six County Area moved from substantial job losses during the great recession to sustained job growth during the 7 years from 2013 through 2019. (See the following chart). The Six County Area slightly outpaced the nation in nonfarm wage and salary job growth since the beginning of 2013. By December 2019 job levels were 934,600 or 10.7% above the pre-recession peak level in July 2007.

Six County Area Nonfarm Wage & Salary Jobs (Thousands)



Source: EDD; data are seasonally adjusted

Job growth for the entire Six County Area in 2019 was 138,000 jobs or a gain of 1.5% compared to a 1.5% increase in jobs for the state and 1.4% for the nation for the comparable period.

Job growth was aided by gains in foreign trade, tourism and professional services as well as a rebound in construction and related sectors and continuing growth in health care and food services.

Recent Employment Trends Through 2019 (Non-Farm Wage and Salary Jobs in Thousands)

County	2007	2010	2017	2018	2019
Los Angeles	4,255.4	3,926.7	4,449.2	4,516.1	4,561.6
Orange	1,525.6	1,372.1	1,619.2	1,651.8	1,673.5
Riverside-San Bernardino	1,290.3	1,151.5	1,452.8	1,506.0	1,552.1
San Diego	1,322.2	1,240.5	1,452.3	1,482.2	1,503.2
Ventura	298.9	276.1	305.4	309.1	312.8
Total Six County Area	8,692.4	7,966.9	9,278.9	9,465.2	9,603.2

Source: California Employment Development Department (EDD)

Unemployment rates in the Six County Area declined sharply between 2010 and 2019. (See the following table). In 2019, unemployment rates ranged from a low of 2.8% in Orange County to a high of 4.6% in Los Angeles County. Unemployment rates declined from 2018 levels in all Six County Area counties.

Unemployment Rates

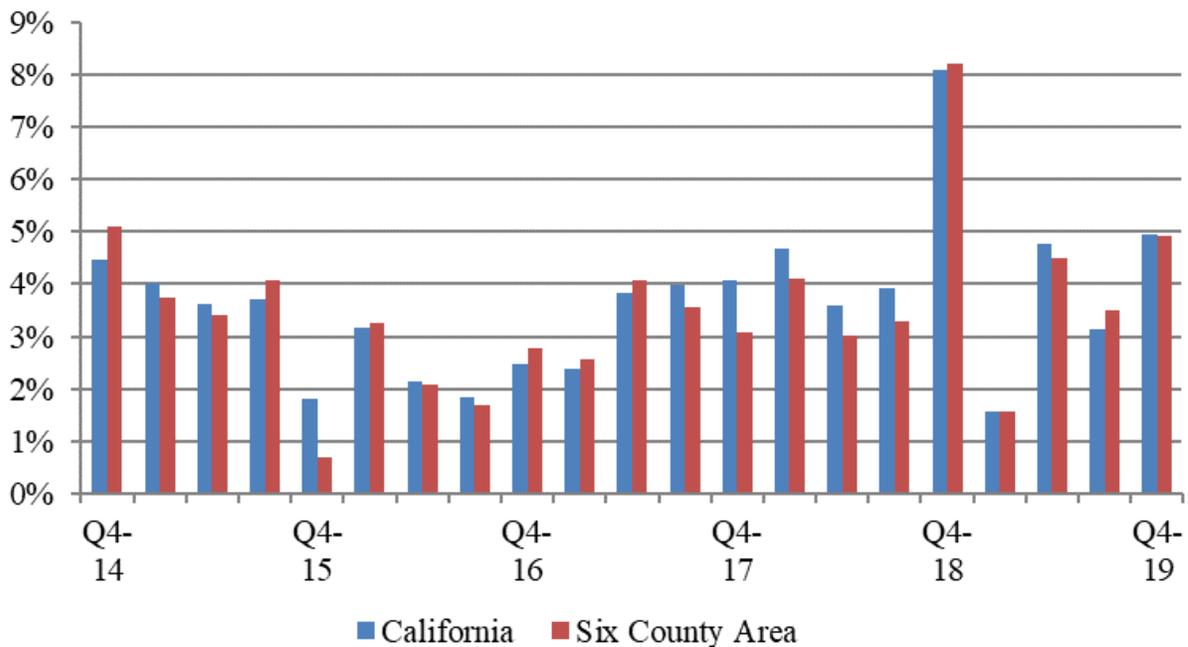
County	2000	2006	2010	2017	2018	2019
Los Angeles County	5.4 %	4.8 %	12.5 %	4.8 %	4.7 %	4.6 %
Orange County	3.5 %	3.4 %	9.7 %	3.5 %	3.0 %	2.8 %
Riverside County	5.4 %	5.0 %	13.8 %	5.3 %	4.5 %	4.2 %
San Bernardino County	4.8 %	4.8 %	13.5 %	5.0 %	4.1 %	3.9 %
San Diego County	3.9 %	4.0 %	10.8 %	4.0 %	3.4 %	3.3 %
Ventura County	4.5 %	4.3 %	10.8 %	4.5 %	3.8 %	3.7 %
United States	4.0 %	4.6 %	9.6 %	4.4 %	3.9 %	3.7 %
State of California	4.9 %	4.9 %	12.2 %	4.8 %	4.3 %	4.2 %

Source: U.S. Bureau of Labor Statistics and EDD

Taxable Sales and Income

The Six County Area accounts for 55% of statewide taxable sales and the pattern of growth is similar to the state average. Taxable sales have grown more slowly than personal income as a higher share of spending is on services and other non-taxable items. Taxable sales growth accelerated in 2019 as shown below reflecting strong income growth in the Six County Area.

Change in Taxable Sales From Year Earlier



Source: California Board of Equalization

As of the end of 2019, taxable sales in the Six County Area had rebounded from 2010 levels and all the recession losses had been recovered, helping local government revenues. Taxable sales rose faster than inflation in all counties in each year from 2010 through 2019. Taxable sales in the Six County Area increased in 2019 by 3.7% while the consumer price index increased by 2.0%.

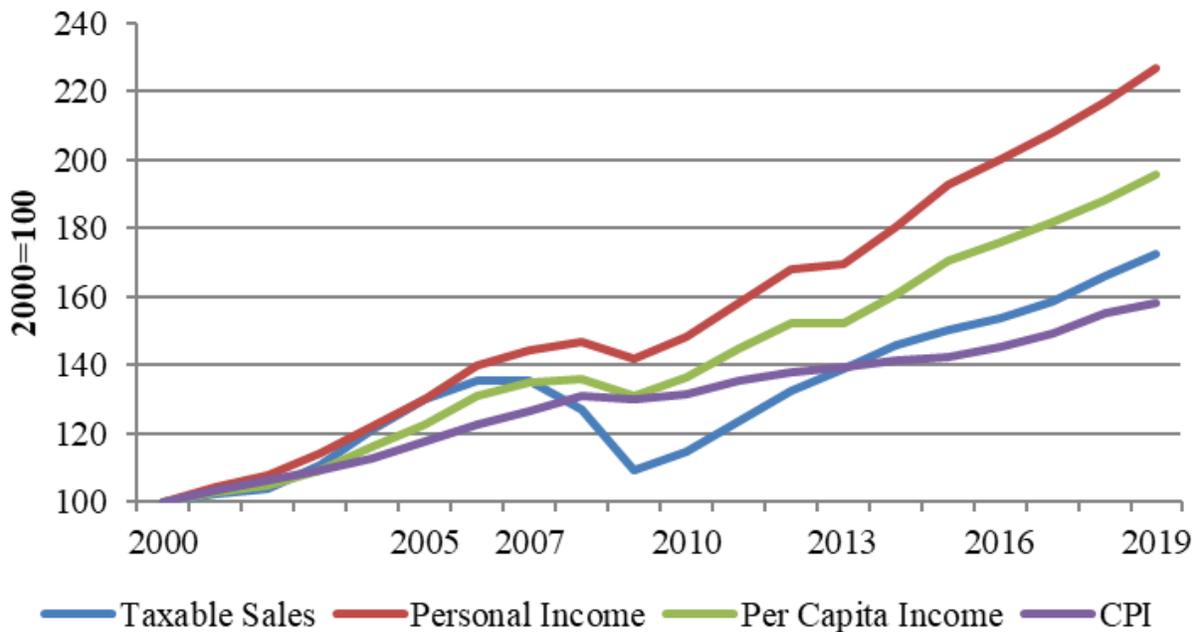
Taxable Sales (Dollars in Billions)

	2000	2006	2010	2018	2019	% Change 2000 - 19	% Change 2006 - 19
Los Angeles County	\$106.7	\$136.2	\$116.9	\$154.2	\$159.3	49%	17%
Orange County	44.5	57.2	47.7	62.5	64.6	45%	13%
Riverside County	17.0	29.8	23.2	34.2	36.1	112%	21%
San Bernardino County	18.9	31.3	24.7	37.0	38.1	102%	22%
San Diego County	36.2	47.8	41.6	55.4	57.0	57%	19%
Ventura County	9.1	12.3	10.2	13.7	13.9	53%	13%
Total Six County Area	\$232.4	\$314.6	\$264.3	\$357.0	\$369.0	59%	17%
Los Angeles Area Consumer Price Index (1982-84=100.0)	171.6	210.4	225.9	266.0	271.4	58%	29%

Source: Taxable Sales-California Board of Equalization, Consumer Price Index-U.S. Bureau of Labor Statistics

Total personal income reached a record \$1.35 trillion in 2019 in the Six County Area. Per capita personal income reached a record level of \$60,362 in 2019 and the gain in per capita income between 2000 and 2019 far exceeded the increase in consumer prices. Taxable sales growth kept pace with total income growth through 2005 but lagged far behind income for the period from 2000 through 2019, although it exceeded the increase in consumer prices as shown in the following chart. The growth in income and taxable sales is expected to outpace the increase in consumer prices for most future years.

Growth in Taxable Sales, Income and Consumer Prices in Six County Area



Construction Activity Through 2019

Residential building permit levels in the Six County Area declined sharply after 2004 falling from 108,322 to 17,932 units in 2009. Permit levels rebounded since 2009 reaching 59,444 in 2017 before declining to 55,135 units in 2019. Permit levels declined 2.2% in 2019 compared to 2018. Multi-family residential permits are the majority in Los Angeles, Orange and San Diego counties while most permits in Riverside and San Bernardino are for single family homes. Projected long-term job and population growth will support a much higher level of residential construction than is currently occurring. State and regional policies that would make housing easier to build are under discussion.

Residential Building Permits

County	2004	2009	2016	2017	2018	2019
Los Angeles	26,395.0	5,653.0	20,369.0	22,479.0	23,222	21,622
Orange	9,322	2,200	12,134	10,294	8,105	10,294
Riverside	34,226	4,190	6,701	7,335	9,168	8,361
San Bernardino	18,470	2,495	3,872	6,831	5,086	5,980
San Diego	17,306	2,990	10,100	10,016	9,570	7,450
Ventura	2,603	404	1,663	2,489	1,249	1,428
Total Six County Area	108,322	17,932	54,839	59,444	56,400	55,135

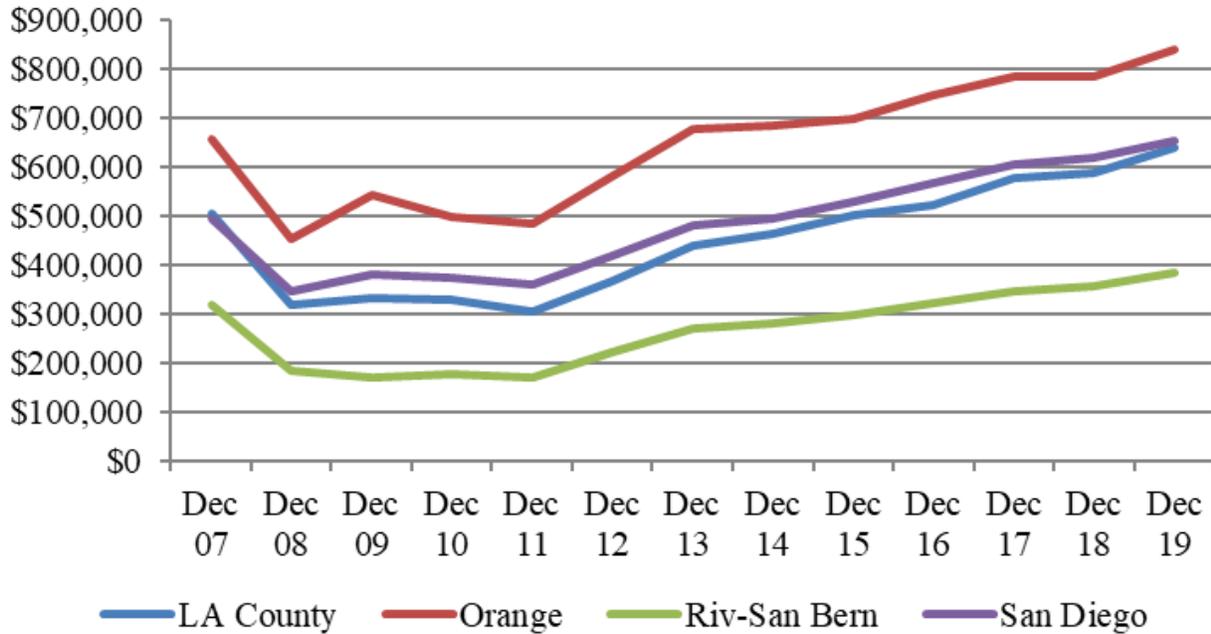
Source: Construction Industry Research Board and California Homebuilding Foundation

Housing Market and Affordability Trends in the Six County Area Economy

The housing market recovery that began in 2012 continued into 2019. Housing prices increased, the number of new residential building permits declined slightly from 2018 levels and the number of new foreclosure filings declined. Mortgage rates declined in late 2019 and remain historically low, and the number of homes in the unsold inventory is low by historic standards according to the California Association of Realtors (“CAR”).

Median resale housing prices in Six County Area markets have risen substantially in recent years though the rate of increase has slowed recently. In the seven years ending December 2019 median resale prices rose 75% in Los Angeles County, 44% in Orange County, 74% in the Riverside-San Bernardino County area and 61% in San Diego County and are exceeding pre-recession levels (See the following chart). Median price gains were fueled by job and income growth, low mortgage rates and a shortage of supply.

Median Resale Housing Prices

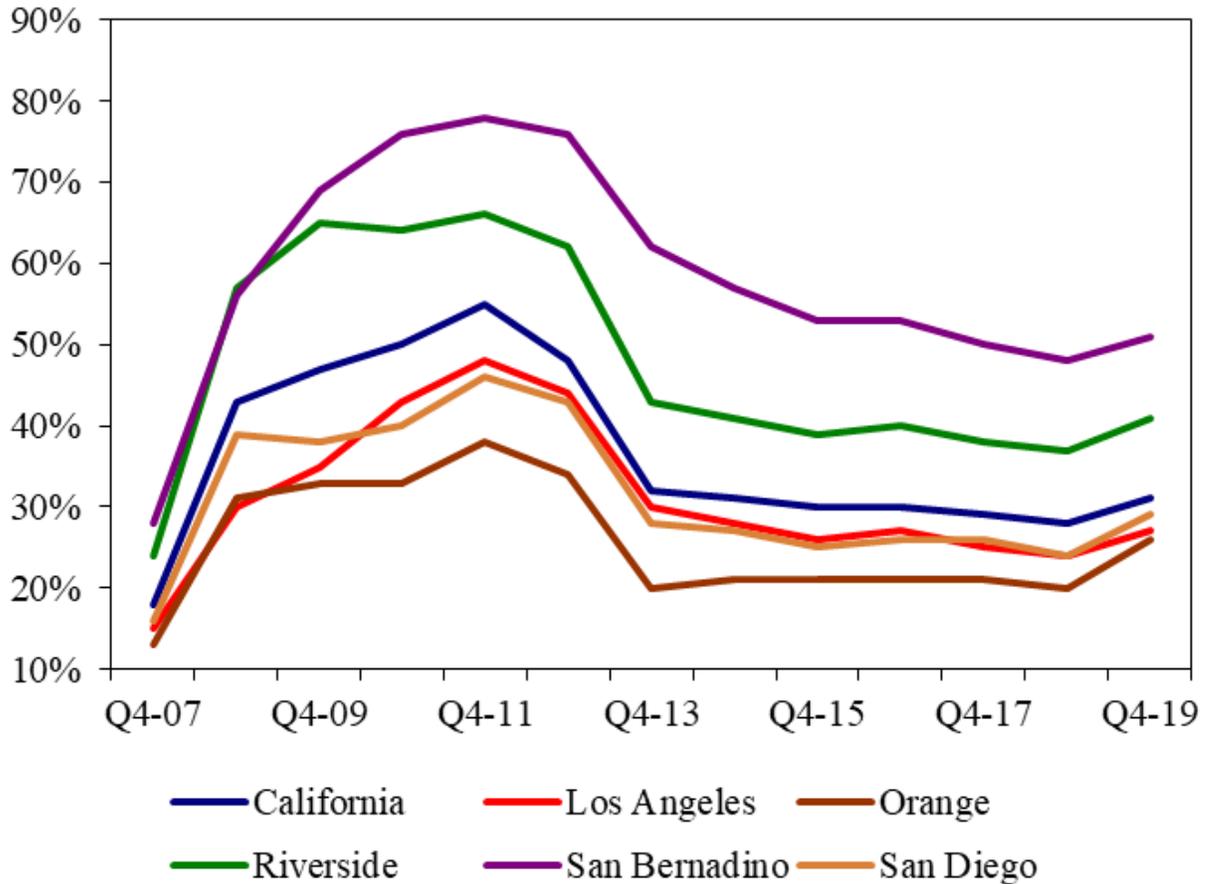


Source: California Association of Realtors

The rise in home prices has led to a decline in housing affordability for homebuyers throughout the Six County Area as measured by CAR. Affordability inched up in Q4-2019 in all counties in the Six County Area.

The long-term demand (between 2025 and 2050) for housing based on job and population growth remains well above current levels according to projections from SCAG, SANDAG and CCSCE.

Home Buyer Affordability Index



Source: California Association of Realtors

Nonresidential Construction Through 2019

Nonresidential construction permit levels reached a record \$15.6 billion in 2018, up 16% over 2017 levels. Permit levels declined 3.3% in 2019 compared to a year earlier.

The largest gains in 2019 were in San Diego and San Bernardino counties. All counties equaled or surpassed pre-recession 2007 levels. Public construction, not shown below, also increased. The increase in residential, nonresidential and public construction supported job growth in construction and related industries.

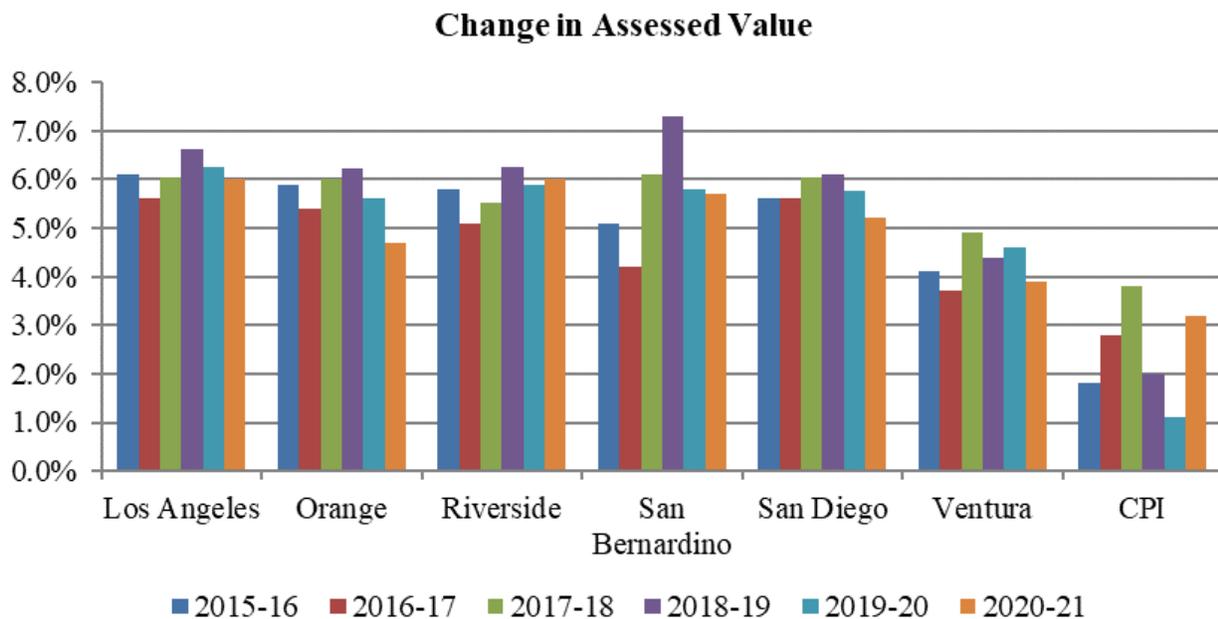
Total Nonresidential Construction Permit Valuation (Dollars in Billions)

County	2007	2009	2016	2017	2018	2019
Los Angeles	4.7	2.7	5.3	6.0	6.7	6.6
Orange	2.0	1.0	2.5	2.1	3.5	3.2
Riverside	1.5	0.4	1.3	1.4	2.0	1.3
San Bernardino	1.4	0.3	1.0	1.3	1.1	1.4
San Diego	1.4	0.6	1.8	2.4	1.9	2.4
Ventura	0.3	0.2	0.2	0.2	0.4	0.2
Total Six County Area	11.3	5.1	12.1	13.4	15.6	15.1

Source: Construction Industry Research Board and California Homebuilding Foundation

Assessed Valuation

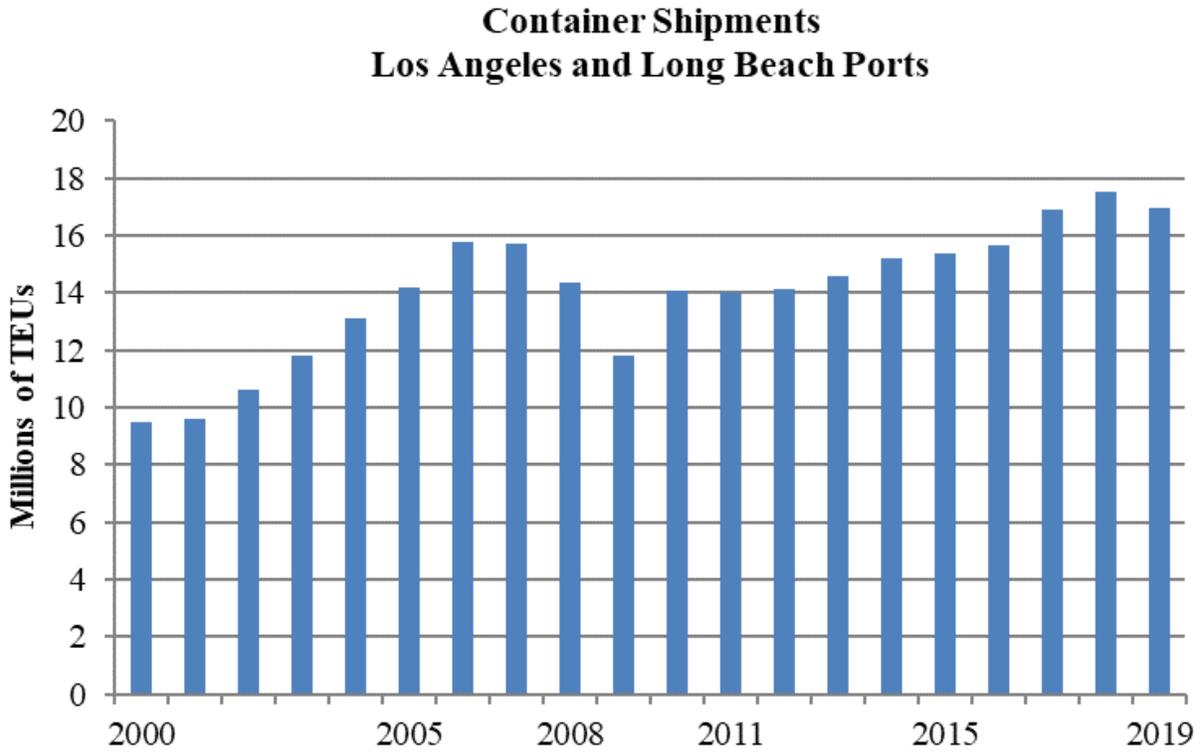
Assessed valuation in the Six County Area has rebounded and outpaced inflation in recent years after a long downturn during the last recession that was a source of fiscal pressure on local communities throughout the Six County Area. Assessed values increased again for the 2020-21 year with gains ranging from 3.9% in Ventura County to 6.0% in Los Angeles and Riverside counties compared to a forecast 3.2% increase in the Consumer Price Index (CPI). (See the following chart). For seven years in a row assessed valuation growth has outpaced inflation in each county in the Six County Area.



Source: County Assessor's Offices

International Trade

Container volumes increased from 2012 through 2018. Tariff increases, particularly with China, and slowing world growth resulted in a late year decline in container volumes that pushed total 2019 volumes down 3.3% from 2018.



Source: Ports of Los Angeles and Long Beach

Over the longer term, international trade has been a leading growth sector in the Six County Area. Container volume rose 79% between 2000 and 2019 despite the decline in 2019. Trade volume increased by 6.1% in 2018 to \$619.9 billion, including \$545.9 billion in the Los Angeles Customs District, leading all U.S. ports, and \$74.0 billion in the San Diego Customs District. This growth supports jobs and economic activity in the transportation, wholesale trade and warehousing industries as the Six County Area is a gateway for U.S. trade with Pacific Rim countries. For example, in the Riverside-San Bernardino metro area, where many imports are stored and shipped from, an increase in warehousing jobs from 16,900 to 73,600 between 2007 and 2019 occurred, along with 15,600 jobs added in trucking and wholesale trade with all three sectors exceeding pre-recession job levels.

In addition to new trade agreements, long-term growth in the United States and in its trading partners can boost international trade activity in the coming years. However, the outlook for foreign trade expansion particularly with China and Mexico has become uncertain with the new trade agreements because the impacts on trade volumes among the three countries are not clear at this time.

Income, Wages and Poverty Rates

Counties in the Six County Area have income and wage levels and poverty rates that range from below the national average to above the national average. Orange and Ventura counties have the highest household income levels within the Six County Area. Los Angeles, Orange and San Diego counties have the highest wage levels, well above the national average. San Diego County income levels are also above the national average. Riverside and

San Bernardino counties have per capita income and wage levels that are below the national average. Median household income in 2019 was above the national average in each of the counties in the Six County Area.

Per capita income and median household income measures are affected by demographic trends. Per capita income measures in the region are pushed downward by the above average percent of children in the Six County Area population compared to the national average, while median household income measures are pushed upward by the above average number of wage earners per household in the Six County Area. Income and wage trends in the Six County Area have been comparable to national trends since 2000. Poverty rates exceeded the national average in 2019 in Los Angeles and San Bernardino counties and were below the national average elsewhere in the Six County Area.

Per capita income is based on total personal income divided by population while median household income is based on money income, which is lower than total personal income. The following table shows median household income, per capita income, wage levels and poverty rates for each of the counties in the Six County Area, as well as for California and the United States, in 2019.

Income and poverty levels improved in 2019 throughout the Six County Area. (See the following table). Median household income grew faster than inflation throughout the Six County Area. Average wage growth outpaced inflation and met or exceeded the national growth rate throughout the Six County Area. Poverty rates fell throughout the Six County Area although these rates do not take into account the rapid rise in rents and home prices throughout the Six County Area.

Income and Wages

	Per Capita Income	Median Household Income	Average Wage	Poverty Rate
Los Angeles County	65,094	72,797	67,123	13.4 %
Orange County	71,711	95,934	64,775	9.4%
Riverside County	42,418	73,260	46,832	11.3%
San Bernardino County	42,043	67,903	48,952	13.3%
San Diego County	63,729	83,985	64,211	10.3%
Ventura County	64,715	92,236	57,848	7.9%
California	66,619	80,440	71,351	12.3%
United States	56,490	65,712	59,209	11.8%

Source: Per Capita Income - U.S. Department of Commerce; Median Household Income and Poverty Rate-U.S. Census Bureau (American Community Survey); Average Wage-U.S. Bureau of Labor Statistics

Change in Income and Wages 2018-19

	Per Capita Income	Median Household Income	Average Wage	Poverty Rate
Los Angeles County	4.5 %	6.9 %	3.4 %	(0.7%)
Orange County	4.1 %	6.9 %	3.8 %	(1.1%)
Riverside County	4.5 %	9.4 %	3.8 %	(1.4%)
San Bernardino County	4.7 %	6.3 %	4.4 %	(1.6%)
San Diego County	4.2 %	6.2 %	3.7 %	(1.1%)
Ventura County	4.5 %	9.1 %	4.7 %	(1.0%)
California	4.5 %	6.9 %	4.2 %	(0.5%)
United States	3.5 %	6.1 %	3.4 %	(1.3%)

Source: Per Capita Income-U.S. Department of Commerce; Median Household Income and Poverty Rate-U.S. Census Bureau (American Community Survey); Average Wage-U.S. Bureau of Labor Statistics

Population

Population growth in California and the Six County Area has been slowing since 2000 compared with previous decades. Population growth averaged 174,100 per year between 2000 and 2010 compared to 219,300 between 1990 and 2000. Population growth slowed after 2005 as high housing prices and large job losses contributed to larger levels of out-migration to other areas of California and other states.

Population growth averaged 115,400 between 2010 and 2020 according to the DOF estimates, and growth slowed in the past five years and declined by 12,500 in 2020. The Six County Area had 22.2 million residents in 2020, approximately 56% of the State's population.

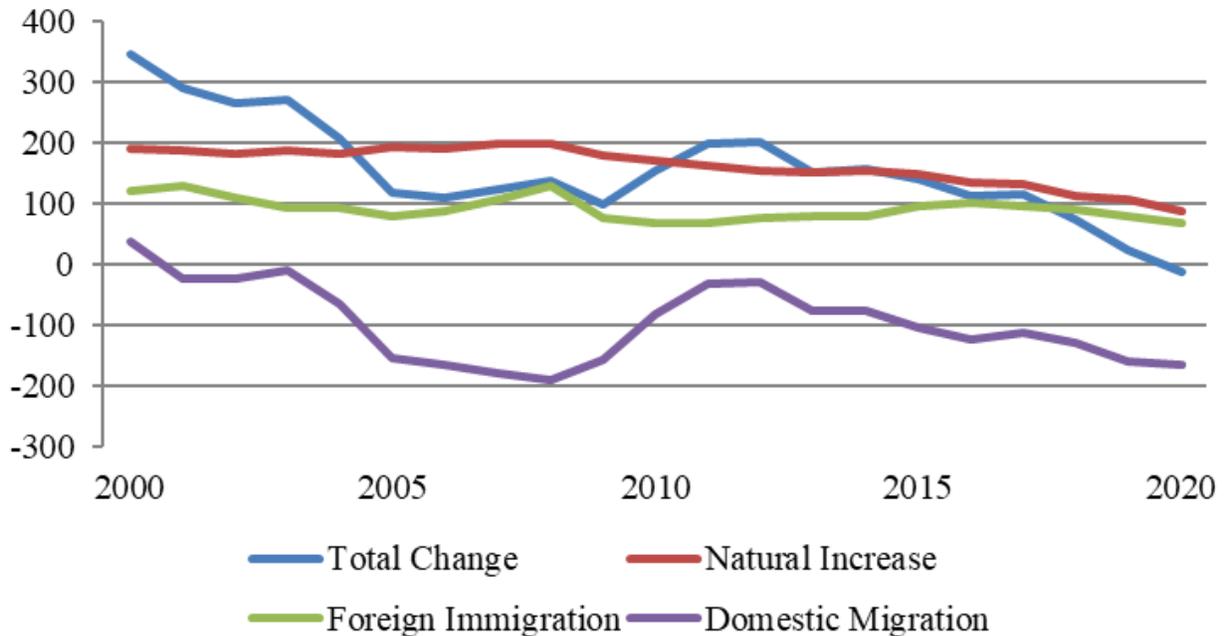
Six County Area Population (in Thousands)

County	1990	2000	2005	2010	2017	2018	2019	2020
Los Angeles	8,860	9,544	9,810	9,846	10,223	10,277	10,211	10,172
Orange	2,412	2,854	2,957	3,017	3,189	3,195	3,195	3,191
Riverside	1,188	1,557	1,935	2,198	2,383	2,409	2,428	2,449
San Bernardino	1,432	1,719	1,943	2,045	2,147	2,161	2,176	2,184
San Diego	2,505	2,828	2,970	3,078	3,315	3,339	3,347	3,352
Ventura	669	757	797	825	849	848	844	841
Total Six County Area	17,066	19,259	20,412	21,009	22,106	22,178	22,202	22,189

Source: California Department of Finance as of July 1

Six County Area population growth is determined by three major components—natural increase, which is the number of births minus the number of deaths, net foreign immigration, which is the number of people moving to the region from abroad minus the number moving abroad, and net domestic migration, which is the number of people moving from other regions of the state and nation minus the number moving out to these areas. Natural increase was the largest component of population growth from 2010 through 2020 averaging near 134,000 per year. Declining birth rates in recent years have reduced natural increase to near 87,000 in 2020.

Components of Change in Six County Area Population (Thousands)

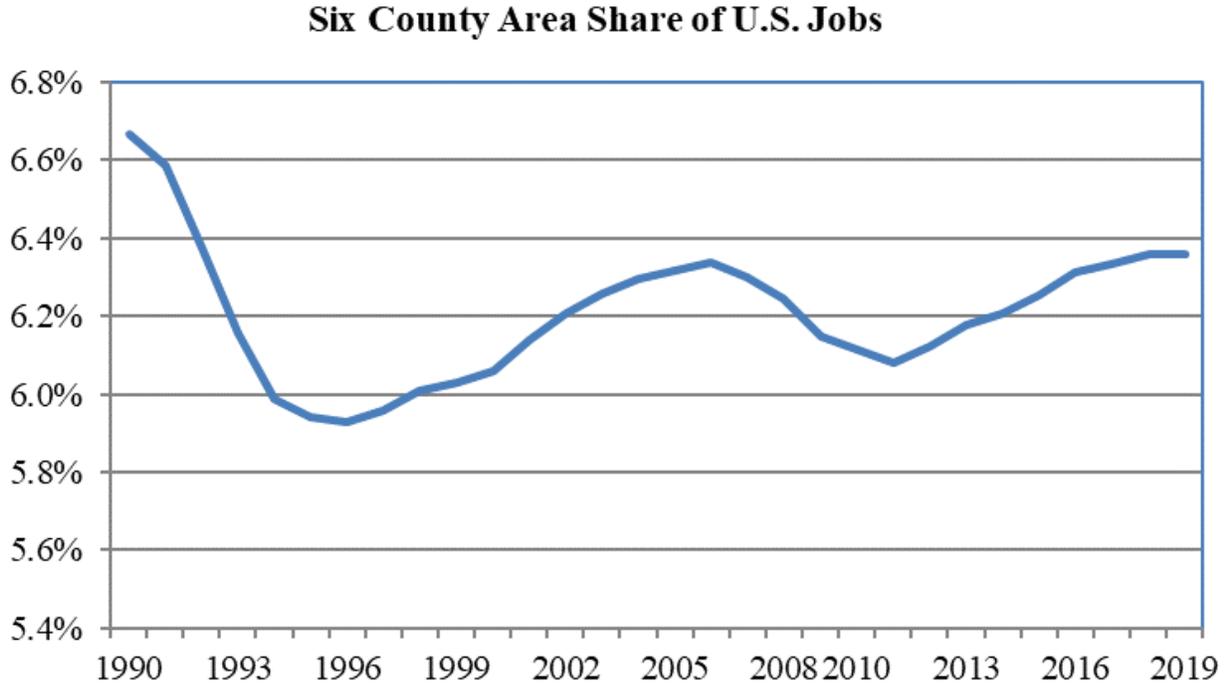


Source: California Department of Finance as of July 1

Net foreign immigration has averaged 82,000 per year between 2010 and 2020, while net domestic migration has been negative since 2010, averaging -101,400 per year. Foreign immigration declined during the recession but has rebounded to near 100,000 per year on average since 2015. Net out migration increased since 2014 and reached -167,100 in 2020.

Economic Structure of the Six County Area and Long-Term Prospects

The Six County Area has steadily increased its share of national jobs in recent years. In 2019, the Six County Area accounted for more than 6.3% of the nation’s non-farm wage and salary jobs, the highest share since before the aerospace recession in 1990. The Six County Area economy usually outpaces the nation in growth periods and lags behind in recessions as in the periods after 1990 and 2007.



Source: EDD, Bureau of Labor Statistics, U.S. Dept. of Labor, CCSCE

In 2019, Education and Health Services was the largest major industry sector in the Six County Area measured by jobs, with just nearly 1.6 million jobs or 16% of the Six County Area total (see the table on the following page).

The next largest sectors in 2019 were Professional and Business Services and Government followed by Leisure and Hospitality, Retail Trade, and Manufacturing. Three sectors accounted for 60% of the job growth since 2010: Educational and Health Services, Leisure and Hospitality, and Professional and Business Services. Six County Area job levels in 2019 were more than 900,000 above 2007 levels despite large losses in Manufacturing and smaller declines in other sectors. Between 2010 and 2019 the Six County Area added more than 1.6 million jobs.

Since 2010 most sectors have seen job growth. Construction jobs have rebounded but are still below pre-recession levels. There was strong growth in Professional and Business Services reversing all of the recession job losses. Wholesale Trade activity also rebounded along with port traffic and the growing economy. Financial Services and Information recovered only a portion of recession job losses.

Long-term job growth is driven by the Six County Area’s economic base—those sectors that sell most of their goods and services in national and world markets outside of the Six County Area. Recent projections by CCSCE, SCAG and SANDAG report that the Six County Area will see job growth that slightly exceeds the national average during the next 10 to 30 years, led by gains in Professional and Business Services, Wholesale Trade, Information and the tourism component of Leisure and Hospitality.

Table 26. Six County Area Employment by Major Sector (Jobs in Thousands)

	2000	2007	2010	2019	Change 2007 - 2010	Change 2010 - 2019
Farm	67.7	63.8	59.8	56.1	(4.0)	(3.7)
Natural Resources and Mining	4.6	6.4	6.0	4.9	(0.4)	(1.1)
Construction	373.8	478.7	298.5	464.3	(180.2)	165.8
Manufacturing	1,113.6	888.4	737.4	743.4	(151.0)	6.0
Wholesale Trade	383.7	426.1	379.5	424.1	(46.6)	44.6
Retail Trade	835.7	949.8	851.2	933.3	(98.6)	82.1
Transp, Warehousing and Utilities	298.0	304.4	280.1	429.7	(24.3)	149.6
Information	345.0	292.4	258.3	284.1	(34.1)	25.8
Financial Activities	449.5	524.3	443.0	478.5	(81.3)	35.5
Professional and Business Services	1,182.7	1,289.4	1,136.6	1,431.4	(152.8)	294.8
Educational and Health Services	831.1	1,097.9	1,203.4	1,589.5	105.5	386.1
Leisure and Hospitality	741.0	895.0	859.0	1,191.0	(36.0)	332.0
Other Services	271.4	293.9	272.4	322.7	(21.5)	50.3
Government	1,171.1	1,245.8	1,240.9	1,306.3	(4.9)	65.4
Total Wage and Salary Jobs	8,068.9	8,756.3	8,023.1	9,659.3	(733.2)	1,636.2

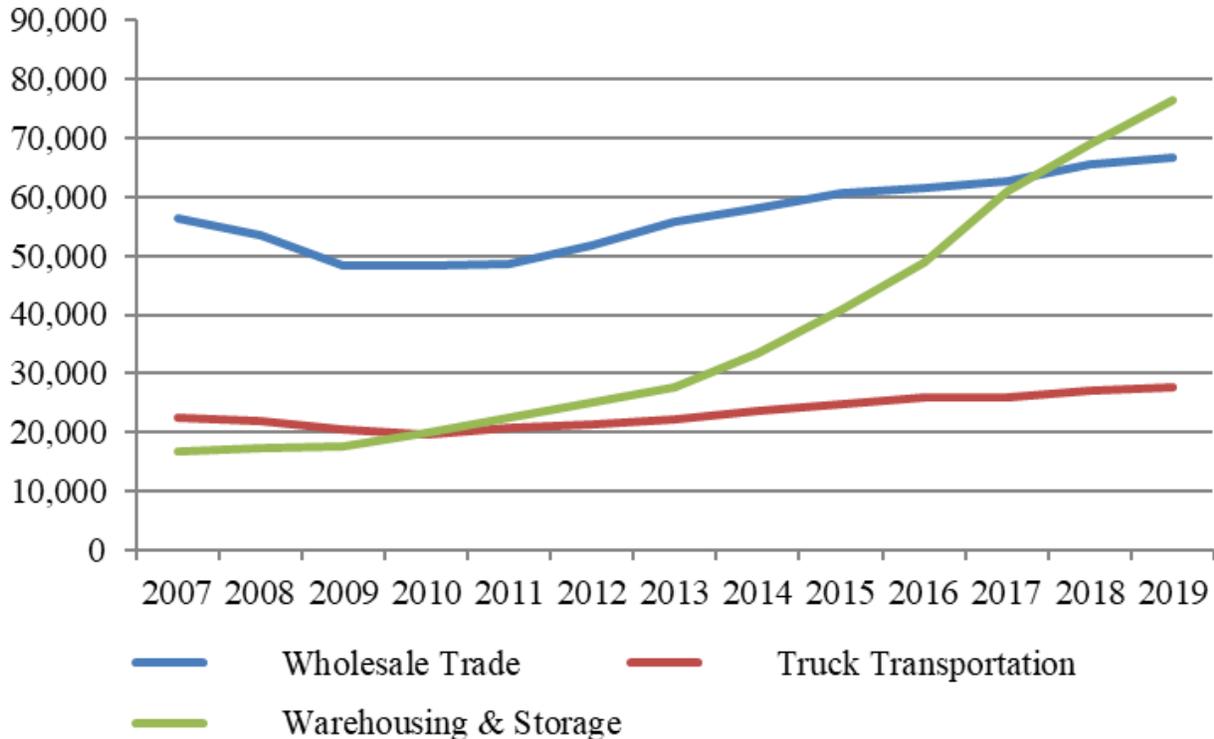
Source: EDD

The Six County Area economy has an economic base that is diversified and well positioned to participate in U.S. and world economic growth over the next ten years. Job levels are expected to grow in the high-wage and fast-growing professional, scientific, technical and information services sectors, which include architecture, design, computer, research and development, advertising, legal, accounting, and internet-related and management services. Other fast-growing sectors over the next ten years include entertainment and tourism industries and health care.

The Six County Area has an above-average share of four additional fast-growing sectors—Wholesale Trade and Transportation, tied to the area’s projected growth in foreign trade; Information, which includes motion pictures; and the tourism component of Leisure and Hospitality, tied to growth in disposable income in the U.S. and worldwide.

The expansion of foreign trade and the growth of distribution centers such as Amazon in the Inland Empire have contributed to a surge in logistics (wholesale trade, warehouse and trucking) jobs in the Riverside-San Bernardino metro area. (See the following chart). Between 2007 and 2019 these jobs increased by 75,600 or 78% including a gain of 9,200 jobs in 2019 led by a surge in warehousing jobs.

Logistics Jobs in the Riverside-San Bernardino Metro Area



Source: EDD

The diversity of the Six County Area economy has led to GDP growth that slightly exceeded the national average in 2019. Average GDP growth in nominal dollars in 2019 was 4.9% and real GDP growth was 2.7% compared to 2.2% for the nation and 3.4% for the state. In 2019, the Six County Area GDP was just under \$1.6 trillion.

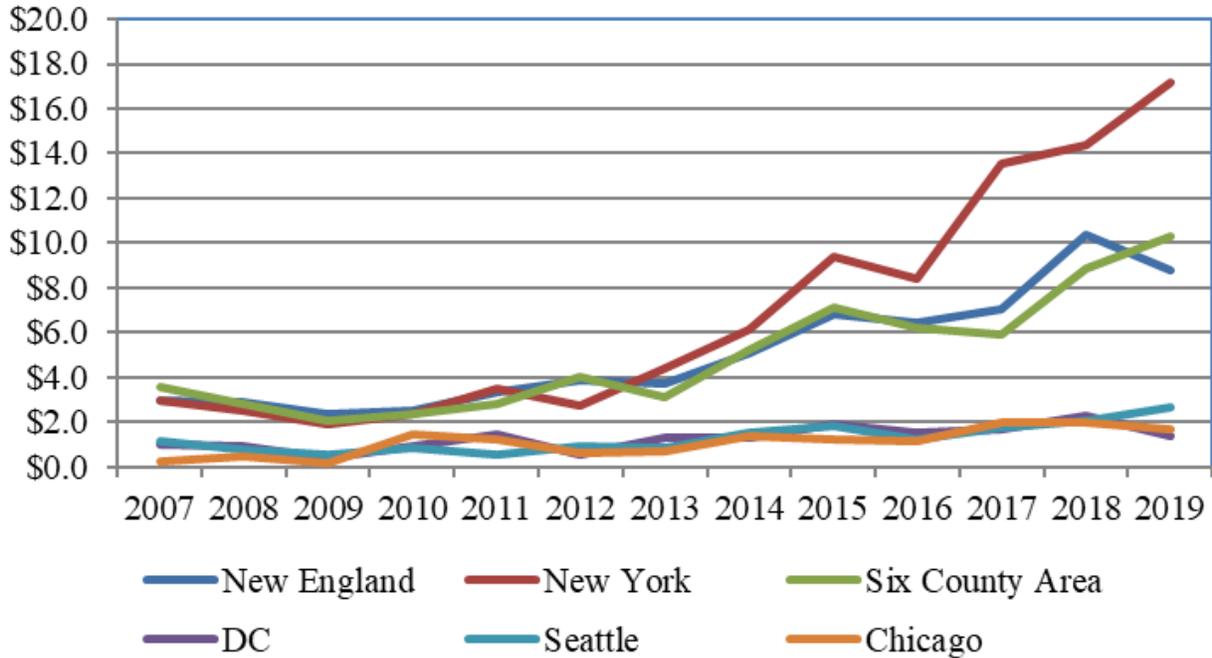
Six County Area GDP (Billions of Current Dollars)

Metro Area	Percent Change					
	2016	2017	2018	2019	Current \$ 2018-19	Real \$ 2018-19
LA-Orange	953.3	1,002.9	1,041.7	108,870.0 %	4.5%	2.5%
Ventura	49.9	50.6	52.2	5,480.0 %	4.9%	2.8%
Riv.-San Bern.	169.1	177.2	186	19,960.0 %	7.3%	4.5%
San Diego	220.3	230.6	242.2	25,310.0 %	4.5%	2.2%
Six County Area	1,392.6	1,461.4	1,522.2	159,620.0 %	4.9%	2.7%

Source: U.S. Department of Commerce; 2019 estimates are preliminary

The Bay Area is by far the largest recipient of new venture capital (VC) funding with \$47.3 billion in 2019 funding. The Six County Area has been one of the top three VC markets behind the Bay Area for the past decade, outpacing the Chicago, Seattle and Washington, DC areas in total funding. (See the following chart). In 2019, the Six County Area accounted for \$10.3 billion (a record high VC funding level) behind New York metro and ahead of New England.

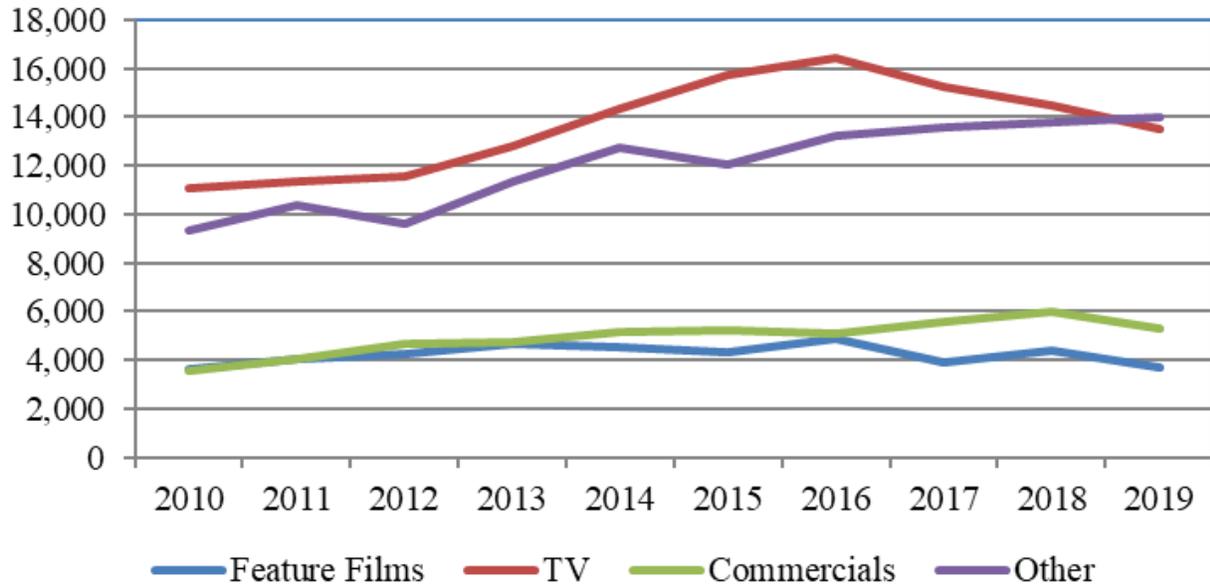
VC Funding (\$Billions)



Source: PWC, Thomson Reuters, National Venture Capital Association

The motion picture and tourism sectors are two major components of the Six County Area economic base. Through the end of 2019, Film LA reports an increase in the number of filming shoot days since 2010. (See the following chart). However, the mix of production days changed over time with long-term losses in the production of major feature films (though levels have been flat since 2010) and TV drama series offset by larger gains in commercials, other kinds of TV filming and web-based and reality shows, which according to Film LA have lower dollar values per production day of activity. In September 2014, California approved an increase in the state film tax credit to \$330 million per year from \$100 million starting in 2015. Production days increased in 2015 and set a recent record in 2016 of 39,627 production days. Production levels in 2019 declined 5.6% from 2018 levels with declines in TV, films and commercials.

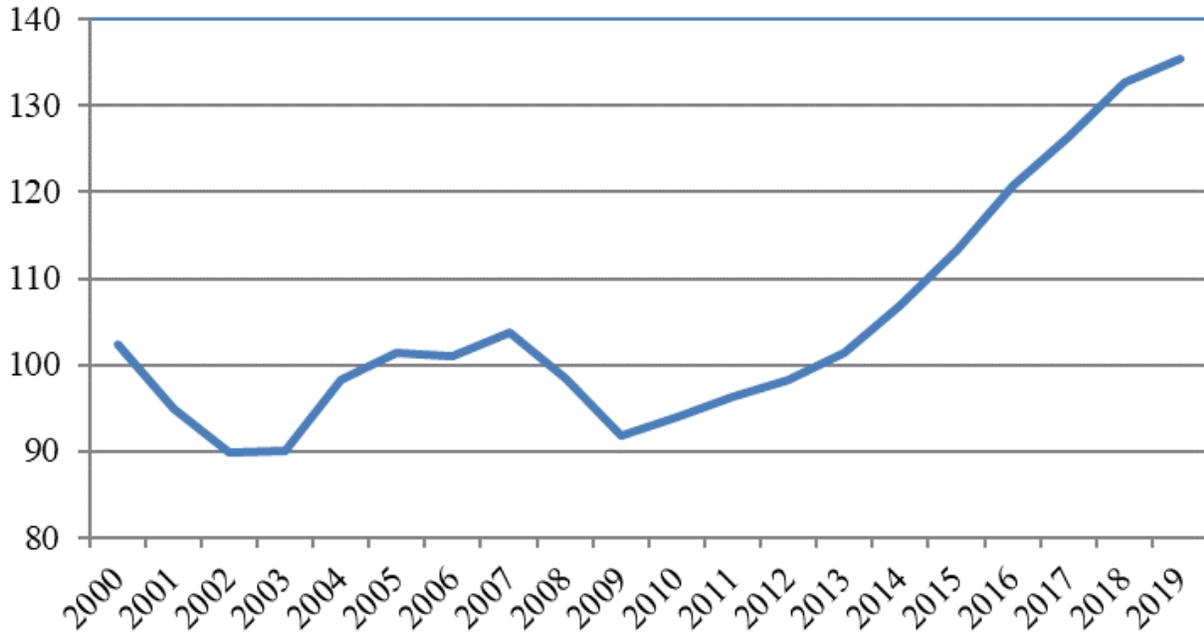
Filming Shoot Days in Los Angeles Area



Source: Film LA

As of the end of 2019, California and the Six County Area were experiencing growth in both domestic and foreign visitors. Hotel rates and occupancy were increasing in the Six County Area and the same was true for employment in the hotel and amusement park sectors. In 2018, Los Angeles County set tourism records for the fourth year in a row for visitors, 50 million, up 3.1% over 2017, according to data from the Los Angeles Tourism and Convention Board. Foreign travel to the region in 2018 also surged with gains of 6.9% for China, 4.5% for Canada and 3.0% for the UK. In 2018, passenger travel at Los Angeles International Airport was up 3.5% to 87.5 million trips to set an all-time record. Air passenger travel at the major airports in the Six County Area reached record levels in 2019 up 2.0% over 2018 to 135.5 million trips led by gains at Burbank, Ontario and San Diego airports. (See the following chart).

Passengers at Major Airports in the Six County Area



Source: Airport websites-Los Angeles International, Burbank, John Wayne, Ontario and San Diego

The positives for long-term economic growth include the strength of the region as a center for knowledge-based and creative activities, and international trade, tourism and investment with the Pacific Rim. For example, the Six County Area does not have a large number of automotive industry production jobs but nearly all large worldwide auto companies have a major design studio in the Six County Area.

Risks for the Long-Term Forecast

The long-term impact of the COVID-19 pandemic on the Six County Area economy cannot be known at this time. Both the short-term impact and any longer-term impacts will depend on the duration of the pandemic and the effectiveness of efforts to control it and the pace of the economic re-opening and recovery.

The risks and challenges described in the following paragraphs were present in December 2020 and are expected to continue to pose challenges over the long-term.

Housing and transportation challenges pose risks to the long-term economic competitiveness and quality of life in the Six County Area. Recent housing shortages have contributed to relatively large increases in home prices and rents. If more housing is not built, continuing increases in housing costs could affect location decisions of firms and families.

The state Department of Housing and Community Development has recently released the Regional Housing Needs Assessment (RHNA) goals for SCAG and SANDAG. The total goal for the Six County Area for the period from 2021 to 2029 is 1.5 million units or nearly three times the recent annual permit levels. More than half of the units are for residents making less than 120% of the area median income. Roughly half of the units are to make up for current shortages and half for projected growth.

In the past three years, the State legislature passed housing legislation to ease development restrictions and to set aside money for subsidized housing. In 2021, the State legislature will consider additional legislation that will

make it easier to build housing at all income levels with special attention on housing barriers in jurisdictions that are not meeting the housing targets in their plans.

In addition, the Six County Area needs substantial transportation investment, at least \$500 billion to 2040, to serve the growing number of residents and businesses. The two major planning agencies serving the Six County Area, SANDAG and SCAG, have plans to address these housing and transportation challenges but they require cooperation from local jurisdictions in siting housing and funding for both transportation and below market housing projects in addition to state and local laws that reduce barriers to and costs of building housing and transportation improvements.

The Six County Area economy is connected to the national and world economies, especially the Pacific Rim, and is subject to fluctuations and changes in long-term demographic trends around the world and changes in national policies that affect the economy.

Trade and immigration policies in place in 2018, 2019 and 2020 restrained the growth of the Six County Area. The Biden administration has announced plans to reverse some of the recent trade and immigration policies. If enacted, these new policies will over time improve the outlook for job and population growth in the Six County Area.

GLOSSARY OF TERMS

20 x 2020 — 2009 Water Conservation Act goal of twenty percent reduction in per capita regional water use by 2020.

ACE — Association of Confidential Employees; an employee bargaining unit at Metropolitan.

Accrual — An accounting method that records revenues when earned and expenses when incurred regardless of the timing of when the cash is actually paid or received.

Acre-Foot — A unit of measure equivalent to 325,851.4 gallons of water and weighs approximately 62.4 pounds, which meets the needs of two average families in and around the home for one year.

ACWA — Association of California Water Agencies.

AFSCME — American Federation of State, County, and Municipal Employees, Local 1902.

Appropriation — Money set aside for a specific purpose. The designation of the use to which a fund of money is to be applied.

Bay Delta — An environmentally sensitive area of the Sacramento/San Joaquin River Delta through and from which water flows to reach portions of California from the San Francisco Bay Area to San Diego. Moving water across the delta during the high-demand summer months is becoming more difficult as additional water is set aside to mitigate for environmental impacts.

Budget — A report of all anticipated expenditures and required reserves and the source of moneys to be used to meet such expenditures and provide such reserves.

Budgeted Position — A staff position approved by the Board of Directors for the fiscal year.

Capital Investment Plan (CIP) — Metropolitan's CIP is designed to refurbish existing facilities needed to ensure a reliable distribution system, expand treatment facilities to meet current and future water quality regulations, and expand storage and conveyance facilities to meet current and future storage requirements.

Capital Project — A project that results in a new asset (e.g., a facility, betterment, replacement, equipment, etc.) that has a total cost of at least \$50,000 and a useful life of at least five years. Computer software can be capitalized if it costs \$250,000 or more and has a useful life of at least three years.

The California Environmental Quality Act (CEQA) — A statute that requires state and local agencies to identify the significant environmental impacts of their actions, and to avoid or mitigate those impacts, if feasible.

Colorado River Aqueduct (CRA) — The 242-mile-long water conveyance system built by Metropolitan to carry water from the Colorado River to its Southern California service area.

Conservation Program — A program where Metropolitan provides financial assistance for the development of conservation programs at the local level (e.g. energy efficient washing machines, low flush toilets, etc.).

CUWCC — California Urban Water Conservation Council, a non-profit 501c3 formed as a partnership of water suppliers, environmental groups, and others interested in conserving California's greatest natural resource, water.

Debt Service — The annual cost of repaying outstanding debt.

Delta Conveyance Project — The Department of Water Resources (DWR) is pursuing a new environmental review and planning process for a single tunnel project to modernize the State Water Project's Bay-Delta conveyance. The formal environmental review process is expected to begin with a Notice of Preparation under CEQA anticipated to be issued by DWR in the late 2019 timeframe. Planning, environmental review and conceptual design work by DWR for a proposed single tunnel project is expected to take approximately 18 to 36 months. A single tunnel project to be proposed under the new planning effort and environmental review process to be undertaken by DWR may be designed and configured differently than previously analyzed single tunnel alternatives. Information regarding the Delta conveyance project is located on Metropolitan's website at <https://www.mwdh2o.com/planning-for-tomorrow/securing-our-imported-supplies/delta-conveyance/>

Department of Water Resources (DWR) — A department within the California Resources Agency which is responsible for the state's management and regulation of water usage.

Distribution System — Refers to the network of pipelines and canals used for the conveyance of water from Metropolitan's terminal reservoirs to member agency service connections.

DVL — Diamond Valley Lake. A reservoir built by Metropolitan with a capacity of 800,000 AF.

EIR — Environmental Impact Report.

EMS — Energy Management System.

Endangered Species Act (ESA) — An act of the federal government enacted in 1973 that provides for the conservation of species that are endangered or threatened and the conservation of the ecosystems on which they depend. A species is considered endangered if it is in danger of extinction throughout all or a significant portion of its range. A species is considered threatened if it is likely to become an endangered species within the foreseeable future.

Enterprise Fund — To account for operations that are financed and operated where the intent is that the costs (expenses, including depreciation) of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges.

Ethics Program — State law (SB 60) mandates that Metropolitan maintain a program to address and seek to avoid potential ethical abuses relating to business relationships, solicitation and/or receipt of campaign contributions, and public notice and approval procedures for contracts of \$50K or more. This program includes on-going training for board members and employees regarding ethics in the workplace.

FERC — Federal Energy Regulatory Commission.

Fund — A self-balancing set of accounts recording cash and other financial resources, together with all related liabilities and residual equities or balances, and changes therein, which are segregated for the purpose of carrying on specific activities or attaining certain objective in accordance with special regulations, restrictions, or limitations.

Fund Balance — Created from excess revenues over expenditures. This can be a combination of collections/revenues being higher than budget and actual expenditures being lower than budget.

IID/Metropolitan Conservation Agreement — Water conservation agreement with the Imperial Irrigation District (IID) that allows for the development of certain water conservation capital structures by Metropolitan in the Imperial Valley. Metropolitan, in turn, gets the quantity of water conserved during the term of this agreement, four years during construction, and 35 years after completion. It encompasses both the operating and maintenance, in direct, and capital cost of developing and implementing the program. This agreement is renewable.

IRWMP — Integrated Regional Water Management Plan.

Integrated Resources Plan (IRP) — An open and participatory planning process that takes a broad view of all water resource options available to the region and searches for the right combination of investments to achieve water supply objectives in a cost-conscious and environmentally responsible manner.

KPIs — Key Performance Indicators

Local Resources Program (LRP) — A program in which Metropolitan provides financial assistance to its member agencies for the development of local groundwater recycling and groundwater recovery projects.

MAPA — Management and Professional Employees Association, Local 1001.

Member Agency — Refers to any of the 26 cities or public water agencies that comprise the Metropolitan Water District and whose representatives constitute the Board of Directors of Metropolitan.

MAF (million acre-feet) — A unit measure of water.

Minute 319 — Agreement that amends the 1944 Treaty between Mexico and the United States by establishing new rules in sharing Colorado River water and provides immediate plans to address current challenges. Parties to the agreement include Metropolitan Water District of Southern California, Southern Nevada Water Authority, Central Arizona Water Conservation District. Minute 319 allows Mexico to store water in Lake Mead as Intentionally Created Mexican Apportionment for future delivery and environmental flows. Stored water will be exchanged among the parties to the agreement.

MOU (Memorandum of Understanding) — Legal agreements entered into between Metropolitan and any of the four employee bargaining units that dictate terms and conditions of employment.

Operating Equipment — Any portable equipment costing \$5,000 or more and having a useful life of five years or more.

Operations Maintenance Power & Recovery (OMP&R) — A component of the State Water Contract that is billed to the contracting agencies to maintain the system.

OPEB — Other Post Employment Benefits.

ORP — Oxidation Retrofit Program.

Ozone — It is an unstable form of oxygen composed of three-atom molecules that break down readily to normal oxygen and nascent oxygen. The latter is a powerful oxidizing agent and has germicidal action. Ozone is usually produced with on-site generators by passing high-voltage electricity through dry atmospheric air or pure oxygen between stationary electrodes. This process converts a small percentage of the oxygen in the air into ozone. It is usually injected into the water to be treated in a highly baffled mixing chamber.

PAYGO — The practice of funding construction expenditures from current operating revenues in lieu of using debt proceeds.

PVID — Palo Verde Irrigation District.

Palo Verde Land Management and Water Supply Program — Calls for the development of a flexible water supply of between 25,000 and 111,000 acre-feet per year for 35 years through a land management and crop rotation program to be implemented by participating farmers in the Palo Verde Valley. The maximum water supply that could be developed would be about 3.63 million acre-feet during the 35-year term while the minimum water supply required to be developed would be 1.76 million acre-feet.

Performance Measure — An indicator of progress toward completing an initiative, achieving a goal, or implementing a strategy. Performance measures are quantifiable and tracked over time. Measures can indicate

problem areas that need attention or be a guide for continual performance improvement through specific initiatives and actions.

PCCP — Pre-stressed Concrete Cylinder Pipe.

Power Recovery — Energy generated from the operation of sixteen Metropolitan-owned hydroelectric generating facilities. The term "recovery" derives from the capture of potentially wasted electrical energy from Metropolitan's water distribution system.

Quagga Mussel — A destructive non-native species of mussel from the Ukraine region that could clog pipes and water line.

Quantification Settlement Agreement (QSA) - The Quantification Settlement Agreement (QSA) and related agreements, executed by Coachella Valley Water District (CVWD), Imperial Irrigation District (IID), Metropolitan, and other parties in October 2003, establishes Colorado River water use limits for IID and CVWD, and provides for specific acquisitions of conserved water and water supply and delivery arrangements for up to 110 years. The QSA and related agreements provide a framework for Metropolitan to enter into other cooperative Colorado River supply programs and set aside several disputes among California's Colorado River water agencies.

Regional Recycled Water Program (RRWP) — The first phase was the construction of an advanced water treatment demonstration facility that takes treated wastewater and purifies it through various advanced treatment technologies to produce a safe, high-quality water source; the project was a partnership between Metropolitan and the Sanitation Districts of Los Angeles County and was completed in August 2019. The RRWP will have the flexibility to be expanded in the future to implement Direct Potable Reuse ("DPR") through raw water augmentation at the two Metropolitan treatment plants. The State Water Resources Control Board Division of Drinking Water is in the process of developing a framework for the regulation of DPR in California, and the current anticipated date for promulgation is 2023. Information regarding the RRWP is located on Metropolitan's website at <https://www.mwdh2o.com/planning-for-tomorrow/building-local-supplies/regional-recycled-water-program/>

Replacement and Refurbishment (R&R) — Capital projects that invest in Metropolitan's aging infrastructure by restoring them to optimal operating status.

Reserves — Funds set aside to comply with bond covenants, working capital policy, or other board policies as part of a prudent financial strategy.

Revenue Remainder Fund — See Financial Policies for description.

SCADA — Supervisory Control and Data Acquisition; automated systems that are used to monitor, operate, and control Metropolitan's water conveyance, treatment, and distribution systems.

Senate Bill 60 (SB 60) — This bill requires Metropolitan to place increased emphasis on sustainable, environmentally sound, and cost-effective water conservation, recycling, and groundwater storage and replenishment measures and, commencing February 1, 2001, to prepare and submit to the Legislature a prescribed annual report relating to water conservation.

State Water Contract (SWC) — State Water Contracts are the basis for all SWP construction and ongoing operations, as well as the basis for the contractors' participation in the SWP. As the largest of the now 29 contractors, Metropolitan is entitled to slightly less than half of all SWP supplies. Water supplies from the SWP are conveyed to Metropolitan via the SWP's 444-mile California Aqueduct, which was made possible pursuant to Metropolitan's State Water Contract.

State Water Project (SWP) — The SWP is the largest state-built, user-financed water supply and transportation project in the country. The SWP serves urban and agricultural agencies from the San Francisco Bay area to Southern California. Its facilities were constructed with several general types of financing, the repayment of which is made by the 29 agencies and districts that participate in the SWP through long-term contracts (the State

Water Contractors). The State Water Contractors also pay for the operations, maintenance, power, and replacement costs of the SWP.

System Overview Study — An analysis of Metropolitan’s current delivery and treatment capacities versus projected needs during the planning horizon. The System Overview Study, coupled with the Integrated Area Study, analyzes various portfolios of projects that could be used to meet future demand and then develops a potential CIP. Finally, the System Overview Study analyzes the potential impact to rates from the proposed facilities.

TAF (thousand acre–feet) — A unit of measure of water.

Total Dissolved Solids (TDS) — Refers to the total organic carbon concentration in water. Measurement of TDS removal is used as a surrogate for disinfection by-product precursor removal.

Treatment Plants — Facilities used by Metropolitan for the treatment of water to remove contaminants or total dissolved solids thus ensuring that such water is potable before it is distributed to member agencies.

U.S. Department of the Interior, Bureau of Reclamation (USBR) — Largest wholesaler of water and second largest supplier of hydroelectric power in the American West. Promotes water conservation, recycling, and reuse.

Vacancy Factor — A calculated reduction to the O&M labor budget that attempts to account for vacancies that occur within organizations throughout the year. Budgeted labor dollars assume that budgeted positions will be filled for the entire fiscal year (2,080 hours). However, positions routinely become vacant throughout Metropolitan for part of the year as staff transfer to other positions or leave employment in the company and time elapses during the recruitment period to refill the vacated positions.

WRSF — Water Rate Stabilization Fund. See Financial Policies for description.

WRM — Water Resource Management (group); an organization within Metropolitan that focuses on water resource planning and management, including conservation.

WSF — Water Stewardship Fund. See Financial Policies for description.

Water Supply Allocation Plan (WSAP) — This plan is intended to be implemented during periods of regional water shortages to promote conservation of scarce water supplies. The WSAP was created to approach limiting supplies in a manner that is regionally fair and minimizes impacts by establishing accurate and fair baselines for each of Metropolitan’s 26 member agencies.

Water Supply Programs — Water transfer and storage programs that supplement Colorado River and State Water Project supplies.

Water Surplus Drought Management Plan (WSDM Plan) — This plan directs Metropolitan’s resource operations to help attain the region’s reliability goal. The WSDM Plan recognizes the interdependence of surplus and shortage actions and is a coordinated plan that utilizes all available resources to maximize supply reliability. The overall objective is to ensure that shortage allocation of Metropolitan’s imported water supplies is minimized.

Working Capital — A measure of both a company’s efficiency and its short-term financial health. The working capital ratio is calculated as: Working Capital = Current Assets - Current Liabilities.

WSO — Water System Operations (group); an organization within Metropolitan responsible for operating and maintaining Metropolitan’s water conveyance, treatment, and distribution system and its appurtenant systems.

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**THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA**

RESOLUTION 9301

**RESOLUTION OF THE BOARD OF DIRECTORS OF
THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
FINDING THAT FOR FISCAL YEARS 2022/23 THROUGH 2025/26, THE AD VALOREM
PROPERTY TAX RATE LIMITATION IN SECTION 124.5 OF THE METROPOLITAN
WATER DISTRICT ACT IS NOT APPLICABLE BECAUSE IT IS ESSENTIAL TO
METROPOLITAN'S FISCAL INTEGRITY TO COLLECT AD VALOREM PROPERTY
TAXES IN EXCESS OF THAT LIMITATION**

The Board of Directors of The Metropolitan Water District of Southern California (the "Board") hereby finds that:

1. The Metropolitan Water District of Southern California ("Metropolitan"), pursuant to Section 124 of the Metropolitan Water District Act (the "Act"), is authorized to levy and collect taxes on all property within the district for the purposes of carrying on the operations and paying the obligations of the district; and
2. Pursuant to Section 307 of the Act, the Board of Directors ("Board") determines the amount of money necessary to be raised by taxation for district purposes each fiscal year and fixes rates of taxation upon the assessed valuation of property taxable by the district to be levied accordingly; and
3. Since its inception Metropolitan has levied and collected property taxes; and
4. The Board, pursuant to sections 133 and 134 of the Act, is authorized to fix the rate or rates at which water shall be sold. Such rates, so far as practicable, shall result in revenue which, together with revenue from fixed charges or assessments, will pay Metropolitan's operating expenses, capital costs, debt service and other expenses and obligations; and
5. Before 1942, all revenues to pay for operations, construction of the Colorado River Aqueduct, other facilities, and other Metropolitan obligations came from ad valorem property taxes. After deliveries of Metropolitan water began in fiscal year 1941/42, water sales were an additional source of revenues, but not until 1974 did revenues from water sales equal revenues from ad valorem taxes; and
6. On November 4, 1960, Metropolitan entered into its contract with the California Department of Water Resources (the "State Water Contract") for water service from the State

Water Project. Metropolitan's was the first contract executed and the prototype for the 28 state water contracts that followed; its terms were validated by the California Supreme Court in *Metropolitan Water Dist. v. Marquardt* (1963) 59 Cal.2d 159; and

7. Under the State Water Contract, Metropolitan is obligated to pay allocable portions of the cost of construction and replacement of the State Water Project system, as well as ongoing operating and maintenance costs, regardless of quantities of water delivered to Metropolitan and regardless of the amounts of water Metropolitan delivers to its member agencies. Approximately 70 percent of Metropolitan's State Water Contract obligations are fixed, or unrelated to the quantity of water delivered; and

8. Metropolitan's authority to levy a tax or assessment to satisfy State Water Contract obligations was a condition to entering into the State Water Contract, and the California Department of Water Resources only executed state water contracts with agencies that have taxing power; and

9. The State Water Contract expressly provides that, if other available funds are not sufficient, Metropolitan must levy a tax or assessment to satisfy its State Water Contract obligations; and

10. Metropolitan's outstanding general obligation bonds and State Water Contract obligations are indebtedness approved by the California voters before Article XIII A of the California Constitution (Proposition 13) was adopted; and

11. Metropolitan's revenues from water transactions and deliveries vary with the quantity of water delivered and water deliveries fluctuate significantly with drought, weather conditions, availability of local supplies, economic conditions and other factors affecting regional demands. During the period from fiscal year 2011/12 through fiscal year 2020/21, Metropolitan's annual Member Agency water transactions ranged from 1.37 million acre-feet to 2.06 million acre-feet; and

12. When fixing taxes and setting rates, the Board and Metropolitan's member agencies evaluate the appropriate mix of property taxes and water rates and charges to promote Metropolitan's fiscal stability and ensure its ability to satisfy the region's long-term water supply needs while reasonably and fairly allocating the cost of providing service to its member agencies and complying with legal requirements; and

13. On May 8, 1984, the Board approved recommendations to amend the Act, set forth in Board Letter 6-2 dated April 30, 1984; and

14. Such amendments were incorporated into Assembly Bill 1445, which was approved by the Legislature and filed with the California Secretary of State on July 3, 1984, and added to the Act as Section 124.5; and

15. Section 124.5 provides that Metropolitan must limit the ad valorem property tax to collect no more than the amount required to pay for a fraction of voter-approved debt, specifically, the composite amount required to pay (1) the principal and interest on general obligation bonded indebtedness of the district and (2) that portion of the district's payment obligation under a water service contract with the state which is reasonably allocable, as determined by Metropolitan, to the payment by the state of principal and interest on bonds issued pursuant to the California Water Resources Development Bond Act as of the effective date of Section 124.5 and used to finance construction of facilities for the benefit of the district; and

16. Section 124.5 further provides that its restrictions do not apply "if the board of directors of the district, following a hearing held to consider that issue, finds that a tax in excess of these restrictions is essential to the fiscal integrity of the district, and written notice of the hearing is filed with the offices of the Speaker of the Assembly and the President pro Tempore of the Senate at least 10 days prior to that date of the hearing;" and

17. Section 124.5's rate restriction became effective in fiscal year 1990/91; and

18. In fiscal years 1990/91 through 1999/2000, the Board maintained Metropolitan's tax levy rate at .0089 percent, a rate that was below the rate then permitted under the restriction clause of Section 124.5; and

19. Metropolitan's tax levy rate has declined from .0089 percent in fiscal year 1999/2000 to .0035 percent in fiscal year 2012/13, and the Board has made the necessary finding since fiscal year 2013/14 that it is essential to fiscal integrity to collect property taxes in excess of the limits set forth in Section 124.5; and

20. On February 8, 2022, the General Manager presented to the Board a proposed biennial budget for fiscal years 2022/23 and 2023/24, proposed rates for calendar years 2023 and 2024, proposed charges for 2023, and the Ten-Year Financial Forecast that were based on the proposal that Metropolitan maintain its current ad valorem property tax rate of 0.0035 to maintain fiscal integrity; and

21. On March 7, 2022, the General Manager provided an information letter to the Board reviewing the applicability of Section 124.5 for fiscal years 2022/23 through 2025/26; and

22. On March 8, 2020, the Board held a public hearing with advance notice as required by Section 124.5, to consider the recommendation to suspend the tax restriction clause of Section 124.5 for to give interested parties the opportunity to present their views regarding the recommendation that it is essential to fiscal integrity to collect property taxes in fiscal years 2022/23 through 2025/26 in excess of the limits of Section 124.5; and

23. Metropolitan currently utilizes tax revenues solely to pay debt service on its general obligation bonds, approved by the voters in 1966 and presently outstanding in the amount of \$26,830,000 as of December 31, 2021, and a portion of its State Water Contract obligations capital costs; and

24. Metropolitan provides, sells and delivers a reliable water supply at wholesale to its member agencies throughout a broad service area, and its integrated water system is able to deliver water throughout its service area; and

25. Metropolitan's participation in the State Water Project under the State Water Contract is fundamental to Metropolitan's ability to consistently provide a reliable water supply and delivery at wholesale to its service area and, thus, satisfaction of its State Water Contract obligations is essential to Metropolitan's mission; and

26. The State Water Project facilities are over 50 years old and Metropolitan's State Water Contract obligations include increasing costs for repair and replacement of existing facilities that are needed to both maintain the storage and conveyance capacity of the State Water Project facilities and assure continued availability and delivery of supplies from the State Water Project and other sources. These costs and obligations were not foreseen by the Legislature when, in 1984, it established the Section 124.5 tax rate restriction and nothing suggests that the Legislature intended to prohibit the Board from considering such circumstances when deciding whether collecting more than the limitation in that Section is essential to Metropolitan's fiscal integrity; and

27. Metropolitan's State Water Contract obligations also include substantial construction, replacement, operation, and maintenance costs for endangered species protection and conservation measures, consistent with state and federal mandates. These obligations must be undertaken to ensure the reliability of the State Water Project, to address ecosystem needs, and to secure long-term operating permits consistent with the federal and state endangered species acts. These costs and obligations were not foreseen or considered by the Legislature when, in 1984, it established the Section 124.5 rate restriction and nothing

suggests that the Legislature intended to prohibit the Board from considering such circumstances when deciding whether collecting more than the limitation in that Section is essential to Metropolitan's fiscal integrity; and

28. Consideration of, and providing for, current and anticipated State Water Contract obligations is essential to Metropolitan's fiscal stability and integrity; and

29. Availability of diverse financial resources to satisfy Metropolitan's State Water Contract obligations is essential to Metropolitan's fiscal stability and integrity; and

30. An appropriate balance of fixed costs and fixed revenue is essential to Metropolitan's long-term fiscal health; and

31. The ad valorem tax is essential to the appropriate balance of fixed costs and fixed revenue under current circumstances; and

32. Continuing an ad valorem property tax rate in excess of the limit of Section 124.5 will allow the Board flexibility to fund Metropolitan's State Water Contract obligations fully and fairly in fiscal year 2022/23 through 2025/26 and for the foreseeable future; and

33. When it enacted Section 124.5, the Legislature recognized the importance of robust fixed revenue sources. At the same time that it established the rate restriction and safety valve to make the restriction inapplicable, it authorized alternative fixed revenue sources in the form of benefit assessments and standby charges. To the extent such assessments or charges would be new assessments or charges, they would likely be governed by additional requirements not in place or contemplated when the Legislature enacted Section 124.5. In the Board's judgment, adoption of such new or additional assessments or charges is not practical and they are not practical fixed revenue sources at this time, especially because those assessments and charges would be collected from property owners already paying the ad valorem property taxes; and

34. In FY 2021/22, approximately 90 percent of Metropolitan's estimated costs are fixed, while approximately 18 percent of Metropolitan's revenues are from fixed sources, including ad valorem property taxes, readiness-to-serve and capacity charges; in FY 2022/23, approximately 80 percent of Metropolitan's estimated costs are fixed, while approximately 18 percent of Metropolitan's revenues are from fixed sources, including ad valorem property taxes, readiness-to-serve and capacity charges. Collecting an amount in excess of the Section 124.5 rate limitation will allow Metropolitan to sustain ad valorem property tax revenues at 8 percent of overall revenues in fiscal year 2022/23 and fiscal year 2023/24. If Section 124.5 limitations were applied, it is anticipated that, in fiscal years 2022/23 through 2025/26, and thereafter, ad valorem property tax revenue would drop to less than 0.1 percent overall revenue; and

35. If the Section 124.5 limit is applicable, fiscal years 2022/23 through 2025/26 fixed revenues as a percentage of total revenues will decline approximately from 18 percent in fiscal year 2021/22 to an average of 10 percent for fiscal years 2022/23 through 2025/26; and

36. Considering Metropolitan's significant fixed costs and fluctuating volumetric revenues, robust and diverse fixed revenues are essential to Metropolitan's fiscal well-being for the additional reason that they help Metropolitan maintain its creditworthiness. Positive credit ratings are central to fiscal integrity because they reduce the cost of borrowing and provide flexibility by increasing access to credit markets. Access to credit markets is especially important whenever Metropolitan faces supply or demand uncertainties. As set forth above, collecting more tax revenue in excess of the Section 124.5 limit will allow Metropolitan to retain important fixed revenues; and

37. Ad valorem taxes are an important component of Metropolitan’s fiscal integrity because they help ensure that those for whom costs are incurred help pay those costs. As a wholesale water agency, Metropolitan’s customers are its 26 member agencies. Each member agency pays volumetric rates based on the amount of water transactions with Metropolitan; whereas ad valorem taxes are levied directly on residents and businesses that are property owners within Metropolitan’s service area. All property owners within Metropolitan’s service area benefit from the water system that allows water to be delivered in Southern California. Ad valorem taxes ensure that residences and businesses pay a share of costs of the system; and

38. Maintaining the existing ad valorem tax rate advances fiscal integrity because it takes pressure off Metropolitan’s volumetric water rates and readiness-to-serve and capacity charges and assist the Board, in its discretion, in maintaining a fair and appropriate balance between fixed costs and fixed revenues and help ensure that all who benefit from Metropolitan’s service pay a fair share of the cost of that service; and

39. Continuing an ad valorem property tax rate in excess of the limits of Section 124.5 and preventing the decline in fixed revenues will create a more stable water revenue structure that can better deal with fluctuations in water transactions and support drought response measures; and

40. Metropolitan’s reliance on property taxes is significantly lower than most other agencies that entered into state water contracts. Other state water contractors rely on property taxes to cover up to 100 percent of their state water contract obligations. Even if all of Metropolitan’s property tax revenue were fully allocated to State Water Contract obligations— and it is not, as a portion covers Metropolitan’s general obligation debt service—Metropolitan would cover only an average of 24 percent for fiscal years 2022/23 through 2025/26 of its State Water Contract obligations. This percentage is significantly lower than other state water contractors; and

41. An analysis of fiscal health and stability must consider long-term circumstances, and the full spectrum of facts and circumstances, including the appropriate mix of property taxes and water rates and charges that will best allow Metropolitan to satisfy the region’s long-term water supply needs; and

42. Notices of a public hearing were filed with the offices of the Speaker of the Assembly and the President pro Tempore of the Senate on February 24, 2022; and

43. The Board conducted a public hearing at its regular meeting on March 8, 2022, at which interested parties were given the opportunity to present their views regarding the recommendation that it is essential to Metropolitan’s fiscal integrity to collect taxes in excess of the Section 124.5 limitation for fiscal years 2022/23 through 2025/26; and

44. The Board has carefully considered the comments and evidence and all material factors relevant to the finding, and all such materials were made available at <https://www.mwdh2o.com/who-we-are/budget-finance/property-tax-rate-for-fy-202021/> ; and

45. The meeting of the Board was conducted in accordance with the Brown Act (commencing at Section 54950 of the Government Code), for which due notice was provided and at which a quorum was present and acting throughout; and

46. A four-year determination of the applicability of Section 124.5 is appropriate given (1) the flexibility required to manage Metropolitan’s finances during current drought conditions, (2) the time required to complete ongoing financial and strategic planning efforts, (3) inherent volatility found in

Metropolitan’s financial profile, and (4) the scope of financial planning timeframes used in the financial sector for various projections and analysis;

NOW, THEREFORE, the Board of Directors of The Metropolitan Water District of Southern California, after receiving, considering, and evaluating public comments and evidence and all material factors pertaining thereto, including the financial and operating information summarized in Board Letter 9-2 and presented on March 8, 2022, and in recognition of the facts and considerations set forth in this Resolution, hereby:

1. Finds and determines that it is essential to Metropolitan’s fiscal integrity to collect ad valorem property taxes in excess of the Section 124.5 limitation on ad valorem property taxes in fiscal years 2022/23 through 2025/26; and
2. Resolves and determines that pursuant to its finding, the tax rate restriction in Section 124.5 of the Act is inapplicable when setting the ad valorem property tax rate for fiscal years 2022/23 through 2025/26; and
3. Waives compliance with Section 4301(b) of Metropolitan’s Administrative Code for any tax levy that utilizes this finding regarding Section 124.5 of the Act.

I HEREBY CERTIFY that the foregoing is a full, true, and correct copy of a resolution of the Board of Directors of The Metropolitan Water District of Southern California, adopted at its meeting held April 12, 2022.



Secretary of the Board of Directors
of The Metropolitan Water District
of Southern California

**THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA**

RESOLUTION 9302

**RESOLUTION OF THE BOARD OF DIRECTORS
OF THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
FIXING AND ADOPTING WATER RATES
TO BE EFFECTIVE JANUARY 1, 2023 AND 2024**

The Board of Directors of The Metropolitan Water District of Southern California (the “Board”) hereby finds that:

1. The Board of Directors (“Board”) of The Metropolitan Water District of Southern California (“Metropolitan”), pursuant to Sections 133 and 134 of the Metropolitan Water District Act (the “Act”), is authorized to fix such rate or rates for water that, so far as practicable, will result in revenue which, together with revenue from any water standby or availability service charge or assessment, will pay the operating expenses of Metropolitan, provide for repairs and maintenance, provide for payment of the purchase price or other charges for property or services or other rights acquired by Metropolitan, and provide for the payment of the interest and principal of its bonded debt; and

2. On March 12, 2002, the Board adopted Resolution 8805, “Resolution Of The Board Of Directors Of The Metropolitan Water District Of Southern California Fixing And Adopting Rates And Charges For Fiscal Year 2002/03 And To Direct Further Actions In Connection Therewith”, adopting a new structure for Metropolitan’s water rates and charges in order to enhance Metropolitan’s fiscal stability and ability to ensure the region’s long-term water supply while reasonably and fairly allocating the cost of providing service to its member agencies; and

3. The rate structure adopted by Resolution 8805 was the product of a three-year process that included a strategic planning process commenced by the Board in July 1998, discussions with member agencies, retail agencies and other stakeholders and numerous meetings of Metropolitan’s Board, Audit, Budget and Finance Committee, Budget, Finance and Investment Committee and Subcommittee on Rate Structure Implementation; and

4. Development of the rate structure adopted by Resolution 8805 included Strategic Plan Policy Principles adopted by the Board on December 14, 1999 to provide a framework for the development of a revised rate structure; a Composite Rate Structure Framework adopted by the Board on April 11, 2000 (the “Rate Structure Framework”); a Rate Structure Action Plan adopted by the Board on December 12, 2000; and study of (i) a detailed rate design proposal presented in December 2000 (the “December 2000 Proposal”) developed from the Rate Structure Framework and (ii) an alternative rate structure proposal presented in September 2001 (the “Proposal”) that addressed concerns which were raised about the December 2000 Proposal; and

5. By Resolution 8774, “Resolution Of The Board Of Directors Of The Metropolitan Water District Of Southern California To Approve Rate Structure Proposal And To Direct Further Actions In Connection Therewith,” adopted October 16, 2001, the Board approved the Proposal, which unbundled water rates and charges to reflect the different functions undertaken by Metropolitan to provide its services, and determined that the Proposal (i) was consistent with the Board's Strategic Plan Policy Principles, (ii) addressed issues raised during the consideration of the December 2000 Proposal, (iii) furthered Metropolitan’s strategic objectives of ensuring the region’s long term water supply reliability through encouragement of sound and efficient water resources management, water conservation, and accommodating a water transfer market, and (iv) enhanced the fiscal stability of Metropolitan; and

6. By Resolution 8774, the Board directed the General Manager to (i) prepare a report on the Proposal describing each of the rates and charges and the cost of service process used to develop the rates and charges and (ii) utilize the Proposal as the basis for determining Metropolitan’s revenue requirements and recommending rates to become effective January 1, 2003, in accordance with Metropolitan’s annual rate-setting procedure under the Administrative Code; and

7. On January 7, 2002, the General Manager presented to the Budget, Finance and Investment Committee (formerly the Audit, Budget and Finance Committee and today, the Finance and Insurance Committee) a detailed report describing each of the rates and charges and the supporting cost of service process, dated December 2001 (the “2001 Cost of Service Report”), that (i) described the rate structure process and design; (ii) identified revenue requirements; (iii) showed the costs of major functions that Metropolitan undertakes to provide its services to its member agencies, (iv) classified these service function costs based on the use of and benefit from the Metropolitan system to create a logical nexus between the costs and the revenues required from each of the rates and charges; and (iv) set forth the rates and charges necessary to defray such costs; and

8. By Resolution 8805 the Board found and determined that the cost of service process reasonably and fairly: (i) identified revenue requirements; (ii) allocated costs to the functions that Metropolitan undertakes to provide its services to its member agencies; (iii) classified service function costs based upon use of and benefit from Metropolitan’s system, and (iv) allocated costs to rates and charges based upon customary water industry standards; and

9. By Resolution 8805 the Board found and determined that the water rates and charges were supported by the cost of service process and that such rates and charges reasonably and fairly allocated the costs of providing service of Metropolitan’s water system to its member agencies and third-party transporters of water, if any; and

10. The Board received the Final Report on Rates and Charges, dated June 28, 2002, that (i) described the rate structure process and design; (ii) identified revenue requirements; (iii) showed the costs of major service functions that Metropolitan undertakes, (iv) classified these service function costs based on the use of and benefit of the Metropolitan system to create a logical nexus between the costs and the revenues required from each of the rates and charges; and (iv) set forth the rates and charges necessary to defray such costs; and

11. Metropolitan’s water rates approved by the Board thereafter have utilized the unbundled water rate elements in the rate structure approved by Resolution 8774 and implemented by Resolution 8805; and

12. The cost of service process supporting Metropolitan’s water rates approved by the Board on March 11, 2003 and in following years is consistent with the cost of service process described in the 2001

Cost of Service Report. Raftelis Financial Consultants, Inc. (“RFC”), the firm engaged in 1998 to perform a comprehensive cost of service study and assist in the development of the rate structure, confirmed to the Board in a report dated April 6, 2010, that the fiscal year 2010/11 cost of service report presented to the Board in January 2010 was accurate and consistent with the 2001 Cost of Service Report and that the fiscal year 2010/11 cost of service report and rate methodology was consistent with water industry best practices and complies with cost of service and rate guidelines in the American Water Works Association’s Manual M-1, *Principles of Water Rates, Fees and Charges*; and

13. In *San Diego County Water Authority v. Metropolitan Water District of Southern California, et al.*, San Francisco Superior Court Case Nos. CPF-10-510830 and CPF-12-512466 (the “2010 and 2012 Cases,” collectively), the San Diego County Water Authority challenged Metropolitan’s water rates adopted on April 13, 2010 and April 10, 2012; and

14. On June 21, 2017, the Court of Appeal entered a decision in the 2010 and 2012 Cases in *San Diego County Water Authority v. Metropolitan Water District of Southern California, et al.*, 12 Cal.App.5th 1124, holding that Metropolitan may recover its State Water Project transportation costs through its transportation rates and that based on the administrative record before it the rates in CYs 2011 through 2014 did not support Metropolitan’s Water Stewardship Rate allocation to its transportation rates, and on September 27, 2017, the California Supreme Court denied SDCWA’s Petition for Review, making the decision final; and

15. On September 21, 2021, the Court of Appeal issued a new appellate decision in which it interpreted its 2017 appellate decision. The Court of Appeal clarified that its 2017 decision regarding the Water Stewardship Rate was not limited to 2011-2014, and that it prohibits the inclusion of the Water Stewardship Rate in transportation rates charged under Metropolitan’s wheeling rate and in the price term of the SDCWA-MWD Exchange Agreement from 2015 forward. On November 23, 2021, Metropolitan’s Board approved an action directing staff to recover 100 percent of demand management costs from Metropolitan’s supply rate elements in the future rate and charge proposals.

16. San Diego County Water Authority has filed lawsuits also challenging Metropolitan’s water rates adopted on April 8, 2014, April 12, 2016, and April 10, 2018, each also titled *San Diego County Water Authority v. Metropolitan Water District of Southern California, et al.*, pending in the San Francisco Superior Court under Case Nos. CPF-14-514004, CPF-16-515282, and CPF-18-516389, and a consolidated trial is scheduled for those cases on May 16, 2022; and

17. Pursuant to Resolution 8329, adopted by the Board on July 9, 1991, Resolution 9199, adopted by the Board on March 8, 2016, and Resolution 9201, adopted by the Board on March 8, 2016, and as each is thereafter amended and supplemented, proceeds of the rates and other revenues from the sale or availability of water are pledged to the payment of Metropolitan’s outstanding revenue bonds, subordinate revenue bonds, short-term certificates and to the payment of revenue bonds, subordinate revenue bonds and short-term certificates to be issued pursuant to Resolution 8329, Resolution 9199, and Resolution 9201; and

18. On February 4, 2022, the General Manager and Chief Financial Officer provided to the Board and the public a board letter describing the proposed biennial budget for fiscal years 2022/23 and 2023/24, identifying key assumptions, addressing key circumstances such as current state water supply conditions, and continued maintenance of the current ad valorem tax rate, incorporating a ten-year financial forecast; determining anticipated total revenues and revenues anticipated to be derived from water transactions and firm revenue sources required during fiscal years 2022/23 and 2023/24, identifying revenue requirements for that period and recommending rates and charges consistent with cost of service principles to be effective January 1, 2023 and January 1, 2024, and explaining that costs and revenues may be at variance

with forecasts and variations will be addressed, for example by contributions to, or withdraws from, financial reserves maintained for this purpose; and

19. The recommended rates were developed using the same unbundled water rate elements in the rate structure approved by Resolution 8774 and implemented by Resolution 8805, as detailed in the FYs 2022/23 and 2023/24 Cost of Service Report for Proposed Water Rates and Charges (the “2022 Cost of Service Report”) provided to the Board and the public on February 4, 2022; and

20. The detailed proposed departmental and non-departmental biennial budget for fiscal years 2022/23 and 2023/24 (the “Proposed Biennial Budget”) was distributed to the Board and the public on February 4, 2022; and

21. On February 4, 2022, the capital investment plan (CIP) appendix to the detailed Proposed Biennial Budget for fiscal years 2022/23 and 2023/24 was also provided to the Board and the public, providing detailed information on proposed capital projects and capital improvement costs; and

22. Board workshops and discussions regarding the Proposed Biennial Budget and future water rates and charges were held on February 8, 2022, March 7, 2022, and April 11, 2022 at the regularly scheduled Finance and Insurance Committee meetings, and on March 22, 2022 at a special meeting of the Finance and Insurance Committee; and

23. The Board conducted a public hearing at its regular meeting on March 8, 2022, at which interested parties were given the opportunity to present their views regarding the proposed water rates and charges; and

24. Notice of the public hearing was published prior to the hearing in various newspapers of general circulation within Metropolitan’s service area; and

25. Metropolitan received written comments regarding the proposed water rates and charges, which, together with Metropolitan’s responses, have been provided to the Board and the public; and

26. Before the April 12, 2022 Board meeting, the General Manager and Chief Financial Officer provided to the Board and the public a board letter describing modifications to the Proposed Biennial Budget for fiscal years 2022/23 and 2023/24 with additional alternatives to the budget recommendations made in February 2022 pursuant to Board and public feedback; alternatives to the determination of total revenues and of revenues to be derived from water transactions and firm revenue sources required during fiscal years 2022/23 and 2023/24, and alternatives to the proposed rates to be effective January 1, 2023 and January 1, 2024, and charges to be effective January 1, 2023; and

27. Each of the meetings of the Board were conducted in accordance with the Brown Act (commencing at Section 54950 of the Government Code), for which due notice was provided and at which quorums were present and acting throughout; and

28. All board letters, reports, presentations and other documents referred to in this Resolution may be viewed by Board members and the public on Metropolitan’s web page at the Budget & Finance page of Metropolitan’s website, <http://www.mwdh2o.com>, or in the office of the Board Executive Secretary;

NOW, THEREFORE, the Board of Directors of The Metropolitan Water District of Southern California does hereby resolve, determine and order as follows:

Section 1. That the Board of Directors of The Metropolitan Water District of Southern California hereby fixes and adopts the following water rates, to be effective on January 1, 2023 and January 1, 2024 as shown in the table below, in order to enhance Metropolitan’s fiscal stability and ability to ensure the region’s long-term water supply while reasonably and fairly allocating the cost of providing service to its member agencies and other potential users of Metropolitan’s system:

Table 1. Rates and Charges

Rates & Charges Effective January 1st	2023	2024
Tier 1 Supply Rate (\$/AF)	\$321	\$332
Tier 2 Supply Rate (\$/AF)	\$530	\$531
System Access Rate (\$/AF)	\$368	\$389
System Power Rate (\$/AF)	\$166	\$182
Treatment Surcharge (\$/AF)	\$354	\$353
Full Service Untreated Volumetric Cost (\$/AF)		
Tier 1	\$855	\$903
Tier 2	\$1,064	\$1,102
Full Service Treated Volumetric Cost (\$/AF)		
Tier 1	\$1,209	\$1,256
Tier 2	\$1,418	\$1,455
Readiness-to-Serve Charge (\$M)	\$154	\$167
Capacity Charge (\$/cfs)	\$10,600	\$11,200

Section 2. The Board finds and determines that the rates specified in Section 1 utilize the unbundled water rate and charge elements of the rate structure approved by Resolution 8774 and implemented by Resolution 8805, with the exception of the removal of the Water Stewardship Rate element and recovery of demand management costs from the supply rate elements, and that the cost of service process supporting the rates and charges specified in Section 1 is the cost of service process described in the 2022 Cost of Service report. The adopted rates and charges and final cost of service reports will be on file at the Budget & Finance page of www.mwdh2o.com and available for review by interested parties at Metropolitan’s headquarters.

Section 3. The Board finds and determines that the cost of service process reasonably, fairly and proportionately: (i) identifies revenue requirements; (ii) shows the costs of major service functions that Metropolitan undertakes, (iii) assigns costs to the service functions; (iv) allocates service function costs based upon use of and benefit from Metropolitan’s system, and (v) distributes costs to rates and charges based upon customary water industry standards. Accordingly, the Board finds that the cost of service process supports the rates and charges by creating a logical nexus between the costs and the revenues required and the rates and charges necessary to defray Metropolitan’s costs of providing its services and for use of its water system.

Section 4. The Board finds and determines that the rates specified in Section 1 are fixed by the Board pursuant to Sections 133 and 134 of the Act, and, so far as practicable, will result in revenue which, together with revenue from water standby or availability service charges or assessments, will pay the operating expenses of Metropolitan, provide for repairs and maintenance, provide for payment of the purchase price or other charges for property or services or other rights acquired by Metropolitan, and provide for the payment of the interest and principal of its bonded debt. Actual revenues and expenses may vary from budgeted amounts for a variety of reasons, and Administrative Code Section 5202(e) contemplates variation in actuals to budget and provides policy guidance to the Board, and the Board finds and determines that Metropolitan’s financial obligations may include liabilities and future commitments, such as retiree

obligations and debt service, that are not reflected in the budget but that can be addressed in a fiscally prudent manner to reduce future obligations and keep future rate increases reasonable within the policy guidance provided by Administrative Code Section 5202(e).

Section 5. The Board finds and determines that the rates specified in Section 1, together with other revenues from Metropolitan’s charges, ad valorem property taxes, and other miscellaneous revenue, do not exceed the reasonable and necessary cost of providing Metropolitan’s water services for which the rates and charges are made, or of conferring the benefit provided, and is fairly apportioned to each member agency as specified in Section 6 below.

Section 6. The Board finds and determines that the respective per-acre-foot rates and charges specified in Section 1 are paid for the corresponding products or services and use of Metropolitan’s water system, that Metropolitan provides such products or services directly to the member agencies or other users of Metropolitan’s system that pay such rates and charges, and that such products or services are not provided to those not charged.

Section 7. The Board finds and determines that each of the rates specified in Section 1 are set for Metropolitan’s services and are not levied for separate general revenue purposes.

Section 8. The General Manager and the General Counsel are hereby authorized to do all things necessary and desirable to accomplish the purposes of this Resolution, including, without limitation, the commencement or defense of litigation.

Section 9. If any provision of this Resolution is held invalid, that invalidity shall not affect other provisions of this Resolution which can be given effect without the invalid portion or application, and to that end the provisions of this Resolution are severable.

Section 10. That the Board Executive Secretary is hereby directed to transmit a certified copy of this Resolution to the presiding officer of the governing body of each member agency.

I HEREBY CERTIFY that the foregoing is a full, true and correct copy of a Resolution adopted by the Board of Directors of The Metropolitan Water District of Southern California, at its meeting held on April 12, 2022.



Secretary of the Board of Directors
of The Metropolitan Water District
of Southern California

**THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA**

RESOLUTION 9303

**RESOLUTION OF THE BOARD OF DIRECTORS
OF THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
FIXING AND ADOPTING
A READINESS-TO-SERVE CHARGE EFFECTIVE JANUARY 1, 2021**

The Board of Directors of The Metropolitan Water District of Southern California (the “Board”) hereby finds that:

1. Pursuant to Resolution 8774, the Board of The Metropolitan Water District of Southern California (“Metropolitan”) approved a rate structure proposal at its meeting on October 16, 2001, described in Board Letter 9-6, including a Readiness-To-Serve (“RTS”) Charge; and
2. Providing firm revenue sources is a goal of such rate structure; and
3. The amount of revenue to be raised by the RTS Charge shall be as determined by the Board and allocation of the RTS Charge among member public agencies (“member agencies”) shall be in accordance with the method established by the Board; and
4. The RTS Charge is a charge fixed and adopted by Metropolitan and charged to its member agencies, and is not a fee or charge imposed upon real property or upon persons as an incident of property ownership; and
5. Metropolitan has legal authority to fix and adopt such RTS Charge as a water rate pursuant to Sections 133 and 134 of the Metropolitan Water District Act (the “Act”), and to fix it as an availability of service charge pursuant to Section 134.5 of the Act; and
6. Under authority of Sections 133 and 134 of the Act, the Board has the authority to fix the rate or rates for water as will result in revenue which, together with other revenues, will pay Metropolitan’s operating expenses and provide for payment of other costs, including payment of the interest and principal of Metropolitan’s non-tax funded bonded debt; and
7. The RTS Charge recovers the capital expenditures for infrastructure projects needed to provide emergency storage capacity and available capacity needed to maintain reliable deliveries during outages and service interruptions and during periods of hydrologic variability; and
8. Pursuant to Resolution 8329, adopted by the Board on July 9, 1991, Resolution 9199, adopted by the Board on March 8, 2016, and Resolution 9201, adopted by the Board on March 8, 2016, and as each is thereafter amended and supplemented, proceeds of the RTS Charge and other revenues from the sale or availability of water are pledged to the payment of Metropolitan’s outstanding revenue bonds, subordinate revenue bonds, short-term certificates and to the payment of revenue bonds, subordinate revenue

bonds and short- term certificates to be issued pursuant to Resolution 8329, Resolution 9199, and Resolution 9201; and

9. Under authority of Section 134.5 of the Act, an RTS Charge levied as an availability of service charge may be collected from the member agencies within Metropolitan, or may continue to be collected as a standby charge against individual parcels within Metropolitan’s service area; and

10. Certain member agencies of Metropolitan have opted in prior fiscal years to provide collection of all or a portion of their RTS Charge obligation through a Metropolitan water standby charge (“Standby Charge”) levied on parcels within those member agencies; and

11. Under authority of Section 134.5 of the Act, the Standby Charge may continue to be levied on each acre of land or each parcel of land less than an acre within Metropolitan to which water is made available for any purpose by Metropolitan, whether the water is actually used or not; and

12. Metropolitan is willing to comply with the requests of member agencies opting to have Metropolitan continue to levy the Standby Charge within their respective territories, on the terms and subject to the conditions contained herein; and

13. On April 12, 2022, the Board considered the rates and charges presented by the General Manager, approved the biennial budget for fiscal years 2022/23 and 2023/24, adopted recommended water rates for calendar years 2023 and 2024 and charges for calendar year 2023, and received information and documents that have been made available at <https://www.mwdh2o.com/who-we-are/budget-finance/>; and

14. In approving the Proposed Biennial Budget and adopting the rates and charges on April 12, 2022, the Board determined the amount of revenue to be raised by the RTS Charge in calendar year 2023 to be \$154,000,000, based on information and documents available at <https://www.mwdh2o.com/who-we-are/budget-finance/>; and

15. Written notice of intention of Metropolitan’s Board to consider and take action at its regular meeting of April 12, 2022, to adopt Metropolitan’s RTS Charge for calendar year 2023 was given to each of Metropolitan’s member agencies; and

16. The RTS Charge for calendar year 2023 applicable to each member agency is reflected in the Engineer’s Report dated April 2022 and its method of its calculation and the specific data used in its determination are as specified in the cost of service report; and

17. Each of the meetings of the Board were conducted in accordance with the Brown Act (commencing at Section 54950 of the Government Code), for which due notice was provided and at which quorums were present and acting throughout;

NOW, THEREFORE, the Board does hereby resolve, determine and order as follows:

Section 1. That the Board hereby fixes and adopts an RTS Charge for the period from January 1, 2023 through December 31, 2023.

Section 2. That said RTS Charge shall be in an amount sufficient to provide for payment of debt service not paid from *ad valorem* property taxes, and other appropriately allocated costs, for capital expenditures for infrastructure projects needed to provide emergency storage capacity and available capacity needed to maintain reliable deliveries during outages and service interruptions and during periods of hydrologic variability.

Section 3. That such RTS Charge for January 1, 2023 through and including December 31, 2023 shall be in the amounts specified in Section 4, which shall be determined on a historic basis for each acre-foot of water, excluding water sales of reclaimed water under the Local Projects Program and Local Resources Program, groundwater under the Groundwater Recovery Program and Local Resources Program, groundwater under the Groundwater Recovery Program, and deliveries under Replenishment and Interim Agricultural Water, included in Metropolitan’s average water deliveries to its member agencies for the applicable ten-year period identified in Section 4. The aggregate RTS Charge for the period from January 1, 2023 through and including December 31, 2023 shall also be as specified in Section 4.

Section 4. That the RTS Charge for January 1, 2023 through and including December 31, 2023 shall be allocated among the member agencies in proportion to the average of applicable deliveries through Metropolitan’s system (in acre-feet) to each member agency during the ten-year period ending June 30, 2021. The allocation of the RTS Charge among member agencies is based on deliveries data recorded by Metropolitan and shall be conclusive in the absence of manifest error, but may be corrected by Metropolitan to reflect any errors discovered by Metropolitan.

The amount of the RTS Charge to be charged to each member agency effective January 1, 2023, is as set forth in Schedule 1, which is based on deliveries data prepared by Metropolitan and may be corrected as agreed to by the impacted member agencies:

Schedule 1

Calendar Year 2023 RTS Charge			
	Rolling Ten-Year Average Firm Deliveries (Acre-Feet) FY2011/12 - FY2020/21	RTS Share	12 months @ \$154 million per year (1/23-12/23)
Anaheim	19.38	1.37%	\$ 2,103.2
Beverly Hills	10.31	0.73%	1,118.9
Burbank	13.35	0.94%	1,449.6
Calleguas MWD	96.57	6.81%	10,482.4
Central Basin MWD	34.31	2.42%	3,724.2
Compton	0.34	0.02%	36.9
Eastern MWD	97.57	6.88%	10,590.6
Foothill MWD	8.31	0.59%	901.6
Fullerton	7.28	0.51%	790.2
Glendale	16.26	1.15%	1,764.6
Inland Empire Utilities Agency	55.76	3.93%	6,052.6
Las Virgenes MWD	20.72	1.46%	2,248.6
Long Beach	29.25	2.06%	3,175.1
Los Angeles	273.54	19.28%	29,690.6
Municipal Water District of Orange County	195.13	13.75%	21,179.9
Pasadena	18.95	1.34%	2,057.4
San Diego County Water Authority	214.36	15.11%	23,267.6
San Fernando	0.03	0.00%	3.2
San Marino	0.97	0.07%	105.7
Santa Ana	9.61	0.68%	1,042.7
Santa Monica	4.61	0.32%	500.1
Three Valleys MWD	63.74	4.49%	6,918.1
Torrance	15.55	1.10%	1,687.7
Upper San Gabriel Valley MWD	30.10	2.12%	3,266.7
West Basin MWD	113.66	8.01%	12,337.1
Western MWD	69.14	4.87%	7,504.6
MWD Total	1,418.79	100.00%	\$ 154,000.0

Totals may not foot due to rounding

The General Manager shall establish and make available to member public agencies procedures for administration of the RTS Charge, including filing and consideration of applications for reconsideration of their respective RTS Charge. The General Manager shall review any applications for reconsideration submitted in a timely manner. The General Manager shall also establish reasonable procedures for the filing of appeals from his determination.

Section 5. That the RTS Charge specified in Schedule 1, together with other revenues from Metropolitan's water rates, other charges, ad valorem property taxes, and other miscellaneous revenue, does not exceed the reasonable and necessary cost of providing Metropolitan's water services for which the rates and charges are made, or of conferring the benefit provided, and is fairly apportioned to each member agency as specified in Section 6 below.

Section 6. That water conveyed through Metropolitan's system for the purposes of water transfers, exchanges or other similar arrangements shall be included in the calculation of a member agency's rolling ten-year average firm demands used to allocate the RTS Charge.

Section 7. That the RTS Charge and the amount applicable to each member agency, the method of its calculation, and the specific data used in its determination are as specified in the adopted rates and charges to be effective January 1, 2023, which forms the basis of the RTS Charge, and the corresponding 2022 Cost of Service Report. The adopted rates and charges and cost of service reports are on file and available for review by interested parties at Metropolitan's headquarters.

Section 8. That except as provided in Section 10 below with respect to any RTS Charge collected by means of the Standby Charge, the RTS Charge shall be due monthly, quarterly or semiannually as agreed upon by Metropolitan and the member agency.

Section 9. That such RTS Charge may, at the request of any member agency which elected to utilize the Standby Charge as a mechanism for collecting the RTS Charge obligation in fiscal year 1993/94, be collected by continuing the Standby Charge at rates not to exceed rates levied in fiscal year 1996/97 upon land within Metropolitan's (and such member agency's) service area to which water is made available by Metropolitan for any purpose, whether such water is used or not.

Section 10. That the Standby Charge shall be collected on the tax rolls, together with the *ad valorem* property taxes which are levied by Metropolitan for the payment of pre-1978 voter-approved indebtedness. Any amounts so collected shall be applied as a credit against the applicable member agency's RTS Charge obligation. After such member agency's RTS Charge allocation is fully satisfied, any additional collections shall be credited to other outstanding obligations of such member agency to Metropolitan that funds the capital costs or maintenance and operation expenses for Metropolitan's water system, or future RTS Charge obligations of such agency. Notwithstanding the provisions of Sections 8 and 9 above, any member agency requesting to have all or a portion of its RTS Charge obligation collected through Standby Charge levies within its territory as provided herein shall pay any portion not collected through net Standby Charge collections to Metropolitan, as provided in Administrative Code Section 4507.

Section 11. That notice is hereby given to the public and to each member agency of The Metropolitan Water District of Southern California of the intention of Metropolitan's Board to consider and take action at its regular meeting to be held May 10, 2022 (or such other date as the Board shall hold its regular meeting in such month), on the General Manager's recommendation to continue the Standby Charge for fiscal year 2022/23 under authority of Section 134.5 of the Act on land within Metropolitan at rates not to exceed rates, per acre of land, or per parcel of land less than an acre, levied in fiscal year 1996/97 upon land within Metropolitan's (and such member agency's) service area. Such Standby Charge will be continued as a means of collecting the RTS Charge.

Section 12. That no failure to collect, and no delay in collecting, any Standby Charge shall excuse or delay payment of any portion of the RTS Charge when due.

Section 13. That the RTS Charge is fixed and adopted by Metropolitan as a rate or charge on its member agencies, and is not a fee or charge imposed upon real property or upon persons as incidents of property ownership, and the Standby Charge is collected within the respective territories of electing member agencies as a mechanism for payment of the RTS Charge. In the event that the Standby Charge, or any portion thereof, is determined to be an unauthorized or invalid fee, charge or assessment by a final judgment in any proceeding at law or in equity, which judgment is not subject to appeal, or if the collection of the Standby Charge shall be permanently enjoined and appeals of such injunction have been declined or exhausted, or if Metropolitan shall determine to rescind or revoke the Standby Charge, then no further Standby Charge shall be collected within any member agency and each member agency which has requested continuation of the Standby Charge as a means of collecting its RTS Charge obligation shall pay such RTS Charge obligation in full, as if continuation of such Standby Charge had never been sought.

Section 14. That the General Manager and the General Counsel are hereby authorized to do all things necessary and desirable to accomplish the purposes of this Resolution, including, without limitation, the commencement or defense of litigation.

Section 15. That if any provision of this Resolution or the application to any member agency, property or person whatsoever is held invalid, that invalidity shall not affect other provisions or applications of this Resolution which can be given effect without the invalid portion or application, and to that end the provisions of this Resolution are severable.

Section 16. That the General Manager is hereby authorized and directed to take all necessary action to satisfy relevant statutes requiring notice by mailing or by publication.

Section 17. That the Board Executive Secretary is hereby directed to transmit a certified copy of this Resolution to the presiding officer of the governing body of each member agency.

I HEREBY CERTIFY that the foregoing is a full, true and correct copy of a Resolution adopted by the Board of Directors of The Metropolitan Water District of Southern California, at its meeting held on April 12, 2022.



Secretary of the Board of Directors
of The Metropolitan Water District
of Southern California

**THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA
ENGINEER'S REPORT**

**PROGRAM TO SET A READINESS-TO-SERVE CHARGE EFFECTIVE JANUARY 1, 2023,
INCLUDING LOCAL OPTION TO CONTINUE COLLECTING A STANDBY CHARGE,
DURING FISCAL YEAR 2022/23**

April 2022

BACKGROUND

The Metropolitan Water District of Southern California is a public agency with a primary purpose to provide imported wholesale water service for domestic and municipal uses to its 26 member public agencies. Approximately 19 million people reside within Metropolitan's service area, which covers approximately 5,200 square miles and includes portions of the six counties of Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura. Metropolitan historically provided between 40 and 60 percent of the water used within its service area. To supply Southern California with reliable and safe water, Metropolitan imports water from the Colorado River and Northern California to supplement its member agencies' local supplies, and helps its member agencies develop increased water conservation, recycling, storage and other local resource programs.

REPORT PURPOSES

As part of its role as a regional imported water supplier, Metropolitan builds capital facilities and implements water management programs that ensure the delivery of reliable high-quality water supplies throughout its service area. The purpose of this report is to: (1) identify and describe those facilities and programs that will be financed in part by Metropolitan's Readiness-to-Serve (RTS) Charge, and (2) describe the method and basis for levying Metropolitan's Standby Charge for those agencies electing to continue to collect a portion of their RTS obligation through Metropolitan's Standby Charge in fiscal year 2022/23. **Because the Standby Charge is levied and collected on a fiscal year basis the calculations in this report also are for the fiscal year, even though the RTS Charge is levied on a calendar year basis.** The RTS Charge for calendar year 2022 was adopted by Metropolitan's Board on April 13, 2021 and the RTS Charge for 2023 will be considered by the Board on April 12, 2022. The Board will consider the continuation of the Standby Charge for fiscal year 2022/23 on May 10, 2022.

Metropolitan collects the RTS Charge from its member agencies to recover a portion of the capital costs including debt service on bonds issued to finance capital facilities needed to meet demands on Metropolitan's system for emergency storage and available capacity to meet outages and hydrologic variability. The Standby Charge is collected from parcels of land within Metropolitan's member agencies that have elected to collect all or a portion of their RTS obligation through the Standby Charge, as a method of recovering the costs of special benefits conferred on parcels within their service area. The RTS Charge will partially pay for the facilities and programs described in this report, namely, the amount attributable to the portions providing emergency storage and available capacity to meet outages and hydrologic variability. The Standby Charge, when collected, will be utilized solely for capital payments and debt service on the capital facilities funded by the RTS Charge, as identified in this report.

The budgeted total RTS revenue for fiscal year 2022/23 is \$147.0 million, of which \$44.0 million is estimated to be collected via the Standby Charge. The Standby Charge is collected on property tax bill.

METROPOLITAN'S RESPONSE TO FLUCTUATING WATER DEMANDS AND AVAILABILITY OF WATER SOURCES

Metropolitan's member agencies have widely differing imported water supply needs and the availability of imported water supply from various sources also varies widely. Some agencies have no local water resources and rely on Metropolitan for 100 percent of their annual water needs. Other agencies have adequate local surface supplies and storage and/or groundwater basins that provide them with the majority of their water supplies during wet and average years. However, during dry periods and/or based on a variety of other factors, these agencies rely on Metropolitan to make up any shortfalls in local water supplies. Similar coordination challenges arise in managing water available from Metropolitan's various water supply sources.

To respond to fluctuating demands for water, Metropolitan and its member agencies collectively examined the available local and imported resource options in order to develop a least-cost plan that meets the reliability and quality needs of the region. The product of this intensive effort was an Integrated Resources Plan (IRP) for achieving a reliable and affordable water supply for Southern California. The major objective of the IRP was to develop a comprehensive water resources plan that ensures (1) reliability, (2) affordability, (3) water quality, (4) diversity of supply, and (5) adaptability for the region, while recognizing the environmental, institutional, and political constraints to resource development. As these constraints change over time, the IRP is periodically revisited and updated by Metropolitan and the member agencies to reflect current conditions. To meet the water supply needs of the region, Metropolitan continues to identify and develop additional water supplies to maintain the reliability of the imported water supply and delivery system to its member agencies.

CAPITAL FACILITIES - CONVEYANCE AND DISTRIBUTION

Metropolitan's total water system has been built over time to meet the widely differing needs of its member agencies and the various sources of water available to Metropolitan. To meet those needs, Metropolitan's water delivery system is comprised of three basic conveyance and delivery components that form one integrated water system:

- State Water Project (SWP);
- Colorado River Aqueduct (CRA); and
- Distribution System

The system draws on diverse supply sources, transports water across a large part of the State and distributes water in six counties, where member agencies or their retail sub-agencies serve an estimated 19 million people. The CRA and the California Aqueduct of the SWP convey imported water into the Metropolitan service area. This water is then delivered to Metropolitan's member agencies via a regional network of canals, pipelines, and appurtenant facilities, which constitute the Distribution System. Supply, treatment, and storage facilities augment the Distribution System. The system is an interconnected regional conveyance and distribution system with the ability to deliver supplies from each of the SWP, the CRA, and its storage portfolio throughout its vast and diverse service area to almost every member agency. This flexibility derives from the capital facilities and provides local and system-wide benefits to all member agencies, as the facilities directly contribute to the reliable delivery of water supplies throughout Metropolitan's service area.

As the 2007 Integrated Area Study (IAS) emphasized, regional system flexibility is a key component of overall reliability.¹ Today, system flexibility continues to be essential to the availability of Metropolitan’s services.² Metropolitan must maintain operational flexibility—the ability to respond to short-term changes in regional water supply, water quality, treatment requirements, and member agency demands. Metropolitan must maintain delivery flexibility—the ability to maintain partial to full water supply deliveries during planned and unplanned facility outages. Metropolitan is also required by state statute to serve as large an area as is determined to be reasonable and practical with SWP water; and where a blend of water sources is served, to have the objective to the extent determined to be reasonable and practical, that at least 50 percent of the blend be SWP water. (MWD Act, Sec. 136.)

Operational flexibility has been achieved by creating an interconnected regional delivery network integrating the SWP and the CRA conveyance systems with the Distribution System. This integrated network allows Metropolitan to incorporate supply from the SWP and the CRA with a diverse portfolio of geographically dispersed storage programs, including the Central Valley groundwater storage programs, carryover storage in San Luis Reservoir, flexible storage capacity in Castaic Lake and Lake Perris, Lake Mead storage, the Desert Water Agency/Coachella Valley Water District Advanced Delivery account, in-basin surface storage in Diamond Valley Lake and Lake Mathews, and in-basin groundwater Conjunctive Use Programs. This integrated, regional network also allows Metropolitan to move supplies throughout the system in response to service demands, supply availability and operational needs.

Therefore, each of Metropolitan's integrated conveyance, distribution and storage assets contributes to regional system reliability. It is fair and reasonable for member agencies and all property owners within the service area to share the cost of developing and maintaining these assets because they all benefit from regional system reliability.

State Water Project Description and Benefits

One of Metropolitan’s two major sources of water is the SWP.³ The SWP is the largest state-built, multipurpose, user-financed water project in the country. It was designed and built primarily to deliver water, but also provides flood control, generates power for pumping, is used for recreation, and enhances habitat for fish and wildlife.

The SWP consists of a complex system of dams, reservoirs, power plants, pumping plants, canals and aqueducts to deliver water. See Figure 1. SWP water consists of water from rainfall and snowmelt runoff that is captured and stored in SWP conservation facilities and then delivered through SWP transportation facilities to water agencies and districts located throughout the Upper Feather River, Bay Area, Central Valley, Central Coast, and Southern California. In addition to the delivery of SWP water, the SWP is also used to convey transfers of SWP water and non-SWP water. Metropolitan receives water from the SWP through the California Aqueduct, which is 444 miles long, and at four delivery points near the northern and eastern boundaries of Metropolitan’s service area.

¹ 2007 Integrated Area Study, Report No. 1317, pg. 2-10.

² 2022 Annual Operating Plan, pg. 6-10

³ For historical and current information regarding the SWP, refer to Bulletin 132, published periodically by DWR since 1963. The most recently published Bulletin is Bulletin 132-18 dated January 2021 and titled “Management of the California State Water Project. Appendices to the Bulletin are also updated separately. Both are available at: <https://water.ca.gov/Programs/State-Water-Project/Management/Bulletin-132>.

Figure 1. Facilities of the State Water Project



The SWP is managed and operated by the Department of Water Resources (DWR). All water supply-related capital expenditures and operations, maintenance, power and replacement (OMP&R) costs associated with the SWP conservation and transportation facilities are paid for by 29 agencies and districts, known collectively as the State Water Contractors (Contractors). The Contractors are participants in the SWP through long-term contracts for the delivery of SWP water and use of the SWP transportation facilities.

In 1960, Metropolitan signed the first water supply contract (as amended, the State Water Contract) with DWR. In addition to SWP water, Metropolitan also obtains water from water transfers, groundwater banking and exchange programs delivered through the California Aqueduct.

Since 1960, the SWP system has been extended, improved, and refurbished. All such costs are payable by the Contractors. California WaterFix was a comprehensive science-based solution proposed by the state to modernize critical water delivery infrastructure of the SWP. On October 10, 2017, Metropolitan's Board voted to support financing for the California WaterFix project. However, the state terminated the project in April 2019. Consistent with the Governor's Executive Order N-10-19, the state then announced a new single tunnel Delta conveyance project, which was notably included as part of the Governor's 2020 Water Resilience Portfolio. In 2019, DWR initiated planning and environmental review for a single tunnel Delta Conveyance Project (DCP) to protect the future reliability of access to SWP supplies. In December 2020, the Metropolitan Board authorized the General Manager to execute agreements for (a) funding a share of up to 60.2 percent for planning and pre- construction costs for the DCP, and (b) an amendment to the Joint Powers Agreement for the Delta Conveyance Design and Construction Joint Powers Authority. A Delta conveyance project will contribute to the improvement of capital facilities needed to meet demands on Metropolitan's system for emergency storage and available capacity to meet outages and hydrologic variability. Metropolitan's biennial budget for fiscal years 2022/23 and 2023/24 includes Metropolitan's planned contribution of \$99.0 million for DWR's planning costs of a new Delta conveyance project.

All Metropolitan member agencies benefit from the SWP system and its supplies, which can be distributed to all member agencies. Metropolitan's member agencies distribute that water to parcels as retail water providers or as wholesale water providers to retail agencies. In this way, the SWP water that Metropolitan delivers to its member agencies contributes to water available to existing and future end users throughout Metropolitan's service area. The cost of the net capital payments for the SWP less the portion covered by property taxes in fiscal year 2022/23 is \$60.7 million, as shown in Table 1. Real property throughout Metropolitan's service area benefits from the availability of the SWP facilities and its integration into Metropolitan's system and therefore all such costs may be attributed to such parcels. However, Metropolitan's Standby Charge collects only \$44.0 million of the total \$312.9 million system costs, representing 14% of the total system costs.

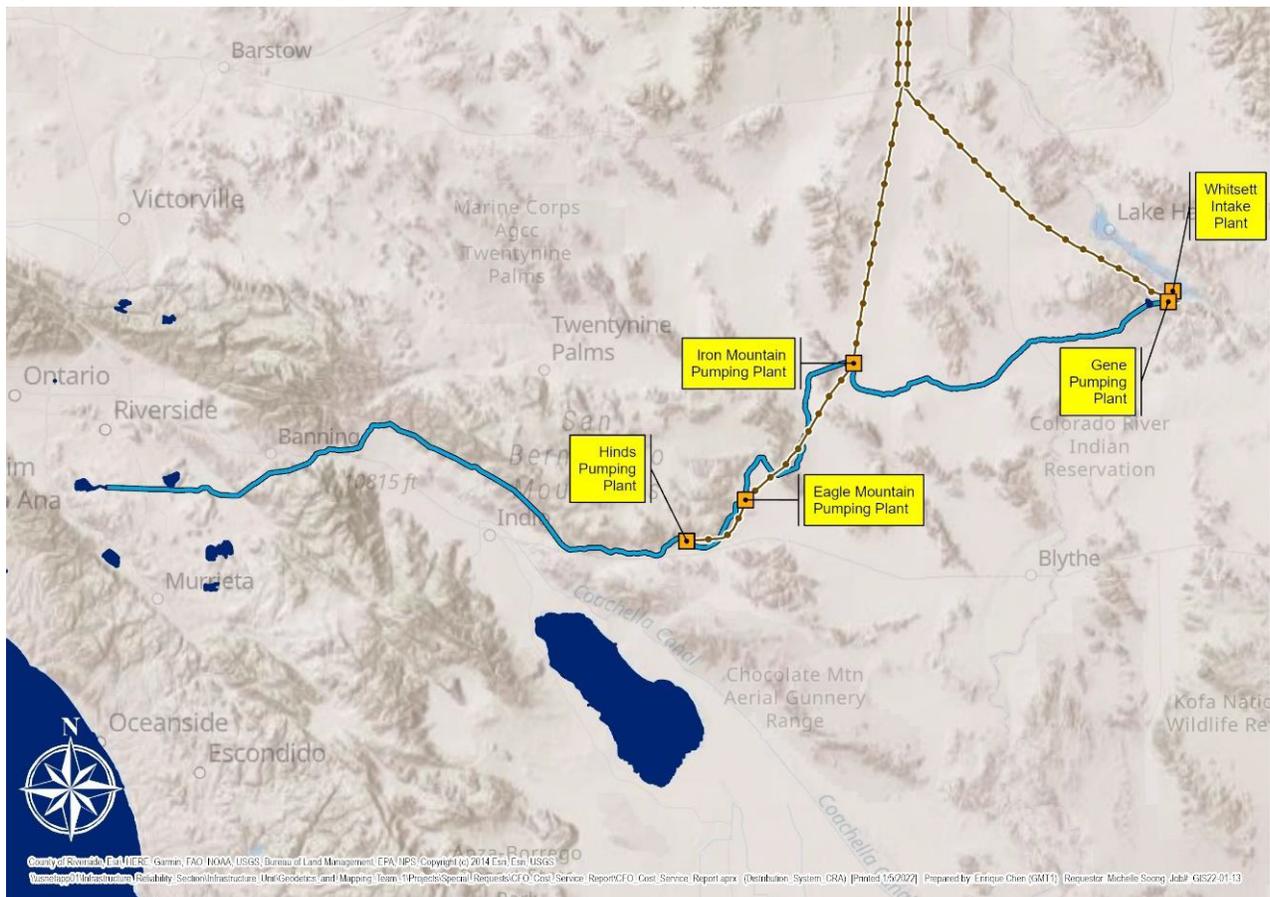
Colorado River Aqueduct Description and Benefits

Metropolitan's other major source of water is the CRA. Metropolitan was established to obtain an allotment of Colorado River water, and its first mission was to construct and operate the CRA. The CRA consists of five pumping plants, 450 miles of high voltage power lines, one electric substation, four regulating reservoirs, and 242 miles of aqueducts, siphons, canals, conduits and pipelines terminating at Lake Mathews in Riverside County. See Figure 2. Metropolitan owns, operates, and manages the Colorado River Aqueduct. Metropolitan is responsible for operating, maintaining, rehabilitating, and repairing the CRA, and is responsible for obtaining and scheduling energy resources adequate to power pumps at the CRA's five pumping stations.

Metropolitan incurs capital and operations and maintenance expenditures to support the CRA activities. The direct costs of the CRA activities include labor, materials and supplies, as well as outside services to provide

repair and maintenance, and professional services. The CRA activities benefit from Water System Operations support services and management supervision, as well as Administrative and General activities of Metropolitan. Metropolitan finances past, current and future capital improvements on the CRA, and capitalizes those improvements as assets. The costs of Metropolitan’s capital financing activities are apportioned to cost functions, such as the CRA Conveyance and Aqueduct function. The capital cost of the Colorado River Aqueduct and Inland Feeder in fiscal year 2022/23 is \$76.3 million, and is included in the Non-SWP Conveyance System line item in Table 1. Real property throughout Metropolitan’s service area benefits from the availability of the CRA facilities and its integration into Metropolitan’s system and therefore all such costs may be attributed to such parcels. However, Metropolitan’s Standby Charge collects only \$44.0 million of the total \$312.9 million system costs, representing 14% of the total system costs.

Figure 2. Colorado River Aqueduct



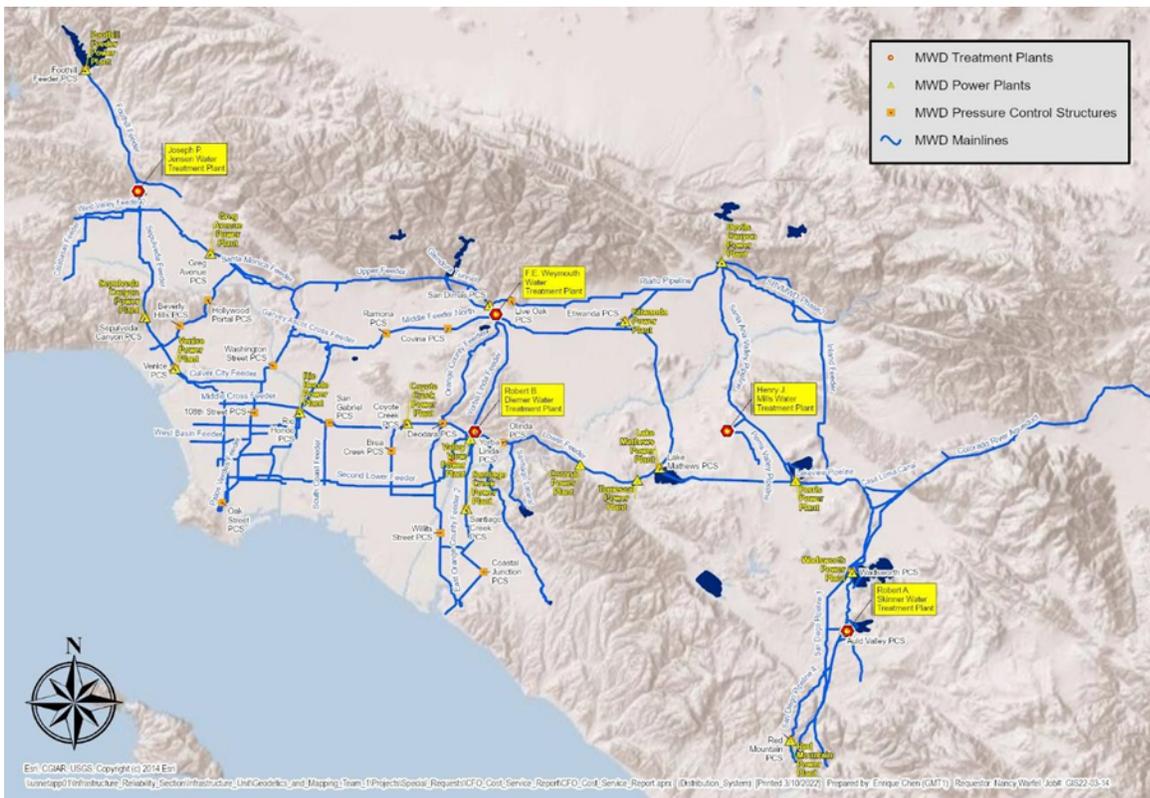
Metropolitan’s Conveyance and Distribution System Benefits

For purposes of this report, components of the conveyance system are considered to include only those major trunk facilities that transport water from primary supply sources to either regional storage facilities or feeder lines linked to the primary conveyance facilities. See Figure 3. For a list of Metropolitan’s conveyance facilities within its service area, see Table 3. All other water transport facilities, including pipelines, feeders, laterals, canals and aqueducts, are considered to be distribution facilities. Distribution facilities can be further identified in that they generally have at least one connection to a member agency's local distribution system. For a list of Metropolitan’s distribution facilities, see Table 3.

All water transport facilities not specifically identified as part of the regional conveyance system are considered to be distribution facilities (Distribution System). While conveyance and aqueduct system

components are regional in nature and generally do not link directly to local agency distribution systems, Distribution System facilities do ultimately connect to local agency systems. As a result, these facilities rely on conveyance and aqueduct facilities to import water from regional supply sources. The Distribution System is a complex network of facilities which routes water from the CRA and SWP to the member agencies. Beginning at the terminal delivery points of the CRA and SWP, Metropolitan's Distribution System includes approximately 775 miles of pipelines, feeders, and canals. Distribution System operations are coordinated from the Operations Control Center in Eagle Rock. The control center plans, schedules, and balances daily water operations in response to member agency demands and the operational limits of the system as a whole. Metropolitan's storage and treatment facilities augment the Distribution System. Metropolitan operates and maintains separate untreated and treated distribution facilities.

Figure 3. Metropolitan's Distribution and Storage Facilities



Metropolitan has an ongoing commitment, through physical system improvements and the maintenance and rehabilitation of existing facilities, to maintain the reliable delivery of water throughout the entire service area. System improvement projects include additional conveyance and distribution facilities to maintain the dependable delivery of water supplies, provide alternative system delivery capacity, and enhance system operations. Conveyance and distribution system improvement benefits also include projects to upgrade obsolete facilities or equipment, or to rehabilitate or replace facilities or equipment. These projects are needed to enhance system operations, comply with new regulations, and maintain a reliable distribution system. A list of conveyance and distribution system facilities is provided in Table 3 along with the fiscal year 2022/23 estimated conveyance and distribution system benefits. The capital cost of the Distribution System in fiscal year 2022/23 is \$76.4 million, and is included in the Distribution System line item in Table 1. Real property throughout Metropolitan's service area benefits from the availability of the Distribution System and its integration into Metropolitan's system and therefore all such costs may be attributed to such parcels. However, Metropolitan's Standby Charge collects only \$44.0 million of the total \$312.9 million system costs, representing 14% of the total system costs.

CAPITAL FACILITIES - WATER STORAGE

System Storage Benefits

The Metropolitan system, for purposes of meeting demands during times of shortage, regulating system flows, and ensuring system reliability in the event of a system outage, provides over 1,000,000 acre-feet of system storage capacity. Diamond Valley Lake provides 810,000 acre-feet of that storage capacity, effectively doubling Southern California's previous surface water storage capacity. Other existing imported water storage available to the region consists of Metropolitan's raw water reservoirs, a share of the SWP's raw water reservoirs in and near the service area, and the portion of the groundwater basins used for conjunctive-use storage.

Water stored in system storage during above average supply conditions (surplus) provides a reserve against shortages when supply sources are limited or disrupted. Water storage also preserves Metropolitan's capability to deliver water during scheduled maintenance periods, when conveyance facilities must be removed from service for rehabilitation, repair, or maintenance. The benefits of these capital facilities are both local and system-wide, as the facilities directly contribute to the reliable delivery of water supplies throughout Metropolitan's service area. The capital costs of water storage in fiscal year 2022/23 is \$99.5 million and, as shown in Table 1. Real property throughout Metropolitan's service area benefits from the availability of the storage capacity throughout the service area and its integration into Metropolitan's system and therefore all such costs may be attributed to such parcels. However, Metropolitan's Standby Charge collects only \$44.0 million of the total \$312.9 million system costs, representing 14% of the total system costs.

METROPOLITAN'S REVENUE

Metropolitan's major capital facilities are financed largely from the proceeds of revenue bond issues, which are repaid over future years. The principal source of revenue for repayment of these bonds is water sales to its member agencies, which is currently Metropolitan's largest source of revenue. In addition, *ad valorem* property taxes provide an additional limited revenue source, which is used to pay pre-1978 voter-approved indebtedness. However, the use of water rates as a primary source of revenue has placed an increasing burden on member agencies and their ratepayers, which would more equitably continue to be paid in part by assessments on land that in part derives its value from the availability of water through an integrated and reliable water system.

Readiness-To-Serve

In December 1993, Metropolitan's Board approved a revenue structure that included additional charges to establish a commitment to Metropolitan's capital improvement program and provide revenue stability. This revenue structure included the RTS Charge, which in 1995 certain member agencies opted to pay in part pursuant to the collection of a standby charge. In October 2001, the Board adopted the current unbundled rate structure, and maintained the RTS Charge.

As noted above, Metropolitan levies the RTS Charge on its member agencies to recover capital costs, including a portion of the debt service on bonds issued to finance capital facilities needed to meet existing demands on Metropolitan's system for emergency storage and available capacity.

The estimated fiscal year 2022/23 RTS Charge for each member agency is shown in Table 4.

Standby Charge Option

Metropolitan's Standby Charge is authorized by the State Legislature and has been levied by Metropolitan since fiscal year 1992/93. The Standby Charge recognizes that there are economic benefits to lands that have access to a water supply, whether or not such lands are using it, which excludes lands permanently committed to open space and maintained in their natural state that are not now and will not in the future be supplied water and lands that the General Manager, in his discretion, finds do not now and cannot reasonably be expected to derive a benefit from the projects to which the proceeds of the Standby Charge will be applied. Utilization of the Standby Charge transfers some of the burden of maintaining Metropolitan's capital infrastructure from water rates and *ad valorem* taxes to all the benefiting properties within the service area. A fraction of the value of this benefit and of the cost of providing it can be effectively recovered, in part, through the levying of a standby charge. The projects to be supported in part by the Standby Charge are capital projects that provide both local and Metropolitan-wide benefit to current landowners as well as existing water users.

Although a standby charge could have been set to recover all Conveyance, Distribution, and Storage costs as detailed in Table 1, Metropolitan's continued Standby Charge only collects about 14% of those costs. For fiscal year 2022/23, the amount to be recovered by the RTS Charge is estimated to be \$147.0 million and of that only \$44.0 million is estimated to be recovered by the Standby Charge.

The Standby Charge for each acre or parcel of less than an acre varies from member agency to member agency, as permitted under the legislation establishing Metropolitan's Standby Charge. The water Standby Charge for each member agency is continued at amounts not to exceed the rates in place since fiscal year 1996/97 and is shown in Table 5, which consists of composite rates by member agencies, not to exceed \$15.00. The composite rates consisted in part of a uniform component of \$5 applicable throughout Metropolitan, and in part of a variable component, not exceeding \$10 in any member public agency, reflecting the allocation of historical water deliveries by the member agencies as of fiscal year 1993/94 when the composite rates were initially established. Metropolitan will continue Standby Charges only within the service areas of the member agencies that have requested that the Standby Charge be utilized for purposes of meeting their outstanding RTS obligation. Although rates may not exceed the amounts in place in fiscal year 1996/97, some rates may be lower.

The Standby Charge is proposed to be collected from: (1) parcels on which water standby charges have been levied in fiscal year 1993/94 and annually thereafter and (2) parcels annexed to Metropolitan and to an electing member agency after January 1997. Table 6 lists parcels annexed, or to be annexed, to Metropolitan and to electing member agencies during fiscal year 2020/21, such parcels being subject to the Standby Charge upon annexation.

The estimated costs of Metropolitan's wholesale water system, which could be paid by a Standby Charge, are approximately \$312.9 million for fiscal year 2022/23, as shown in Table 1. An average total Standby Charge of about \$72.26 per acre of land or per parcel of land less than one acre would be necessary to pay for the total potential program benefits. Benefits in this amount will accrue to each acre of property and parcel within Metropolitan's service area, as Metropolitan delivers water to member agencies that contributes to water available to these properties, via that member agency or a retail sub-agency. Because Metropolitan's water deliveries to member agencies contributes to water available only to properties located within Metropolitan's service area boundaries (except for certain contractual deliveries as permitted under Section 131 of the Metropolitan Water District Act), any benefit received by the public at large or by properties outside of the area is merely incidental.

Table 5 shows that the distribution of Standby Charge revenues from the various member agency service areas would provide net revenue flow of approximately \$44.0 million for fiscal year 2022/23. Metropolitan

will use other revenue sources, such as water sales revenues, RTS Charge revenues (except to the extent collected through standby charges, as described above), interest income, and revenue from sales of hydroelectric power, to pay for the remaining program costs. Additionally, the actual Standby Charge proposed to be continued ranges from \$2.49 to \$15 per acre of land or per parcel of land less than one acre. Thus, the benefits of Metropolitan's investments in water conveyance, storage, and distribution far exceed the recommended Standby Charge.

Equity

The RTS Charge is a firm revenue source. The revenues to be collected through this charge will not vary with sales in the current year. This charge is levied on Metropolitan's member agencies and is not a fee or charge upon real property or upon persons as an incident of property ownership. It ensures that agencies that only occasionally purchase water from Metropolitan but receive the reliability benefits of Metropolitan's system pay an equitable share of the costs to provide that reliability. Within member agencies that elect to pay the RTS Charge through Metropolitan's standby charges, the Standby Charge results in a lower RTS Charge than would otherwise be necessary due to the amount of revenue collected from lands which benefit from the availability of Metropolitan's water system. With the Standby Charge, these properties are now contributing a more appropriate share of the cost of importing water to Southern California.

Metropolitan's water system increases the availability and reliable delivery of water throughout Metropolitan's service area. A reliable system benefits existing end users and land uses through retail water service provided by Metropolitan member agencies or by water retailers that purchase water from a Metropolitan member agency, and through the replenishment of groundwater basins and reservoir storage as reserves against shortages due to droughts, natural emergencies, or scheduled facility shutdowns for maintenance. The benefits of reliable water resources from the SWP, CRA, Storage, and system improvements accrue to more than 250 cities and communities within Metropolitan's six-county service area. Metropolitan's regional water system is interconnected, so water supplies from the SWP and CRA can be used throughout most of the service area and therefore benefit water users and properties system-wide.

A major advantage of a firm revenue source, such as an RTS charge, is that it contributes to revenue stability during times of drought or low water sales. It affords Metropolitan additional security, when borrowing funds, that a portion of the revenue stream will be unaffected by drought or by rainfall. This security will help maintain Metropolitan's historically high credit rating, which results in lower interest expense to Metropolitan, and therefore, lower overall cost to its member agencies.

SUMMARY

The foregoing and the attached tables describe the current costs of Metropolitan's system and benefits provided by the projects listed as mainstays to the water system for Metropolitan's service area. Benefits are provided to member agencies, their retail sub-agencies, water users and property owners. The projects represented by this report provide both local benefits as well as benefits throughout the entire service area. It is recommended, for calendar year 2023, that the Metropolitan Board of Directors adopt the RTS Charge as set forth in Table 4 with an option for local agencies to request that a Standby Charge be collected for fiscal year 2022/23 from lands within Metropolitan's service area as a credit against such member agency's RTS Charge, up to the Standby Charge amounts collected by Metropolitan within the applicable member agency for fiscal year 1996/97. The maximum Standby Charge would not exceed \$15 per acre of land or per parcel of less than one acre. The costs of the system described in this Engineer's Report exceeds the recommended Standby Charge by at least \$268 million. A preliminary listing of all parcels subject to the proposed 2022/23 Standby Charge and the amounts proposed to be continued for each is available in the office of the Chief Financial Officer. A final listing is available upon receipt of final information from each county.

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TABLE 1

**ESTIMATED COSTS OF
WATER SYSTEM INFRASTRUCTURE
BENEFITING REAL PROPERTY WITHIN METROPOLITAN'S SERVICE AREA**

	Estimated Program Costs for FY2022/23	Dollars Per Parcel of 1 Acre or Less
Capital Payments for Water System Infrastructure		
Net Capital Payments to State Water Project (SWP) (less portion paid by property taxes)	\$ 60,722,840	\$14.02
Non Tax Supported Capital Costs for Non-SWP Conveyance System ¹	\$ 76,253,010	\$17.61
Non Tax Supported Capital Costs for Distribution System ²	\$ 76,379,326	\$17.64
Non Tax Supported Capital Costs for Water Storage ³	\$ 99,537,336	\$22.99
Total Capital Payments	\$ 312,892,512	\$72.26
Estimated Standby Charge Revenues	\$ 44,002,818	\$10.16
Percent Collected by Standby Charge	14%	
Total Remaining Costs Not Paid by Standby Charge	\$ 268,889,694	\$62.10

Notes:

[1] Non-SWP Conveyance include the Colorado River Aqueduct and Inland Feeder.

[2] Distribution facilities include the pipelines, laterals, feeders and canals that distribute water throughout the service area.

[3] System storage includes Diamond Valley Lake, Lake Mathews, Lake Skinner and several other smaller surface reservoirs which provide storage for operational purposes.

Totals may not foot due to rounding

TABLE 2

**WATER RECYCLING, GROUNDWATER RECOVERY
AND CONSERVATION PROJECTS**

Project Name	FISCAL YEAR 2022/23 Payment
Water Recycling Projects	\$7,706,314
Alamitos Barrier Reclaimed Water Project	
Anaheim Water Recycling Demonstration Project	
Burbank Recycled Water System Expansion Phase II Project	
CBMWD Recycled Water System Expansion Phase I	
Development of Non-Domestic Water System in Ladera Ranch and Talega Valley	
Direct Reuse Project Phase IIA	
Dry Weather Runoff Reclamation Facility	
Eastern Recycled Water Pipeline Reach 16 Project	
El Toro Phase II Recycled Water Distribution System Expansion Project	
El Toro Recycled Water System Expansion	
Elsinore Valley Recycled Water Program	
EMWD Recycled Water System Expansion Project	
Escondido Regional Reclaimed Water Project	
Glendale Verdugo-Scholl and Brand Park Project	
Griffith Park South Water Recycling Project	
Groundwater Reliability Improvement Program Recycled Water Project	
Hansen Area Water Recycling Phase I Project	
Hansen Dam Golf Course Water Recycling Project	
Harbor Water Recycling Project	
Lake Mission Viejo Advanced Purification WTF	
Leo J. Vander Lans Water Treatment Facility Expansion Project	
Long Beach Reclaimed Water Master Plan Phase I System Expansion	
Los Angeles Taylor Yard Park Water Recycling Project	
Michelson/Los Alisos Water Reclamation Plant Upgrades and Distribution System Expansion Project	
North Atwater Area Water Recycling Project	
North City Water Reclamation Project	
North Hollywood Area Water Recycling Project	
Otay Recycled Water System	
Oxnard Advanced Water Purification Facility Project	

TABLE 2 (Continued)

**WATER RECYCLING, GROUNDWATER RECOVERY
AND CONSERVATION PROJECTS**

Project Name	FISCAL YEAR 2022/23 Payment
Water Recycling Projects (continued)	
Padre Dam MWD Reclaimed Water System Phase I	
Rowland Water District Portion of the City of Industry Regional Recycled Water Project	
San Clemente Recycled Water System Expansion Project	
San Elijo Water Reclamation System	
Santa Maria Water Reclamation Project	
Sepulveda Basin Sports Complex Water Recycling Project	
Sepulveda Basin Water Recycling Project - Phase 4	
Terminal Island Recycled Water Expansion Project	
USGVMWD Portion of the City of Industry Regional Recycled Water Project	
Van Nuys Area Water Recycling Project	
Walnut Valley Water District Portion of the City of Industry Regional Recycled Water Project	
West Basin Water Recycling Program Phase V Project	
Westside Area Water Recycling Project	

TABLE 2 (Continued)

**WATER RECYCLING, GROUNDWATER RECOVERY
AND CONSERVATION PROJECTS**

Project Name	FISCAL YEAR 2022/23 Payment
Groundwater Recovery Projects	\$11,469,103
Beverly Hills Desalter Project	
Cal Poly Pomona Water Treatment Plant	
Capistrano Beach Desalter Project	
Chino Basin Desalination Program / IEUA	
Chino Basin Desalination Program / Western	
Colored Water Treatment Facility Project	
Irvine Desalter Project	
IRWD Wells 21 & 22 Desalter Project	
Madrona Desalination Facility (Goldsworthy Desalter) Project	
Menifee Basin Desalter Project	
North Pleasant Valley Regional Desalter	
Perris II Brackish Groundwater Desalter	
Pomona Well #37-Harrison Well Groundwater Treatment Project	
Round Mountain Water Treatment Plant	
San Juan Basin Desalter Project	
Temescal Basin Desalting Facility Project	
On-site Retrofit Program	\$3,000,000
Future Supply Actions	\$3,639,900
Conservation Projects	\$25,000,000
Regionwide Residential	
Regionwide Commercial	
Member Agency Administered/MWD Funded	
Water Incentive Savings Program	
Landscape Training Classes	
Landscape Irrigation Surveys	
Pilot programs/Studies	
Inspections	
Landscape Transformation Program (Turf Removal)	
Disadvantaged Communities Program	
Total Demand Management Programs	\$50,815,317

**TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS**

Description

Storage Facilities

ALAMEDA CORRIDOR, PIPELINE RELOCATION, PROTECTION
 CAPITAL PROGRAM FOR PROJECTS COSTING LESS THAN \$250,000-LIVE OAK
 CAPITAL PROGRAM FOR PROJECTS COSTING LESS THAN \$250,000-MORRIS DAM
 CHINO BASIN GROUNDWATER SERVICE CONNECTION CB-15T
 CHLORINATION AND PH CONTROL FACILITIES- ORANGE COUNTY & GARVEY (50/50)
 CLEARING OF LAKE MATHEWS RESERVOIR AREA
 CONVERSION OF DEFORMATION SURVEY MONITORING AT COPPER BASIN
 COPPER BASIN AND GENE WASH DAM, INSTALL SEEPAGE ALARM (50/50)
 COPPER BASIN RESERVOIR SUPERVISORY CONTROL
 COPPER BASIN SEWER SYSTEM
 CORONA DEL MAR RESERVOIR- REPLENISHMENT
 CORONA DEL MAR RESERVOIR-: CHLORINATION STATION
 CRANE - LAKE MATHEWS OUTLET TOWER (ORG CONST)
 DAM MONITORING SYSTEM UPGRADES - Lake Mathews
 DAM MONITORING SYSTEM UPGRADES - LAKE SKINNER
 DAM SEISMIC ASSESSMENT - PHASE 3
 DAM SEISMIC UPGRADES - PHASE 3
 DIAMOND VALLEY LAKE DAM MONITORING SYSTEM UPGRADE
 DIAMOND VALLEY LAKE DAM MONITORING SYSTEM UPGRADES - STAGE 3
 DIAMOND VALLEY LAKE DAM MONITORING SYSTEM UPGRADES - STAGES 1 & 2
 DIAMOND VALLEY LAKE INLET/OUTLET TOWER FISH SCREEN REPLACEMENT - CONSTRUCTION
 DIAMOND VALLEY LAKE MONITORYING SYSTEM UPGRADES
 DIAMOND VALLEY LAKE, CAL PLAZA CHARGES
 DIAMOND VALLEY LAKE, CONSULTANT COSTS
 DIAMOND VALLEY LAKE, DAM DEFORMATION MONITORING
 DIAMOND VALLEY LAKE, EAST DAM SUMP PUMP ELECTRICAL STUDY
 DIAMOND VALLEY LAKE, GENERAL CONSTRUCTION MGMT, 2000-2001
 DIAMOND VALLEY LAKE, INUNDATION MAPS
 DIAMOND VALLEY LAKE, UNDERGROUND TANK CLOSURE
 DIAMOND VALLEY RECREATION, EAST MARINA
 DIAMOND VALLEY RECREATION, FISHERY
 DIAMOND VALLEY RECREATION, MUSEUM FOUNDATION REHABILITATION
 DIAMOND VALLEY RECREATION, SEARL PARKWAY IMPROVEMENTS, PHASE I
 DIAMOND VALLEY TRAILS PROGRAM, TRAILS
 DISTRICT DESIGN AND INSPECTION - MORRIS DAM
 DISTRICT RESERV. AQUEOUS AMMONIA FEED SYSTEM
 DISTRICT RESERVOIR - LONGTERM CHEMICAL FAC CONTAINMENT
 DOMESTIC WATER SUPPLY - LAKE MATHEWS (ORG CONST)
 DOMESTIC WATER SYSTEM-PALOS VERDES RESERVOIR (INTERIM CONST)
 DVL - SEARL PARKWAY EXTENSION - PHASE 2
 DVL - SEARL PARKWAY LANDSCAPING
 DVL EAST DAM ELECTRICAL UPGRADES
 DVL EAST DAM POWER LINE REALIGNMENT
 DVL INLET/OUTLET FISH SCREEN REHABILITATION
 DVL RECREATION - ALTERNATE ACCESS ROAD
 DVL RECREATION, COMMUNITY PARK AND REGIONAL AQUATIC FACILITY
 DVL SECURITY ENHANCEMENT
 DVL, CONSTRUCTION
 DVL, CONSTRUCTION CLAIMS SUPPORT
 DVL, CONSTRUCTION MANAGEMENT SERVICE
 DVL, CONSTRUCTION SUPERVISION
 DVL, CONSTRUCTION, WEST DAM FOUNDATION
 DVL, DEDICATION CEREMONY
 DVL, DISTURBED
 DVL, DOMENIGONI PARK
 DVL, EAST DAM
 DVL, EAST DAM EMBANKMENT
 DVL, EAST DAM FENCING
 DVL, EAST DAM INLET OUTLET TOWER CONSTRUCTION
 DVL, EAST DAM LANDSCAPE SCREENING
 DVL, EAST DAM NORTH RIM REMEDIATION
 DVL, EAST DAM P-1 FACILITIES
 DVL, EAST DAM SITE COMPLETION
 DVL, EAST DAM STATE STREET IMPROVEMENTS
 DVL, EAST DAM VERTICAL SLEEVE VALVE
 DVL, EAST MARINA, PHASE 2
 DVL, EXCAVATION
 DVL, FIXED CONE, SPHERE
 DVL, GENERAL
 DVL, GRADING OF CONT
 DVL, INSTALL NEW WATERLINE
 DVL, MISC SMALL CONS
 DVL, NORTH HIGH WATER ROAD
 DVL, P-1 PUMPING FACILITY
 DVL, PROCUREMENT
 DVL, SCOTT ROAD EXTENSION

**TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS**

Description

Storage Facilities

DVL, SOUTH HIGH WATER ROAD & QUARRY
DVL, SPILLWAY
DVL, START UP
DVL, VALLEY-WIDE SITE ROUGH GRADING
DVL, WORK PACKAGE
DVL, WORK PACKAGE 1
DVL, WORK PACKAGE 10, INLET OUTLET WORK
DVL, WORK PACKAGE 11, FOREBAY
DVL, WORK PACKAGE 12, TUNNEL
DVL, WORK PACKAGE 13, P-1 PUMP OPERATIONS FACILITY
DVL, WORK PACKAGE 14, PC-1
DVL, WORK PACKAGE 15, SITE CLEARING
DVL, WORK PACKAGE 16, GROUNDWATER MONITORING
DVL, WORK PACKAGE 17, FIELD OFFICE
DVL, WORK PACKAGE 18, TEMPORARY VISITOR CENTER
DVL, WORK PACKAGE 19, PERMANENT VISITOR CENTER
DVL, WORK PACKAGE 2, EASTSIDE PIPELINE
DVL, WORK PACKAGE 20, EAST DAM EXCAVATION, FOUNDATION
DVL, WORK PACKAGE 21, WEST DAM EXCAVATION, FOUNDATION
DVL, WORK PACKAGE 23, WEST RECREATION AREA
DVL, WORK PACKAGE 24, EAST RECREATION AREA
DVL, WORK PACKAGE 25, EXCAVATION
DVL, WORK PACKAGE 26, ELECTRICAL TRANSMISSION LINES
DVL, WORK PACKAGE 27, MAJOR EQUIPMENT P-1
DVL, WORK PACKAGE 28, MAJOR EQUIPMENT, GATES
DVL, WORK PACKAGE 29, MAJOR EQUIPMENT, PC-1
DVL, WORK PACKAGE 30, INSTRUMENTATION AND CONTROL SYSTEMS
DVL, WORK PACKAGE 31, GEOGRAPHICAL INFO
DVL, WORK PACKAGE 32, PERMIT
DVL, WORK PACKAGE 33, MAJOR EQUIPMENT, VALVES
DVL, WORK PACKAGE 34, EMERGENCY RELEASE
DVL, WORK PACKAGE 35
DVL, WORK PACKAGE 36, TRANSMISSION LINE TO PC-1
DVL, WORK PACKAGE 38, RUNOFF EROSION
DVL, WORK PACKAGE 39, SADDLE DAM FOUNDATION
DVL, WORK PACKAGE 4, NEWPORT ROAD RELOCATION
DVL, WORK PACKAGE 40
DVL, WORK PACKAGE 42, GEOTECHNICAL
DVL, WORK PACKAGE 43, MOBILIZATION
DVL, WORK PACKAGE 44, SITE DEVELOPMENT
DVL, WORK PACKAGE 47, HAZARDOUS MATERIAL
DVL, WORK PACKAGE 48, GENERAL ADMIN
DVL, WORK PACKAGE 49
DVL, WORK PACKAGE 5, SALT CREEK FLOOD CONTROL
DVL, WORK PACKAGE 52, HISTORY ARCHEOLOGY INVENTORY
DVL, WORK PACKAGE 53, PREHISTORIC ARCHEOLOGY
DVL, WORK PACKAGE 54, PLANTS, WILDLIFE
DVL, WORK PACKAGE 55, AIR QUALITY, NOISE
DVL, WORK PACKAGE 6, SURFACE WATER MITIGATION
DVL, WORK PACKAGE 7, DESIGN WEST DAM ACCESS
DVL, WORK PACKAGE 8, DESIGN EAST DAM ACCESS
DVL, WORK PACKAGE 9, SADDLE DAM
DVL, WORKING INVENTORY, 80,000 ACRE FEET (10% OF CAPACITY)
EAST DAM TUNNELS
EAST MARINA BOAT RAMP EXTENSION
ELECTRICAL SERVICE - LAKE MATHEWS (ORG CONST)
ELECTRICAL SYSTEM - LAKE MATHEWS (ORG CONST)
FIRST SAN DIEGO AQUEDUCT - REPLACE PIPELINE SECTION BOTH BARRELS
FLOATING BOAT HOUSE - LAKE MATHEW
FLOOD RELEASE VALVE, MORRIS DAM & WATER SUPPLY SYSTEM,PV RESER.
FOOTBRIDGE - LAKE MATHEWS (ORG CONST)
FOOTHILL FEEDER- LIVE OAK RESERVOIR- CLAIMS
FOOTHILL FEEDER- LIVE OAK RESERVOIR- RESIDENCE
GARVEY RESERVIOR OPERATION & MAINTENANCE CENTER
GARVEY RESERVIOR OPERATION & MAINTENANCE CENTER (RETIREMENT)
GARVEY RESERVOIR - JUNCTION STRUCTURE, REPLACE VALVE # 1
GARVEY RESERVOIR COVER AND LINER REPLACEMENT PROJECT
GARVEY RESERVOIR DRAINAGE & EROSION CONTROL IMPROVEMENTS
GARVEY RESERVOIR- EMERGENCY GENERATOR
GARVEY RESERVOIR- FLOATING COVER
GARVEY RESERVOIR HYPOCHLORITE FEED SYSTEM
GARVEY RESERVOIR- JUNCTION STRUCTURE, REPLACE VALVE #1
GARVEY RESERVOIR- JUNCTION STRUCTURE, REPLACE VALVE #1 - INTEREST
GARVEY RESERVOIR- JUNCTION STRUCTURE, REPLACE VALVES # 4 & 5
GARVEY RESERVOIR- MODIFY DESILTING BASINS
GARVEY RESERVOIR REPAIR

**TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS**

Description

Storage Facilities

GARVEY RESERVOIR, LOWER ACCESS ROAD, PAVING & DRAINS
 GARVEY RESERVOIR, REPLACE VALVE # 4 & 5
 GARVEY RESERVOIR, TWO VALVES AT JUNCTION STRUCTURE
 GARVEY RESERVOIR: CONT. 565, SPEC.412
 GARVEY RESERVOIR: TWO COTTAGES WITH GARAGES
 GARVEY RESERVOIR-HYPOCHLORINATION
 GARVEY RESERVOIR-HYPOCHLORINE STATION
 GARVEY RESERVOIR-INLET AND OUTLET CONDUIT SYSTEM MODIFICATION
 GARVEY RESEVOIR-JUNCTION STRUCTURE REPLACE TWO VALVES
 GARVEY RSVR REPLACE VENTURI THROAT SECTION
 HEADWORKS OF DISTRIBUTION SYSTEM LAKE MATHEWS
 HEADWORKS: ADDITIONAL VALVES
 HEADWORKS: MOTOR OPERATED SLIDE GATES
 HOUSE AND GARAGE AT CORONA DEL MAR RESERVOIR
 HOUSE AND GARAGE AT ORANGE COUNTY RESERVOIR
 HOUSE AT PALOS VERDES RESERVOIR
 HOWELL-BUNGER VALVE OPERATOR, LAKE MATHEWS, 5 VALVES 1939
 HOWELL-BUNGER VALVE OPERATOR, LAKE MATHEWS, 5 VALVES 1955
 JENSEN FINISHED WATER RESERVOIR NO. 1 COVER REHABILITATION
 JENSEN FINISHED WATER RESERVOIR NO. 2 FLOATING COVER IMPROVEMENT
 JENSEN FLUORIDE TANK REPLACEMENT
 JENSEN FWR # 2 FLOATING COVER REPLACEMENT
 JENSEN FWR NO. 2 FLOATING COVER REPLACEMENT
 JENSEN, REPAIR COVER OVER RESERVOIR 1
 LAKE MATHEWS - REPLACE STANDBY GENERATOR
 LAKE MATHEWS - ELECTRICAL SYSTEM IMPROVEMENT
 LAKE MATHEWS ABOVEGROUND STORAGE TANK REPLACEMENT
 LAKE MATHEWS BUILDING
 LAKE MATHEWS BUILDINGS 8 & 15, RENOVATION OF ASSEMBLY AREA AND ADMIN. BLDG.
 LAKE MATHEWS- CARPENTER AND VEHICLE MAINTENANCE BUILDING
 LAKE MATHEWS- CHLORINATION FACILITIES
 LAKE MATHEWS CHLORINATION FACILITY- REPLACE CHLORINATION EQPMT.
 LAKE MATHEWS CNTRL TOWER-REPL. 45 30-INCH GATE/BUTTERFLY VALVES
 LAKE MATHEWS CONTROL TOWER - REPLACE 45 10-INCH GATE VALVE
 LAKE MATHEWS DAM SAFETY INSTRUMENTATION UPGRADES
 LAKE MATHEWS DAM SPILLWAY ASSESSMENT
 LAKE MATHEWS DIKE
 LAKE MATHEWS DISCHARGE FACILITY UPGRADES
 LAKE MATHEWS DIVERSION TUNNEL
 LAKE MATHEWS DIVERSION TUNNEL WALKWAY REPAIR
 LAKE MATHEWS- DOCK AND BOAT SHELTER
 LAKE MATHEWS DOMESTIC FACILITIES
 LAKE MATHEWS- DOMESTIC WATER SYSTEM
 LAKE MATHEWS ELECTRICAL RELIABILITY
 LAKE MATHEWS- ELECTRICAL SYSTEM IMPROVEMENT
 LAKE MATHEWS- EMERGENCY GENERATOR
 LAKE MATHEWS ENLARGEMENT (SPEC NO. 505)
 LAKE MATHEWS FOREBAY LINING AND TOWER REPAIRS
 LAKE MATHEWS FOREBAY OUTLET STRCTR-REPL.CONCRETE BLOCK BLDG
 LAKE MATHEWS FOREBAY OUTLET, CONCRETE BLDG
 LAKE MATHEWS FOREBAY PRESSURE CONTROL STRUCTURE AND BYPASS
 LAKE MATHEWS FOREBAY- REPLACE FOOTBRIDGE
 LAKE MATHEWS FOREBAY WALKWAY REPAIRS
 LAKE MATHEWS FOREBAY, HEADWORK FACILITY AND EQUIPMENT UPGRADE
 LAKE MATHEWS HEADWORKS-INSTALL AIR MTRS,3 HOWELL BNGR VALVE OP.
 LAKE MATHEWS- HOUSE AND GARAGE
 LAKE MATHEWS I/O TOWER EMERGENCY GENERATOR
 LAKE MATHEWS- IMPROVE MAIN SUBSTATION
 LAKE MATHEWS- IMPROVEMENT OF DOMESTIC WATER & FIRE PROT. SYSTEM
 LAKE MATHEWS -LUMBER STORAGE BUILDING
 LAKE MATHEWS -LUMBER STORAGE BUILDING - INTEREST
 LAKE MATHEWS LUMBER STORAGE ROOF COVER
 LAKE MATHEWS MAIN DAM AND SPILLWAY
 LAKE MATHEWS MAIN DAM SUB DRAIN SYSTEM
 LAKE MATHEWS MAINTENANCE BUILDING
 LAKE MATHEWS MAINTN.FACILITIES-REPLACE 75 KVA TRANSFORMER.SERV.
 LAKE MATHEWS- MODIFY CHLORINATION
 LAKE MATHEWS- MODIFY CHLORINE STORAGE TANK FOUNDATIONS
 LAKE MATHEWS- MODIFY ELECTRICAL SERVICE
 LAKE MATHEWS MULTIPLE SPECIES RESERVE, MANAGER'S OFFICE AND RESIDENCE
 LAKE MATHEWS OFFICE BLDG MODIFICATIONS-AMERICANS W/ DISABILITY
 LAKE MATHEWS OFFICE TRAILER MODIFICATIONS-AMERICANS W/ DISABILITY
 LAKE MATHEWS -OPERATOR RESIDENCE
 LAKE MATHEWS OULET TOWER
 LAKE MATHEWS OULET FACILITIES

**TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS**

Description

Storage Facilities

LAKE MATHEWS OUTLET TOWER NO. 2 VALVE REHABILITATION
 LAKE MATHEWS OUTLET TOWER- REPLACE CRANES
 LAKE MATHEWS OUTLET TOWER-REPLACE GATE VALVES
 LAKE MATHEWS OUTLET TOWER-REPLACE GATE VALVES (RETIREMENT)
 LAKE MATHEWS OUTLET TUNNEL
 LAKE MATHEWS- PREFABRICATED AIRCRAFT HANGER
 LAKE MATHEWS- PREFABRICATED AIRCRAFT HANGER - INTEREST
 LAKE MATHEWS- PROPANE STORAGE TANK
 LAKE MATHEWS- PROPANE STORAGE TANK - INTEREST
 LAKE MATHEWS- REPLACE HOWELL-BUNGER VALVE OPERATORS
 LAKE MATHEWS- REPLACE VALVES
 LAKE MATHEWS RESERVOIR-RELOCATE SOUTHERLY SECURITY FENCE
 LAKE MATHEWS RESERVOIR-RELOCATE SOUTHERLY SECURITY FENCE - INTEREST
 LAKE MATHEWS- SEEPAGE ALARMS
 LAKE MATHEWS- SEEPAGE ALARMS - INTEREST
 LAKE MATHEWS SODIUM HYPOCHLORITE TANK REPLACEMENT
 LAKE MATHEWS SODIUM HYPOCHLORITE INJECTION SYSTEM
 LAKE MATHEWS- SPRAY PAINT BOOTH
 LAKE MATHEWS WASTEWATER SYSTEM REPLACEMENT
 LAKE MATHEWS WATERSHED, DRAINAGE
 LAKE MATHEWS WATERSHED, DRAINAGE WATER QUALITY MGMT PLAN (CAJALCO CREEK DAM)
 LAKE MATHEWS, HAZEL ROAD
 LAKE MATHEWS, REPLACE CHLORINATION EQUIPMENT
 LAKE MATHEWS,DIKE #1- INSTALL PIEZOMETERS, STAS.55+00 & 85+50
 LAKE MATHEWS: VALVES AND FITTINGS IN HEADWORKS
 LAKE MATHEWS-CONST. CONCR.TRAFFIC BARR. WALL TO PROTECT HQ FACIL.
 LAKE MATTHEWS FIRE WATER LINE
 LAKE PERRIS POLLUTION PREVENTION AND SOURCE WATER PROTECTION (CAPITAL PORTION)
 LAKE SKINNER - AERATION SYSTEM
 LAKE SKINNER - CHLORINATION SYSTEM OUTLET TOWER BYPASS PPLN
 LAKE SKINNER - CHLORINATION SYSTEM OUTLET TOWER BYPASS PPLN - INTEREST
 LAKE SKINNER - INSTALL OUTLET CONDUIT FLOWMETER
 LAKE SKINNER (AULD VALLEY RESERVOIR)- CLAIMS
 LAKE SKINNER AERATOR AIR COMPRESSORS REPLACEMENT
 LAKE SKINNER- EQUIPMENT YARD SECURITY
 LAKE SKINNER- EQUIPMENT YARD SECURITY - INTEREST
 LAKE SKINNER FACILITIES
 LAKE SKINNER FACILITIES - EMPLOYEE HOUSING
 LAKE SKINNER FACILITIES - FENCING
 LAKE SKINNER FACILITIES - LANDSCAPING
 LAKE SKINNER FACILITIES - RELOCATE BENTON ROAD
 LAKE SKINNER OUTLET CONDUIT REPAIR
 LAKE SKINNER OUTLET TOWER SEISMIC ASSESSMENT
 LAKE SKINNER- PROPANE STORAGE TANK
 LAKE SKINNER- PROPANE STORAGE TANK - INTEREST
 LIVE OAK RESERVOIR & RESERVOIR BYPASS SCHEDULE 264A
 LIVE OAK RESERVOIR REHABILITATION
 LIVE OAK RESERVOIR SURFACE REPAIR
 MAINTENANCE FACILITIES, 75KVA TRANSFORMER SERVICE-LAKE MATHEWS (ORG CONST)
 MILLS FINISHED WATER RESERVOIR REHABILITATION
 MINOR CAPITAL PROJECTS FOR FY 1989/90 - LAKE MATHEWS
 MINOR CAPITAL PROJECTS FOR FY 1989/90 - PALOS VERDES RESERVOIR
 MINOR CAPITAL PROJECTS-LAKE SKINNER, INLET CANAL ELECTRIC FISH BARRIER
 MINOR CAPITAL PROJECTS-LIVE OAK RESERVOIR, DESILT BASIN IMPROVEMENTS
 MODIFICATION OF THE LAKE MATHEWS SERVICE WATER SYSTEM
 MORRIS DAM COTTAGE
 MORRIS DAM- ENLARGMT. OF SPILLWAY FACLT.& UPPER FDR.VALVE MODF
 MORRIS DAM ROAD IMPROVEMENT
 MORRIS DAM, SEISMIC STABILITY REANALYSIS
 MORRIS DAM-REPLACE EMERGENCY POWER SYSTEM
 MORRIS RESERVOIR- CAPITAL OBLIGATION PAID
 MORRIS RESERVOIR- INTEREST OBLIGATION PAID
 O.C.RESERVOIR - IMPROVE DOMESTIC SYSTEM
 ORANGE COUNTY RESERVOIR -- JUNCTION STRUCTURE,REPLACE VALVE # 1
 ORANGE COUNTY RESERVOIR (SPEC NO. 341)
 ORANGE COUNTY RESERVOIR CHLORINATION STATION
 ORANGE COUNTY RESERVOIR- EMBANKMENT AND SPILLWAY
 ORANGE COUNTY RESERVOIR- EMERGENCY GENERATOR
 ORANGE COUNTY RESERVOIR- FLOATING COVER
 ORANGE COUNTY RESERVOIR- HOUSE
 ORANGE COUNTY RESERVOIR- MODIFY DOMESTIC WATER SYSTEM
 ORANGE COUNTY RESERVOIR- REPLACE RESIDENCE NO. 95D
 ORANGE COUNTY RESERVOIR-MODIFY ELEC. CONTROL CENTER
 ORANGE COUNTY RESERVOIR-REPLACE CHLORINATION EQUIPMENT
 ORANGE COUNTY RESERVOIR-REPLACE CHLORINATION SYSTEM

**TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS**

Description

Storage Facilities

P V RESERVOIR-REPLACE CHLORINATION SYSTEM
 PALOS VERDES CHLORINATION STATION AND COTTAGE
 PALOS VERDES RESERVOIR
 PALOS VERDES RESERVOIR - INLET/OUTLET TOWER
 PALOS VERDES RESERVOIR- BY PASS PIPELINES
 PALOS VERDES RESERVOIR COVER AND LINER REPLACEMENT
 PALOS VERDES RESERVOIR COVER REPLACEMENT
 PALOS VERDES RESERVOIR- FENCING AROUND
 PALOS VERDES RESERVOIR- REPLACE DOMESTIC WATER SYSTEM PIPING
 PALOS VERDES RESERVOIR SODIUM HYPOCHLORITE FEED SYSTEM UPGRADE
 PALOS VERDES RESERVOIR,BYPASS PIPELINE RELIEF STRUCTURE MODIFN.
 PALOS VERDES RESERVOIR,COVERING
 PALOS VERDES RESERVOIR,REPLACE ACCESS AND PERIMETER ROADS
 PALOS VERDES RESERVOIR: INCREASING ELEVATION OF SPILLWAY CREST
 PALOS VERDES RESERVOIR-INSTALL VALVE & CHLORINATION NOZZLE,INL.TWR
 PALOS VERDES RESERVOIR-REPLACE CHLORINATION SYSTEM
 PAMO RESERVOIR- WATER STORAGE FEASIBILITY STUDY
 PAMO RESERVOIR- WATER STORAGE FEASIBILITY STUDY- INTEREST
 PV RESERVOIR GROUNDWATER MANAGEMENT
 PVR FACILITY SEWER CONNECTION
 RECORD DRAWING RESTORATION PROGRAM, CRA
 REPAIRS TO AZUSA CONDUIT
 REPLACEMENT OF A 30 INCH GATE VALVE P.V.R.
 RESIDENCE # 95-D, ORANGE COUNTY RESERVOIR
 RESIDENCE 45-D - CORONA DEL MAR RESERVOIR
 RESIDENCE 80-D - ORANGE COUNTY RESERVOIR
 RESIDENCE 90-D - LAKE MATHEW
 RESIDENCE 91-D - SAN JACINTO RESERVOIR
 RESIDENCE 93-D - SAN JACINTO RESERVOIR
 ROADS AT LAKE MATHEWS ABOVE FLOODLINE
 SAN DIEGO ACQUEDUCT: COTTAGE AT SAN JACINTO RESERVOIR
 SAN JACINTO RESERVOIR - SAN DIEGO ACQUEDUCT
 SECOND OUTLET, PALOS VERDES RESERVOIR (SPEC NO. 597)
 SEEPAGE CONTROL AT LAKE MATHEWS
 SKINNER DAM SAFETY INSTRUMENTATION UPGRADES
 SKINNER DAM SPILLWAY ASSESSMENT
 SKINNER FINISHED WATER RESERVOIR SLIDE GATES REHABILITATION
 TEMPORARY EMPLOYEE LABOR SETTLEMENT
 VALVE - GENE RESERVOIR (REPLACED 201)
 VALVE STRUCTURE MODIFICATIONS-UPPER FDR, SAN GABRIEL CROSSING (INTERIM CONST)
 WADSWORTH PUMP PLANT CONDUIT PROTECTION
 WADSWORTH PUMP PLANT, PUMP MOTOR CONVERSION
 WADSWORTH PUMPING PLANT FIRE PROTECTION SYSTEM UPGRADES
 WADSWORTH/DVL CONTROL & PROTECTION SYSTEM UPGRADE - CONSTRUCTION & STARTUP
 WATER QUALITY PROJECT UPSTREAM
 WATER SUPPLY SYSTEM, OPERATING TOWER, LAKE MATHEWS
 WEYMOUTH FINISHED WATER RESERVOIR GATE REPLACEMENT

Sub-total Storage facilities costs

99,537,336

**TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS**

Description

Conveyance and Aqueduct Facilities

CRA PROTECTIVE SLABS
 CRA PUMP PLANT FLOW METER REPLACEMENT
 CRA PUMP PLANT FLOW METER UPGRADE
 CRA PUMP PLANT SUMP PIPING REPLACEMENT STUDY
 CRA PUMP PLANT SUMP SYSTEM REHABILITATION
 CRA PUMP PLANT UNINTERRUPTABLE POWER STUDY (UPS) UPGRADE
 CRA PUMP PLANTS 2.3KV AND 480V SWITCH RACK REHABILITATION
 CRA PUMP PLANTS 2300KV & 480 V SWITCHRACK REHAB
 CRA PUMP WELLS CONVERSION AND BLOW-OFF REPAIR
 CRA PUMPING PLANT DELIVERY LINE REHABILITATION
 CRA PUMPING PLANT REHABILITATION STUDY
 CRA PUMPING PLANT REHABILITATION STUDY AND INVESTIGATION
 CRA PUMPING PLANT RELIABILITY PROGRAM - HIGH PRESSURE COMPRESSOR REPLACEMENT
 CRA PUMPING PLANT RELIABILITY PROGRAM - SUCTION & DISCHARGE LINES EXPANSION JOINT STUDY
 CRA PUMPING PLANT RELIABILITY PROGRAM - SUCTION AND DISCHARGE LINES-EXPANSION JOINT REPAIRS
 CRA PUMPING PLANT STORAGE BUILDINGS AT HINDS, EAGLE MOUNTAIN AND IRON MOUNTAIN
 CRA PUMPING PLANT SUMP SYSTEM REHABILITATION
 CRA PUMPING PLANT WASTEWATER SYSTEM - GENE & IRON MTN.
 CRA PUMPING PLANT WASTEWATER SYSTEM - INTAKE
 CRA PUMPING PLANT WASTEWATER SYSTEM REHABILITATION - ALL FIVE PUMPING PLANT PRELIMINARY DESIGN
 CRA PUMPING PLANT WASTEWATER SYSTEM REPLACEMENT - GENE/IRON MTN FINAL DESIGN
 CRA PUMPING PLANT WASTEWATER SYSTEM REPLACEMENT - HINDS & EAGLE MTN.
 CRA PUMPING PLANTS - AUXILIARY POWER SYSTEM REHABILITATE/UPGRADES
 CRA PUMPING PLANTS 230KV & 69K DISCONNECT SWITCH REPLACEMENT
 CRA PUMPING PLANTS ASPHALT REPLACEMENT
 CRA PUMPING PLANTS CRANE IMPROVEMENTS
 CRA PUMPING PLANTS SWITCH HOUSE FAULT CURRENT PROTECTION
 CRA PUMPING PLANTS VULNERABILITY ASSESSMENT
 CRA PUMPING PLANTS WATER TREATMENT SYSTEMS REPLACEMENT
 CRA PUMPING PLT RELIABILITY PROGRAM, DISCHARGE LINE COUPLING INSTALLATION
 CRA PUMPING WELL CONVERSION
 CRA QUAGGA MUSSEL BARRIERS
 CRA RADIAL GATES AND SLIDE GATE REHABILITATION
 CRA RADIAL GATES REPLACEMENT
 CRA RELIABILITY PHASE II - PUMPING PLANTS 230KV & 69KV DISCONNECT SWITCH REPLACEMENT
 CRA RELIABILITY PROGRAM - DISCHARGE VALVE LUBRICATORS
 CRA RELIABILITY PROGRAM - MOTOR BREAKER FAULTY CURRENT STUDY (5 PLANTS)
 CRA RELIABILITY PROGRAM PHASE 6 (AQUEDUCT PHASE 6 REHAB.) - SPEC 1568
 CRA RELIABILITY PHASE II - PUMPING PLANT SWITCH HOUSE FAULT CURRENT PROTECTION
 CRA SAND TRAP EQUIPMENT UPGRADES
 CRA SEISMIC EVALUATION - SWITCH HOUSE AND PUMP ANCHORAGE
 CRA SEISMIC RETROFIT OF 6.9KV SWITCH HOUSES
 CRA SEISMIC UPGRADE OF 6.9KV SWITCH HOUSES
 CRA SERVICE CONNECTION DWCV-2T VALVES REPLACEMENT AND STRUCTURE CONSTRUCTION
 CRA SERVICE CONNECTION DWCV-4 VALVES REPLACEMENT
 CRA SIPHON REHAB
 CRA SIPHONS, TRANSITIONS, CANALS, AND TUNNELS REHABILITATION AND IMPROVEMENTS
 CRA SURGE CHAMBER DISCHARGE LINE BY-PASS COVERS
 CRA SWITCHRACKS & ANCILLARY STRUCTURES EROSION CONTROL
 CRA TRANSFORMER OIL AND SODIUM HYPOCHLORITE CONTAINMENT
 CRA TRANSITION STRUCTURE AND MANHOLE COVERS REPLACEMENT
 CRA UPS REPLACEMENT
 CRA VILLAGES DOMESTIC WATER MAIN DISTRIBUTION REPLACEMENT STUDY
 CRA WATER DISTRIBUTION SYSTEM & VILLAGE ASPHALT REPLACEMENT - GENE & IRON MOUNTAIN
 CRA WATER DISTRIBUTION SYSTEM REPLACEMENT AND CRA ROADWAY ASPHALT REPLACEMENT - ALL PP
 CUF DECHLORINATION SYSTEM
 DAM SLUICEWAYS AND OUTLETS REHABILITATION
 DANBY TOWER FOOTER REPLACEMENT
 DANBY TOWERS FOUNDATION REHABILITATION
 DESERT FACILITIES FIRE PROTECTION SYSTEMS UPGRADE
 DESERT LAND ACQUISITIONS
 DESERT PUMP PLANT OIL CONTAINMENT
 DESERT ROADWAY IMPROVEMENT
 DESERT SEPTIC SYSTEM
 DESERT SEWER SYSTEM REHABILITATION
 DESERT WATER TANK ACCESS - FIRE WATER, CIRCULATING WATER, DOMESTIC WATER- STUDY
 DISCHARGE LINE ISOLATION BULKHEAD COUPLINGS
 DISTRIBUTION SYSTEM FACILITIES - REHABILITATION PROGRAM
 DISTRIBUTION SYSTEM FACILITIES REHABILITATION PROGRAM - MAINTENANCE & STORAGE SHOP (PC-1)
 DISTRIBUTION SYSTEM RELIABILITY PROGRAM - PHASE 2
 DVL INLET / OUTLET TOWER FISH SCREENS REPLACEMENT
 DVL TO SKINNER TRANSMISSION LINE STUDY
 E. THORNTON IBBETSON GUEST QUARTERS
 EAGLE AND HINDS EQUIPMENT WASH AREA UPGRADE
 EAGLE KITCHEN UPGRADE

**TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS**

Description

Conveyance and Aqueduct Facilities

EAGLE MOUNTAIN PUMPING PLANT SCADA SYSTEM
EAGLE MOUNTAIN SAND TRAPS STUDY
EAGLE MOUNTAIN SIPHONS SEISMIC VULNERABILITY STUDY
EAGLE MTN SAND TRAPS STUDY
EAGLE ROCK ASPHALT REPAIR PROJECT
EAGLE ROCK MAIN ROOF REPLACEMENT
ENHANCED VAPOR RECOVERY UPGRADES FOR GASOLINE DISPENSERS
ENVIRONMENTAL MITIGATION
ETIWANDA PIPELINE LINER REPAIR
ETIWANDA RESERVOIR LINER REPAIR
FUTURE SYSTEM RELIABILITY PROJECTS
GARVEY RESERVOIR - AUTOMATED DATA ACQUISITION SYSTEM
GARVEY RESEVOIR AUTOMATED DATA ACQUISITON SYSTEM REPLACEMENT
GENE & INTAKE P.P. - FREQUENCY PROTECTION RELAY REPLACEMENT
GENE & INTAKE PUMPING PLANT SURGE CHAMBER OUTLET GATES RE-COATING
GENE & INTAKE PUMPING PLANTS - REPLACE UNDER FREQUENCY PROTECTION RELAY
GENE AIR CONDITION
GENE CAMP STATION SERVICE TRANSFORMER REPLACEMENT
GENE PUMPING PLANT - AIR STRIP EXTENSION PROJECT
GENE PUMPING PLANT - HEAVY EQUIPMENT SERVICE PIT
GENE PUMPING PLANT - PEDDLER SUBSTATION REPLACEMENT
GENE PUMPING PLANT - SCADA SYSTEM
GENE PUMPING PLANT EXPANSION JOINT REHABILITATION
GENE PUMPING PLANT MAIN TRANSFORMER AREA
GENE PUMPING PLANT STANDBY GENERATOR REPLACEMENT
GENE STORAGE BUILDING REPLACEMENT
GENE STORAGE WAREHOUSE REPLACEMENT
GENE WASH RESERVOIRS DISCHARGE VALVE REHABILITATION
HEADGATE OPERATORS & CIRCUIT BREAKERS REHAB.
HIGHLAND PIPELINE CONSTRUCTION
HINDS EAGLE & IRON MOUNTAINS STORAGE BUILDINGS
HINDS PUMPING PLANT DISCHARGE VALVE PIT PLATFORM REPLACEMENT
HINDS PUMPING PLANT EQUIPMENT WASH AREA UPGRADES
HINDS PUMPING PLANT SCADA SYSTEM
HINDS PUMPING PLANT STANDBY GENERATOR REPLACEMENT
INLAND FDR, ARROWHEAD TUNNELS REDESIGN
INLAND FDR, ARROWHEAD WEST TUNNEL CONSTRUCTION
INLAND FDR, CONTRACT 9, CONSTRUCTION OF RIVERSIDE PPLN SOUTH
INLAND FDR, OWNER CONTROLLED INSURANCE PROGRAM
INLAND FDR, REACH 4, RUSD PPLN
INLAND FDR-CNTR #1/DEVIL CYN-WATERMAN RD
INLAND FDR-CNTR #4-SOFT GRND TNL/SANTA ANA
INLAND FDR-CONT #8-PIPEL PARALLEL TO DAVIS RD
INLAND FDR-ENVIRON. MITIG.
INLAND FEEDER - RIGHT OF WAY AND EASEMENT PROCUREMENT
INLAND FEEDER CONTINGENCY
INLAND FEEDER COST OF LAND AND RIGHT OF WAY
INLAND FEEDER ENVIRONMENTAL MITIGATION
INLAND FEEDER GROUNDWATER MONITORING
INLAND FEEDER HIGHLAND PIPELINE CLAIMS COST
INLAND FEEDER HIGHLAND PIPELINE CONSTRUCTION
INLAND FEEDER HIGHLAND PIPELINE DESIGN
INLAND FEEDER MENTONE PIPELINE CONSTRUCTION
INLAND FEEDER MENTONE PIPELINE DESIGN
INLAND FEEDER MENTONE PIPELINE RUSD CONSTRUCTION
INLAND FEEDER OWNER CONTROLLED INSURANCE PROGRAM
INLAND FEEDER PROGRAM REMAINING BUDGET/CONTINGENCY
INLAND FEEDER PROJECT MANAGEMENT SUPPORT
INLAND FEEDER PURCHASE OF LAND AND RIGHT OF WAY
INLAND FEEDER RAISE BURIED STRUCTURES AND REALIGN DAVIS RD.
INLAND FEEDER REVERSE OSMOSIS PLANT
INLAND FEEDER RIVERSIDE BADLANDS TUNNEL CONSTRUCTION
INLAND FEEDER RIVERSIDE NORTH PIPELINE DESIGN
INLAND FEEDER RUSD CLAIMS DEFENSE
INLAND FEEDER STUDIES
INLAND FEEDER UNDERGROUND STORAGE TANK REMOVAL & ABOVEGROUND STORAGE TANK INSTALLATION
INLAND FEEDER, ARROWHEAD EAST TUNNEL
INLAND FEEDER, ARROWHEAD TUNNELS CONSTRUCTION
INLAND FEEDER, CONTRACT #5, OPAL AVENUE PORTAL / BADLANDS TUNNEL
INLAND FEEDER, CONTRACT #7, RIVERSIDE NORTH PIPELINE CONSTRUCTION
INLAND FEEDER, PROGRAM MANAGEMENT
INLAND FEEDER/SBMWD HIGHLAND INTERTIE BYPASS LINE REHAB
INSULATION JOINT TEST STATIONS
INTAKE POWER AND COMMUNICATION LINE RELOCATION

**TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS**

Description

Conveyance and Aqueduct Facilities

INTAKE POWER AND COMMUNICATIONS LINE RELOCATION
 INTAKE PPLANT - POWER & COMMUNICATION LINE REPLACEMENT
 INTAKE PUMPING PLANT - COOLING AND REJECT WATER DISCHARGE TO LAKE HAVASU
 INTAKE PUMPING PLANT AUTOMATION PROGRAMMING
 INTAKE PUMPING PLANT INSTRUMENTATION REPLACEMENT
 INTAKE PUMPING PLANT INSTRUMENTATION REPLACEMENT & AUTOMATION
 INTAKE PUMPING PLANT INSTRUMENTATION REPLACEMENT & AUTOMATION (4 PLANTS)
 INTAKE PUMPING PLANT POWER & COMMUNICATION LINE REPLACEMENT
 INTAKE PUMPING PLANT SCADA SYSTEM
 INTAKE PUMPING PLANT STANDBY GENERATOR REPLACEMENT
 IRON MOUNTAIN & EAGLE MOUNTAIN 230KV TRANSMISSION LINE PILOT RELAY
 IRON MOUNTAIN AUXILIARY POWER SYSTEM REHABILITATION
 IRON MOUNTAIN GENERATOR REPLACEMENT
 IRON MOUNTAIN PUMPING PLANT
 IRON MOUNTAIN PUMPING PLANT DELIVERY LINE NO. 1 RELINING
 IRON MOUNTAIN PUMPING PLANT HOUSING REPLACEMENT
 IRON MOUNTAIN PUMPING PLANT SCADA SYSTEM
 IRON MOUNTAIN SERVICE PIT REHABILITATION
 IRON MOUNTAIN & EAGLE MOUNTAIN 230KV TRANSMISSION LINE PILOT RELAY
 JULIAN HINDS PUMPING PLANT DELIVERY PIPE EXPANSION JOINT PHASE 2 REPAIRS
 JULIAN HINDS PUMPING PLANT DELIVERY PIPE EXPANSION JOINT PHASE 1 REPAIR
 LAKE MATHEWS FOREBAY & HEADWORK FACILITY & EQUIPMENT
 LAKE MATHEWS FOREBAY WALKWAY REPAIRS
 LAKE MATHEWS ICS
 LAKE MATHEWS INTERIM CHLORINATION SYSTEM
 LAKE SKINNER - OUTLET CONDUIT FLOWMETER INSTALLATION
 LAKE SKINNER BYPASS PIPELINE NO. 2 CATHODIC PROTECTION
 LAKE SKINNER OUTLET CONDUIT
 LAKEVIEW PIPELINE LEAK REPAIR AT STA. 2510+49
 LAVERNE FACILITIES - EMERGENCY GENERATOR
 LAVERNE FACILITIES - MATERIAL TESTING
 LOWER FEEDER EROSION PROTECTION
 MAGAZINE CANYON - VALVE REPLACEMENT FOR SAN FERNADO TUNNEL (STATION 778+80)
 MAGAZINE CANYON OIL & WATER SEPARATOR
 MAGAZINE CANYON OIL/WATER SEPARATOR
 MAPES LAND ACQUISITION
 MENTONE PPLN, RUSD, DEFENSE OF CLAIM
 MILE 12 FLOW AND CHLORINE MONITORING STATION UPGRADES
 MILE 12 POWER LINE & FLOW MONITORING EQUIPMENT STUDY
 MILLS PLANT SUPPLY PUMP STATION STUDY
 MINOR CAP FY 2011/12
 MOTOR BREAKER FAULTY (5 PPLANTS)
 NEWHALL TUNNEL - REPAIR STEEL LINER
 NEWHALL TUNNEL - UPGRADE LINER SYSTEM
 NITROGEN STORAGE STUDY AT DVL, INLAND FEEDER PC-1, AND LAKE MATHEWS
 OC 44 SERVICE CONNECTIONS & EOC#2 METER ACCESS ROAD REPAIR
 OC 88 PUMP PLANT FIRE PROTECTION STUDY
 OC-71 SERVICE CONNECTION REPAIRS
 OLINDA PCS FACILITY REHABILITATION AND UPGRADE
 OLINDA PRESSURE CONTROL STRUCTURE FACILITY REHABILITATION AND UPGRADE
 ORANGE COUNTY 44 SERVICE CONNECTIONS & EOC#2 METER ACCESS ROAD REPAIR
 ORANGE COUNTY 88 PUMP PLANT FIRE PROTECTION STUDY
 OWNER CONTROLLED INSURANCE PROGRAM
 PALO VERDE VALLEY LAND PURCHASE - 16,000 ACRES
 PALOS VERDES FEEDER REHABILITATION OF DOMINGUEZ CHANNEL
 PALOS VERDES RESERVOIR SPILLWAY MODIFICATION
 PROJECT MANAGEMENT SUPPORT
 PUDDINGSTONE RADIAL GATE REHABILITATION
 PURCHASE OF LAND AND RIGHT OF WAY
 QUAGGA MUSSEL STUDY
 R&R FOR CRA
 REPAIR UPPER FEEDER LEAKING EXPANSION JOINT
 REPAIRS TO TUNNELS
 RIALTO FEEDER REPAIR @ STA. 3662+23
 RIALTO FEEDER REPAIR OF ANOMALOUS PIPE SECTION
 RIVERSIDE BADLANDS TUNNEL CONSTRUCTION
 RIVERSIDE BRANCH - ALESSANDRO BLVD. LEFT LAND TURN LANE
 RIVERSIDE BRANCH - CONSTRUCTION OF CONTROL PANEL DISPLAY WALL
 RIVERSIDE NORTH PIPELINE DESIGN & CONSTRUCTION
 RIVERSIDE SOUTH PIPELINE CONSTRUCTION
 SAN DIEGO PIPELINE REPAIR AT STATION 1268+57
 SAN FERNANDO TUNNEL STATION 778+80 VALVE REPLACEMENT
 SAN GABRIEL TOWER SEISMIC ASSESSMENT
 SAN GABRIEL TOWER SLIDE GATE REHABILITATION
 SAN JACINTO TUNNEL EAST ADIT REHABILITATION

**TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS**

Description

Conveyance and Aqueduct Facilities

SAN JACINTO TUNNEL, WEST PORTAL
 SAN JOAQUIN RESERVOIR - NEW DESIGN
 SAN JOAQUIN RESERVOIR IMPROVEMENT- FLOATING COVER
 SAN JOAQUIN RESERVOIR IMPROVEMENTS
 SAN JOAQUIN RESERVOIR IMPROVEMENTS STUDY
 SAND TRAP CLEANING EQUIPMENT AND TRAVELING CRANE STUDY
 SANTA ANA RIVER BRIGDE SEISMIC RETROFIT
 SANTIAGO TOWER ACCESS ROAD UPGRADE
 SANTIAGO TOWER PATROL ROAD REPAIR
 SD5 REPAIR
 SECOND LOWER FEEDER STRAY CURRENT MITIGATION SYSTEMS REFURBISHMENT
 SECURITY FENCING AT OC-88 PUMPING PLANT
 SEISMIC EVALUATION OF CRA STRUCTURES
 SEISMIC PROGRAM
 SEISMIC UPGRADE OF 11 FACILITIES OF THE CONVEYANCE & DISTRIBUTION SYSTEM
 SEPULVEDA FEEDER CORROSION INTERFERENCE MITIGATION
 SEPULVEDA FEEDER REPAIR AT STATION 1099
 SEPULVEDA FEEDER STRAY CURRENT MITIGATION SYSTEM REFURBISHMENT
 SERVICE CONNECTION & EOCF #2 METER ACCESS ROAD UPGRADE & BETTERMENT
 SERVICE CONNECTION DWCV-2T VALVES REPLACEMENT AND STUCTURE CONSTRUCTION
 SKINNER BR - IMPROVE CABAZON RADIAL GATE FACILITY
 SUCTION & DISCHARGE LINES EXPANSION JOINT STUDY
 SWITCHYARDS AND HEAD GATES REHAB
 TEMESCAL HYDRO-ELECTRIC PLANT ACCESS ROAD UPGRADE
 TEMESCAL POWER PLANT ACCESS ROAD PAVING
 TRANSFORMER OIL & CHEMICAL UNLOADING PAD CONTAINMENT
 TRANSFORMER OIL AND SODIUM HYPOCHLORITE CONTAINMENT PROJECT
 U.S. BUREAU OF LAND MANAGEMENT LAND ACQUISITION
 UPPER FEEDER CATHODIC PROTECTION SYSTEM
 UPPER FEEDER GATES REHABILITATION PROJECTS
 UPPER FEEDER LEAKING EXPANSION JOINT REPAIR
 VALLEY BRANCH - PIPELINE CORROSION TEST STATION
 WASTEWATER SYSTEM REHABILITATION
 WASTEWATER SYSTEM REHABILITATION - GENE/IRON MTN
 WASTEWATER SYSTEM REHABILITATION - HINDS/EAGLE MTN
 WEST VALLEY FEEDER #2 CATHODIC PROTECTION SYSTEM REHABILITATION
 WHITE WATER SIPHON PROTECTION
 WHITEWATER EROSION PROTECTION STRUCTURE REHABILITATION
 WHITEWATER SIPHON EROSION PROTECTION
 WHITEWATER SIPHON PROTECTION STRUCTURE

Sub-total Conveyance and Aqueduct facilities costs

\$76,253,010

TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS

Description

Distribution Facilities

108TH STREET PRESSURE CONTROL STRUCTURE VALVE REPLACEMENT
 42" CONICAL PLUG VALVE REPLACEMENT
 ACCUSONIC FLOW METER UPGRADE
 ACCUSTIC FIBER OPTIC MONITORING OF PCCP LINES
 ALAMEDA CORRIDOR PIPELINE
 ALL FACILITIES - WATER DISCHARGE ELIMINATION
 ALL FACILITIES, INSPECTION AND REPLACEMENT OF CRITICAL VACUUM VALVES
 ALL FEEDERS - MANHOLE LOCKING DEVICE RETROFIT
 ALL PUMPING PLANTS - INSTALL HYPOCHLORINATION STATIONS
 ALLEN MCCOLLOCH PIPELINE 2010 REFURBISHMENT
 ALLEN MCCOLLOCH PIPELINE CATHODIC PROTECTION
 ALLEN MCCOLLOCH PIPELINE INTERCONNECTIONS
 ALLEN MCCOLLOCH PIPELINE LOCAL CONTROL MODIFICATIONS
 ALLEN MCCOLLOCH PIPELINE REPAIR
 ALLEN MCCOLLOCH PIPELINE REPAIR - CARBON FIBER LINING REPAIR
 ALLEN MCCOLLOCH PIPELINE REPAIR - SERVICE CONNECTIONS UPGRADES
 ALLEN MCCOLLOCH PIPELINE REPAIR - STATION 276+63
 ALLEN MCCOLLOCH PIPELINE REPAIR - SURGE SUPPRESSION SYSTEM AT OC88A
 ALLEN MCCOLLOCH PIPELINE REPAIR - VALVE ACTUATOR REPLACEMENTS
 ALLEN MCCOLLOCH PIPELINE REPAIR SERVICE CONNECTIONS SIMPLIFICATION
 ALLEN MCCOLLOCH PIPELINE STRUCTURE - ROOF SLAB REPAIRS
 ALLEN MCCOLLOCH PIPELINE VALVE VAULT REPAIRS
 ALLEN-MCCOLLOCH CORROSION/INTERFERENCE MITIGATION, STATION 719+34 TO 1178+02
 ALLEN-MCCOLLOCH PIPELINE
 ALLEN-MCCOLLOCH PIPELINE OC-76 TURNOUT RELOCATION
 ALLEN-MCCOLLOCH PIPELINE PCCP REHABILITATION
 ALLEN-MCCOLLOCH PIPELINE REFURBISHMENT - STAGE 2
 ALLEN-MCCOLLOCH PIPELINE VALVE AND SERVICE CONNECTION VAULT REPAIRS
 AMP -SERVICE CONNECTIONS UPGRADES
 AMP -VALVE ACTUATOR REPLACEMENTS
 AMP COMPLETION RESOLUTION RIGHT OF WAY ISSUES
 AMR - RTU UPGRADE - PHASE 2
 ANODE WELL REPLACEMENT FOR ORANGE COUNTY AND RIALTO FEEDERS
 APPIAN WAY VALVE REPLACEMENT
 ARROW HIGHWAY PROPERTY DEVELOPMENT
 ASPHALT REHABILITATION AT WEYMOUTH FINISHED WATER RESERVOIR
 ASPHALT REPAIRS TO PERIMETER OF SEPULVEDA PCS
 ASSESS THE CONDITION OF METROPOLITAN'S PRESTRESSED CONCRETE CYLINDER PIPE
 ASSESS THE CONDITIONS OF MET'S
 ASSESSMENT OF PRESTRESSED CONCRETE CYLINDER PIPELINES - PHASE 3
 AULD VALLEY CONTROL STRUCTURE AREA FACILITIES
 AUTOMATED RESERVOIR WATER QUALITY MONITORING
 AUTOMATIC METER READING SYSTEM - RTU UPGRADE PHASE 2
 AUTOMATIC METER READING SYSTEM UPGRADE
 AUTOMATION COMMUNICATION UPGRADE
 AUTOMATION DOCUMENTATION SURVEY F/A
 BAR 97- ENHANCED AREA VEHICLE TESTING
 BATTERY MONITORING SYSTEM FOR AUTOMATIC METER READING SYSTEM
 BIXBY VALVE REPLACEMENT
 BLACK METAL MOUNTAIN ELECTRICAL TRANSFORMER
 BOX SPRINGS FEEDER BROKEN BACK REPAIR
 BOX SPRINGS FEEDER BROKEN BACK REPAIR PHASE I
 BOX SPRINGS FEEDER PHASE 3 AND 4 ENVIRONMENTAL MONITORING
 BOX SPRINGS FEEDER REPAIR - PHASE II
 BOX SPRINGS FEEDER REPAIRS PHASE 3 AND PHASE 4
 C&D CRANE INSTALLATION AT OC-88 PUMPING PLANT
 CAJALCO CREEK DAM MANHOLE COVER RETROFIT
 CAJALCO CREEK DETENTION DAM SPILLWAY ACCESS ROAD
 CALABASAS FEEDER CARBON FIBER /BROKEN BACK REPAIR
 CALABASAS FEEDER INTERFERENCE MITIGATION
 CALABASAS FEEDER PCCP REHABILITATION
 CALABASAS FEEDER REPAIR, STUDY
 CAPITAL PROGRAM FOR PROJECTS COSTING LESS THAN \$250,000 FOR FY 2010/11
 CAPITAL PROJECTS COSTING LESS THAN \$250,000 FOR FY2008-09
 CARBON CREEK PRESSURE CONTROL STRUCTURE SEISMIC ASSESSMENT
 CARBON CREEK PRESSURE CONTROL STRUCTURE SEISMIC RETROFIT
 CASA LOMA AND SAN DIEGO CANAL LINING STUDY - PART 2
 CASA LOMA SIPHON BARREL 1 & 2 DVL AND SD CANAL FLOW METER REPLACEMENT
 CASA LOMA SIPHON BARREL NO. 1 - PERMANENT REPAIRS
 CASA LOMA SIPHON BARREL NO. 1 JOINT REPAIR
 CASA LOMA SIPHON NO 1, CASA LOMA CANAL & SAN DIEGO CANAL FLOW METER REPLACEMENT
 CATHODIC PROTECTION FOR THE FOOTHILL FEEDER
 CATHODIC PROTECTION SYSTEM UPGRADES
 CCP-PHASE 2 CONSTRUCTION
 CDSRP - DISCHARGE ELIMINATION

TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS

Description

Distribution Facilities

CDSRP - ENTRAINED AIR IN UPPER FEEDER PIPELINE STUDY
 CDSRP - SEPULVEDA FEEDER REPAIRS
 CDSRP - SEPULVEDA TANKS RECOATING
 CENTRAL POOL AUGMENTATION - TUNNEL AND PIPELINE & RIGHT-OF-WAY ACQUISITION
 CENTRAL POOL AUGMENTATION (CPA) PROGRAM - PIPELINE AND TUNNEL ALIGNMENT
 CENTRAL POOL AUGMENTATION AND WATER QUALITY PROJECT (CPAWQP)
 CHEMICAL INVENTORY AND USAGE REWRITE AND ELECTRICAL. SYSTEM LOG
 CHEMICAL UNLOADING FACILITY RETROFIT
 CHEVALIER FALCON MILLING MACHINE
 COASTAL JUNCTION REVERSE FLOW BYPASS
 COASTAL PRESSURE CONTROL STRUCTURE ROOF REPLACEMENT
 COLLIS AVENUE VALVE REPLACEMENT
 COLLIS VALVE REPLACEMENT
 COLORADO RIVER AQUEDUCT CASA LOMA SIPHON BARREL NO. 1 PROJECT NO. 2 - PERMANENT REPAIRS
 COMMUNICATIONS STRUCTURE ALARM MONITORING
 COMPREHENSIVE INFORMATION SECURITY ASSESSMENT PHASE III
 CONSTRUCTION PHASE 2
 CONTRACT & LITIGATION TASKS -CONTRACT # 1396
 CONTROL SYSTEM DATA STORAGE AND REPORTING
 CONTROL SYSTEM DRAWING & DOCUMENTATION UPDATE
 CONTROL SYSTEM ENHANCEMENT PROGRAM (CSEP) - DIGITAL SUBNET STANDARDIZATION
 CONTROL SYSTEMS AUTOMATION COMMUNICATION UPGRADE
 CONTROLS COMMUNICATIONS FRAME RELAY CONVERSION - APPROPRIATED
 CONVERSION OF DEFORMATION SURVEY MONITORING AT GENE WASH, COPPER BASIN, AND DIEMER BASIN 8
 CONVEYANCE AND DISTRIBUTION SYSTEM ELECTRICAL STRUCTURES REHABILITATION
 CONVEYANCE AND DISTRIBUTION SYSTEM REHABILITATION PROGRAM (CDSRP) - CURRENT DRAIN STATIONS
 COPPER BASIN ICS
 COPPER BASIN SEWER SYSTEM
 CORONA POWER PLANT REPLACE EMERGENCY GENERATOR
 CORROSION MATERIALS TESTING FACILITY SCADA UPGRADE
 COVINA PRESSURECONTROL FACILITY
 COYOTE CREEK NORTHERN PERIMETER LANDSCAPING
 COYOTE PRESSURE CONTROL STRUCTURE ROOF REPLACEMENT
 CPA PIPELINE & TUNNEL ALIGNMENT
 CPA PIPELINE & TUNNEL ALIGNMENT - NON FUNDED PORTION
 CPA PIPELINE & TUNNEL ALIGNMENT - STUDY
 CPA WATER TREATMENT PLANT - NON FUNDED PORTION
 CPA WATER TREATMENT PLANT - RIGHT OF WAY - PHASE 2
 CPAWQP - PHASE 2
 CPAWQP - STUDY AND LAND ACQUISITION - CONTINGENCY
 CPAWQP - STUDY AND LAND ACQUISITION - PIPELINE & TUNNEL ALIGNMENT - STUDY
 CPAWQP - STUDY AND LAND ACQUISITION - RIGHT-OF-WAY-ACQUISITION
 CPAWQP - STUDY AND LAND ACQUISITION - WATER TREATMENT PLANT - RIGHT OF WAY - PHASE 2
 CPAWQP - STUDY AND LAND ACQUISITION - WATER TREATMENT PLANT - STUDY
 CRA - PC-1 EFFLUENT OPEN CHANNEL TRASH RACK
 CRA CABAZON & POTRERO SHAFT COVERS
 CRA CONTROL INTEGRATION
 CRA PROTECTIVE SLAB AT STATION 9704+77
 CROSS CONNECTION PREVENTION PROGRAM - PHASE II CONSTRUCTION
 CROSS CONNECTION PREVENTION PROJECT, COMPLETE PRELIMINARY DESIGN AND CEQA DOCUMENTATION
 CSEP - ELECTRONIC SYSTEM LOG (ESL)
 CSEP - ENERGY MANAGEMENT SYSTEM PHASE II
 CSEP - ENHANCED DISTRIBUTION SYSTEM CONTROL PROJECT
 CSEP - IMPLEMENTATION
 CSEP - OPERATIONS & BUSINESS DATA INTEGRATION PILOT
 CSEP - PLANT INFLUENT REDUNDANT FLOW METERING AND SPLITTING
 CSEP - PLC PHASE 2 - LIFE-CYCLE REPLACEMENT
 CSEP - PLC STANDARDIZATION
 CSEP - PLC STANDARDIZATION PHASE II
 CSEP - POWER MANAGEMENT SYSTEM
 CSEP - WATER PLANNING APPLICATION
 CSEP IMPLEMENTATION
 CSEP- SMART OPS (FORMERLY REAL TIME OPERATIONS SIMULATION)
 CURRENT DRAIN STATIONS
 DAM REHABILITATION & SAFETY IMPROVEMENTS ST. JOHN'S CANYON CHANNEL EROSION MITIGATION
 DANBY TOWER FOUNDATION INVESTIGATION AND SHORT TERM MITIGATION
 DEODERA PCS PAVEMENT UPGRADE & BETTERMENT
 DESERT BRANCH - REPLACE STOLEN COPPER GROUND WIRE FOOTINGS/GROUNDING, AND COPPER PIPING
 DESERT BRANCH PUMP PLANT AUXILIARY (STATION SERVICE)
 DESERT BRANCH, PURCHASE & INSTALL 5 PORT VIDEO CONFERENCING
 DESERT FACILITIES DOMESTIC WATER GAC SYSTEM INSTALLATION
 DESERT HIGH VOLTAGE TRANSMISSION TOWERS - REPLACE COPPER GROUND WIRES ON
 DETAIL SEISMIC EVALUATION OF WATER STORAGE TANK
 DFP - ELIMINATE BACKUP GENERATOR TIE-BUS & INSTALL MANUAL TRANSFER SWITCH FOR CHLORINE SCRUBBER
 DIEMER FILTRATION PLANT - SLOPE REPAIR

TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS

Description

Distribution Facilities

DIEMER OZONE COOLING WATER ALTERNATIVE SOURCE
 DIRECTIONAL SIGNS FOR DIAMOND VALLEY LAKE FACILITY
 DISCHARGE ELIMINATION
 DIST SYS-AIR RELEASE & VAC VALVE MODS
 DISTRIBUTION SYSTEM - CAPP CONSTRUCTION PACKAGES 9,11,12
 DISTRIBUTION SYSTEM - STANDPIPE STRENGTHENING PROGRAM
 DISTRIBUTION SYSTEM - STATIONARY CORROSION REFERENCE
 DISTRIBUTION SYSTEM - TREATED WATER CROSS CONNECTION PREVENTION PROJECT - FINAL DESIGN & CONSTRUCTION
 DISTRIBUTION SYSTEM ASSESSMENTS/UPGRADES OF LOS ANGELES COUNTY
 DISTRIBUTION SYSTEM ASSESSMENTS/UPGRADES OF RIVERSIDE AND SAN DIEGO COUNTY
 DISTRIBUTION SYSTEM ASSESSMENTS/UPGRADES OF SAN BERNARDINO COUNTY
 DISTRIBUTION SYSTEM CONTROL & EQUIP UPGRADE - ENHANCED DISTRIB. SYSTEM AUTOMATION PHASE I
 DISTRIBUTION SYSTEM EQUIPMENT & INSTRUMENTATION UPGRADES
 DISTRIBUTION SYSTEM INFRASTRUCTURE PROTECTION IMPROVEMENTS FOR ORANGE COUNTY
 DISTRIBUTION SYSTEM REHABILITATION PROGRAM - ASSESS THE STATE OF MWD'S DISTRIBUTION SYSTEM
 DISTRIBUTION SYSTEM REPLACEMENT OF AREA CONTROL SYSTEMS - WILLOWGLEN RTUS ADMINISTRATION
 DISTRIBUTION SYSTEM REPLACEMENT OF AREA CONTROL SYSTEMS (DSRACS)
 DISTRICT WIDE - ENHANCED VAPOR RECOVERY PHASE 2 GASOLINE DISPENSING
 DSRACS - OPERATIONS CONTROL CENTER - CONTRACT #1396
 DSRACS - SKINNER AREA
 DSRACS - SOFTWARE DEVELOPMENT COST
 DSRACS - WEYMOUTH
 DVL & CONTROL SYSTEM REPLACEMENT INVESTIGATION & PREPARATION FOR PRELIMINARY DESIGN
 DVL VIEWPOINT ROAD SECURITY UPGRADES
 EAGLE EQUIPMENT WASH AREA UPGRADE
 EAGLE ROCK - ASPHALT REHABILITATION
 EAGLE ROCK - FIRE PROTECTION AT THE WESTERN AREA OF THE EAGLE ROCK CONTROL CENTER PERIMETER GROUNDS
 EAGLE ROCK CONTROL CENTER FIREHYDRANT
 EAGLE ROCK LATERAL INTERCONNECTION REPAIR
 EAGLE ROCK MAIN BUILDING ROOF REPLACEMENT - STUDY
 EAGLE ROCK OCC - REHAB CONTROL ROOM
 EAGLE ROCK OPERATIONS CONTROL CENTER
 EAGLE ROCK RESIDENCE CONVERSION
 EAGLE ROCK TOWER AND PUDDINGSTONE SPILLWAY GATES REHABILITATION
 EAGLE ROCK TOWER SLIDEGATE REHABILITATION
 EAST INFLUENT CHANNEL REPAIR PROJECT
 EAST ORANGE COUNTY FEEDER #2 REPAIR
 EAST ORANGE COUNTY FEEDER NO. 2 SERVICE CONNECTION A-6 REHABILITATION
 EAST VALLEY FEEDER VALVE STRUCTURE ELECTRICAL UPGRADE
 EASTERN AND DESERT REGIONS PLUMBING RETROFIT
 EASTERN REGION PCCP JOINT MODIFICATION 2012
 E-DISCOVERY STORAGE MANAGEMENT SYSTEM UPGRADE
 ELECTRIC CURRENT DRAIN STATION INSTALLATIONS
 ELECTRICAL UPGRADES AT 15 STRUCTURES, OC REGION
 ELECTROMAGNETIC INSPECTIONS OF PCCP LINES
 ELECTRONIC SYSTEM LOG (ESL)
 ENERGY MANAGEMENT SYSTEM - PHASE 2
 ENHANCED DISTRIBUTION SYSTEM AUTOMATIC FLOW TRANSFERS SOFTWARE REDEVELOPMENT
 ENHANCED DISTRIBUTION SYSTEM AUTOMATION PHASE I
 ENHANCED DISTRIBUTION SYSTEM AUTOMATION PHASE II
 ENVIRONMENTAL REGULATORY AGREEMENTS AND OTHER REGULATORY AGENCY
 EQUIPMENT UPGRADE AT THE NORTH PORTAL OF THE HOLLYWOOD TUNNEL
 ETIWANDA / RIALTO PIPELINE INTER-TIE CATHODIC PROTECTION
 ETIWANDA CAVITATION FACILITY INFRASTRUCTURE REHABILITATION
 ETIWANDA CAVITATION TEST FACILITY COMMUNICATION AND CONTROL SYSTEM REPLACEMENT
 ETIWANDA HEP NEEDLE VALVE OPERATORS
 ETIWANDA PIPELINE - LINING REPLACEMENT
 ETIWANDA PIPELINE AND CONTROL FACILITY - RIGHT OF WAY
 ETIWANDA PIPELINE AND CONTROL FACILITY - AS BUILTS
 ETIWANDA PIPELINE AND CONTROL FACILITY - CATHODIC PROTECTION
 ETIWANDA PIPELINE AND CONTROL FACILITY - EMERGENCY DISCHARGE CONDUITS
 ETIWANDA PIPELINE AND CONTROL FACILITY - LANDSCAPING AND IRRIGATION
 ETIWANDA PIPELINE AND CONTROL FACILITY - RESIDENCES
 ETIWANDA PIPELINE AND CONTROL FACILITY - RIALTO FEEDER TO UPPER PIPELINE
 ETIWANDA PIPELINE LINING REPAIRS
 ETIWANDA PIPELINE LINING REPLACEMENT
 ETIWANDA RESERVOIR - EXTEND OUTLET STRUCTURE
 FACILITY AND PROCESS RELIABILITY ASSESSMENT
 FAIRPLEX AND WALNUT PCS VALVES REPLACEMENT
 FILTER ISOLATION GATE AND BACKWASH CONTROL WEIR COVERS MODULES 1-6
 FLOW METER REPLACEMENT PROJECT
 FLOWMETER MODIFICATION - LAKE SKINNER INLET, ETIWANDA EFFLUENT & WADSWORTH CROSS CHANNEL
 FOOTHILL & SEPULVEDA FEEDER PCCP CARBON FIBER JOINT REPAIRS
 FOOTHILL FEEDER - CASTAIC VALLEY BLOW-OFF VALVES REPLACEMENT
 FOOTHILL FEEDER ADEN AVE. REHABILITATION

TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS

Description

Distribution Facilities

FOOTHILL FEEDER CARBON FIBER REPAIR
 FOOTHILL FEEDER CATHODIC PROTECTION
 FOOTHILL FEEDER PIPELINE REPLACEMENT PROJECT
 FOOTHILL FEEDER POWER PLANT EXPANSION
 FOOTHILL FEEDER REPAIR @ SANTA CLARITA RIVER
 FOOTHILL FEEDER, CARBON FIBER REPAIRS
 FOOTHILL HYDROELECTRIC RUNNER REPLACEMENT
 FOOTHILL PCS - UNINTERRUPTIBLE POWER SOURCE SYSTEMS INSTALLATION
 FOOTHILL PCS FLOOD PUMP INSTALLATION DESIGN DOCUMENTATION
 FOOTHILL PCS INTERNAL VALVE LINERS UPGRADE
 FUTURE SYSTEM RELIABILITY PROGRAM
 GARVEY RESERVOIR - HYPOCHLORITE FEED SYSTEM
 GARVEY RESERVOIR - INSTALL HYPOCHLORINATION STATIONS
 GARVEY RESERVOIR - LOWER ACCESS PAVING ROAD & DRAINS
 GARVEY RESERVOIR CONTROL VALVES REPLACEMENT
 GARVEY RESERVOIR HYPOCHLORITE FEED SYSTEM
 GARVEY RESERVOIR SITE DRAINAGE REPAIRS AND MODIFICATIONS
 GARVEY RESERVOIR SODIUM HYPOCHLORITE FEED SYSTEM REHABILITATION
 GENE & IRON POOLS
 GENE AIR CONDITIONING SYSTEM REPLACEMENT
 GENE MESS HALL AIR CONDITIONING UNIT
 GENE SPARE PARTS WAREHOUSE IMPROVEMENTS
 GLENDALE 01 SERVICE CONNECTION REHAB
 GLENDALE-01 SERVICE CONNECION REHABILITATION AND UPGRADE
 GLENDALE-01 SERVICE CONNECTION REHABILITATION
 GREG AVE PCS FACILITY REHABILITATION
 GREG AVENUE CONTROL STRUCTURE VALVE REPLACEMENT
 GREG AVENUE PCS - PUMP MODIFICATIONS AND NEW CONTROL BUILDING
 GREG AVENUE PCS CONTROL BUILDING INTERIOR REHABILITATION
 HINDS GARAGE ASBESTOS SHEETING REPLACEMENT
 HOLLYWOOD TUNNEL NORTH PORTAL EQUIPMENT UPGRADES
 HVAC MODIFICATIONS FOR ELECTRICAL SAFETY AND RELIABILITY
 HYDRAULIC MODELING PROJECT
 HYDROELECTRIC PLANT CARBON DIOXIDE (CO2) FIRE SUPPRESSION SYSTEM MODIFICATIONS
 HYDROELECTRIC POWER PLANT (HEP) DISCHARGE ELIMINATION
 IAS PROJECTS - CPA
 IAS PROJECTS - DVL-SKINNER
 IAS PROJECTS - MILLS SUPPLY RELIABILITY
 INLAND FEEDER AND LAKEVIEW PIPELINE INTERTIE
 INLAND PCSUST REMOVAL & AST INSTALLATION
 INSTALL MOTION SENSORS IN NEW EXPANSION
 INSTALL TEST LEADS AT FOUR LOCATIONS
 INSULATION JOINT TEST STATIONS
 INTAKE PUMPING PLANT - UNDER FREQUENCY PROTECTION RELAY UPGRADE
 IRON MOUNTAIN - TRANSFORMER OIL TANK RELOCATION
 JENSEN DISTRIBUTION SYSTEM - REPLACEMENT OF AREA CONTROL SYSTEMS - CONTRACT # 1396
 JENSEN EGEN UST UPGRADE - LINE LEAK DETECTOR INSTALLATION
 JENSEN FILTER EFFLUENT TURBIDIMETER RELIABILITY
 JENSEN FILTRATION PLANT - REPLACE ADMINISTRATION BUILDING AIR CONDITIONING
 JENSEN FILTRATION PLANT - ROAD RECONSTRUCTION
 JENSEN FLUORIDE TANK REPLACEMENT
 LA VERNE FACILITIES - BRIDGEPORT E-2-PATH
 LA VERNE FACILITIES - ENERGY CONSERVATION ECM1 - 10
 LA VERNE FACILITIES - EXPANSION OF THE SANITARY SEWER
 LA VERNE FACILITIES - HAZARDOUS WASTE STORAGE
 LA VERNE FACILITIES - MAIN TRANSFORMERS REPLACEMENT
 LA VERNE FACILITIES - MATERIALS TESTING LABORATORY
 LA VERNE FACILITIES - REPLACEMENT OF FLOCCULATOR STUB SHAFT - BASINS 1 & 2
 LA VERNE MACHINE SHOP - AIR CONDITIONING UNIT REPLACEMENT
 LA VERNE MACHINE SHOP - REPAIR HORIZONTAL BORING MILL
 LA-35 DISCHARGE STRUCTURE REPAIRS
 LAKE MATHEWS - CONSTRUCTION OF BACKUP COMPUTER FACILITIES
 LAKE MATHEWS - DIVERSION TUNNEL WALKWAY REPAIR
 LAKE MATHEWS - FACILITY WIDE EMERGENCY WARNING AND PAGING SYSTEM
 LAKE MATHEWS - FOREBAY MCC ROOF IMPROVEMENT
 LAKE MATHEWS - MAIN DAM TOE SEEPAGE COLLECTION
 LAKE MATHEWS - MULTIPLE SPECIES MANAGER'S OFFICE & RESIDENCE
 LAKE MATHEWS - RENOVATION OF BLDGS. 8 & 15, GENERAL ASSEMBLY & ADMIN. BLDG. OFFICE AREAS
 LAKE MATHEWS - RETROFIT LOWER ENTRANCE GATE SWING ARM
 LAKE MATHEWS FENCING SECURITY UPGRADE
 LAKE MATHEWS FOREBAY MCC ROOF IMPROVEMENT
 LAKE MATHEWS MAIN DAM TOE SEEPAGE COLLECTION
 LAKE MATHEWS RETROFIT LOWER ENTRANCE GATE SWING ARM
 LAKE PERRIS BYPASS PIPELINE EXPLORATION
 LAKE PERRIS BYPASS PIPELINE RELINING

TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS

Description

Distribution Facilities

LAKE PERRIS EMERGENCY STANDBY GENERATOR AND TRANSFER SWITCH REPLACEMENT
 LAKE SKINNER - AERATOR AIR COMPRESSOR REPLACEMENT
 LAKE SKINNER - OUTLET TOWER VALVE REHABILITATION
 LAKE SKINNER - REPLACEMENT AERATOR RING
 LAKE SKINNER AERATOR AIR COMPRESSOR REPLACEMENT
 LAKE SKINNER AREA DISTRIBUTION SYSTEM VALVE REPLACEMENT
 LAKE SKINNER DAM ROAD REHAB
 LAKE SKINNER EAST BYPASS SCREENING STRUCTURES
 LAKE SKINNER OUTLET TOWER CHLORINE SYSTEM MODIFICATION
 LAKE SKINNER WEST BYPASS SCREENING STRUCTURE
 LAKE SKINNER WEST BYPASS SCREENING STRUCTURE REHABILITATION
 LAKE VIEW PIPE LINE REPAIRS
 LAKEVIEW PIPELINE - REPLACE VACUUM/AIR RELEASE
 LAKEVIEW PIPELINE CATHODIC PROTECTION SYSTEM
 LAKEVIEW PIPELINE RELINING
 LAKEVIEW PIPELINE REPAIR
 LAKEVIEW PIPELINE UPGRADE
 LIVE OAK RESERVOIR BYPASS PIPELINE CATHODIC PROTECTION
 LOWER FEEDER - CATHODIC PROTECTION
 LOWER FEEDER WR 33 - AREA REPAIR AND REMEDIATION
 MAGAZINE CANYON CANOPY
 MAGAZINE CANYON-ISOLATION GATE JACKING FRAME
 MAPES LAND ACQUISITION
 MICROWAVE COMMUNICATION SITES BUILDING UPGRADE
 MIDDLE CROSS FEEDER CATHODIC PROTECTION
 MIDDLE FEEDER - CATHODIC PROTECTION SYSTEMS
 MIDDLE FEEDER - NORTH CATHODIC PROTECTION SYSTEM
 MIDDLE FEEDER BLOW-OFF VALVE REPLACEMENT AT STA 782+53.16
 MIDDLE FEEDER NORTH CATHODIC PROTECTION SYSTEM
 MIDDLE FEEDER RELOCATION FOR SCE MESA SUBSTATION
 MILLS FILTRATION PLANT - INVESTIGATION TO RELOCATE ACCESS ROAD
 MINOR CAP 08/09 PLACEHOLDER
 MINOR CAP FY 2009/10
 MINOR CAP FY 2012/13
 MINOR CAP FY 2014/16
 MINOR CAPITAL PROJECTS PROGRAM 07/08 - REMAINING FUNDS
 MOUNT OLYMPUS TUNNEL COST RIGHT-OF-WAY (ROW)
 MWD ROAD GUARDRAIL
 NITROGEN STORAGE COMPLIANCE AT DVL, INLAND FEEDER PCS, AND LAKE MATHEWS
 NITROGEN STORAGE STUDY
 NON PCCP LINES CONDITION INSPECTION AND ASSESSMENT
 NORTH PORTAL OF HOLLYWOOD TUNNEL
 NORTH REACH CONSTRUCTION / INSPECTION / CM
 NORTH REACH CONSTRUCTION/ASBUILT
 NORTH REACH ENVIRONMENTAL - CONSTRUCTION
 NORTH REACH FINAL DESIGN & ADV/NTP
 NORTH REACH POST DESIGN / ASBUILT
 NORTH REACH PROGRAM MANAGEMENT - CONSTRUCTION
 NORTHERN PIPELINE ENVIRONMENTAL FINAL DESIGN
 NORTHERN PIPELINE RIGHT OF WAY FINAL DESIGN
 OAK ST. PCS ROOF REPLACEMENT
 OAK STREET PRESSURE CONTROL STRUCTURE ROOF REPLACEMENT - CONSTRUCTION
 OC 44 SERVICE CONNECTIONS & EOC#2 METER ACCESS ROAD REHAB
 OC FEEDER STA 1920+78 BLOWOFF STRUCTURE & RIP-RAP REPAIRS
 OC RESERVOIR SODIUM HYPOCHLORITE PUMP AND PIPING REPLACEMENT
 OC-71 FLOW CONTROL FACILITY
 OC-88 - SECURITY FENCING AT PUMP PLANT
 OC-88 EMERGENCY STANDBY GENERATOR UPGRADE STUDY
 OC-88 PUMP PLANT AIR COMPRESSOR UPGRADE
 OC-88 PUMP STATION FLOW METER UPGRADE
 OC-88 PUMPING PLANT SURGE TANKS UPGRADES
 OC-88 PUMPING PLANT UPGRADES
 OLINDA PCS AND SANTIAGO TOWER EMERGENCY GENERATORS
 OLINDA PCS VALVE REPLACEMENT
 OLINDA PRESSURE CONTROL STRUCTURE
 OLINDA PRESSURE CONTROL STRUCTURE AND SANTIAGO TOWER EMERGENCY GENERATORS
 ON-CALL RESOURCES MANAGEMENT APPLICATION
 OPERATIONS CONTROL CENTER AT EAGLE ROCK
 OPERATIONS CONTROL CENTER UPS REPLACEMENT
 OPERATIONS SCOPING STUDY
 ORANGE CO FDR, BLOW-OFF STRUCTURE AND ACCESS ROAD REPAIR
 ORANGE COUNTY - 88 PUMP PLANT AIR COMPRESSOR UPGRADE
 ORANGE COUNTY - 88 SECURITY FENCING AT PUMP PLANT
 ORANGE COUNTY AREA DISTRIBUTION SYSTEM VALVE REPLACEMENT
 ORANGE COUNTY C & D ELECTRICAL IMPROVEMENTS - STUDY

TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS

Description

Distribution Facilities

ORANGE COUNTY C&D INSTRUMENTATION PANEL IMPROVEMENTS
 ORANGE COUNTY C&D TEAM SUPPORT FACILITY
 ORANGE COUNTY CONVEYANCE AND DISTRIBUTION SERVICE CENTER
 ORANGE COUNTY FEEDER CATHODIC PROTECTION
 ORANGE COUNTY FEEDER CATHODIC PROTECTION SYSTEM REHABILITATION
 ORANGE COUNTY FEEDER EXTENSION LINING REPAIR
 ORANGE COUNTY FEEDER INSPECTION
 ORANGE COUNTY FEEDER INTERNAL INSPECTION STUDY
 ORANGE COUNTY FEEDER LINING REPAIRS
 ORANGE COUNTY FEEDER PRESSURE CONTROL STRUCTURES
 ORANGE COUNTY FEEDER RELINING
 ORANGE COUNTY FEEDER RELOCATION IN FULLERTON
 ORANGE COUNTY FEEDER SCHEDULE 37SC CATHODIC PROTECTION
 ORANGE COUNTY FEEDER STA 1920+78 BLOWOFF STRUCTURE & RIP-RAP REPAIRS
 ORANGE COUNTY REGION ENVIRONMENTAL MITIGATION MONITORING
 ORANGE COUNTY RESERVOIR - INSTALL HYPOCHLORINATION STATIONS
 ORANGE COUNTY RESERVOIR - PIEZOMETERS & SEEPAGE MONITORING AUTOMATION
 OXIDATION DEMONSTRATION PLANT CONTROL SYSTEM REPLACEMENT
 PALOS ALTOS FEEDER - 108TH ST.
 PALOS VERDES FEEDER - LONG BEACH LATERAL TURNOUT STRUCTURES STA. 1442+15 VALVE REPLACEMENTS
 PALOS VERDES FEEDER PCS - VALVE REPLACEMENT
 PALOS VERDES RESERVOIR - INSTALL HYPOCHLORINATION STATIONS
 PC-1 EFFLUENT OPEN CHANNEL TRASH RACK
 PC-1 EFFLUENT OPEN CHANNEL TRASH RACK PROJECT
 PCCP HYDRAULIC ANALYSES
 PCCP REHABILITATION - PROGRAM MANAGEMENT
 PERIMETER FENCING AT PLACERITA CREEK
 PERMANENT LEAK DETECTION/PIPELINE MONITORING SYSTEM
 PERRIS PCS - UNINTERRUPTIBLE POWER SOURCE SYSTEMS INSTALLATION
 PERRIS CONTROL FACILITY BYPASS & PCS UPGRADE
 PERRIS PCS ROOF REHAB
 PERRIS PRESSURE CONTROL STRUCTURE ROOF REPLACEMENT
 PERRIS PUMPBACK COVER
 PERRIS VALLEY PIPELINE - DESIGN-BUILD (EMWD)
 PERRIS VALLEY PIPELINE - GENERAL
 PERRIS VALLEY PIPELINE - NORTH REACH
 PERRIS VALLEY PIPELINE - RESERVED FOR STAGE II DESIGN / BUILD
 PERRIS VALLEY PIPELINE - SOUTH REACH
 PERRIS VALLEY PIPELINE - STUDY
 PERRIS VALLEY PIPELINE - TIE-IN (WMWD)
 PERRIS VALLEY PIPELINE - TUNNELS
 PERRIS VALLEY PIPELINE - VALVES
 PERRIS VALLEY PIPELINE DESIGN-BUILD (EMWD)
 PERRIS VALLEY PIPELINE NORTH REACH
 PERRIS VALLEY PIPELINE SOUTH REACH
 PERRIS VALLEY PIPELINE TIE-IN (WMWD)
 PERRIS VALLEY PIPELINE VALVES
 PLACENTIA RAILROAD LOWERING PROJECT
 PLACERITA CREEK PERIMETER FENCING
 PLANT INFLUENT REDUNDANT FLOW METERING AND SPLITTING
 PLC REPLACEMENT PHASE II
 PRESTRESSED CONCRETE CYLINDER PIPE - PHASE 2
 PRESTRESSED CONCRETE CYLINDER PIPE (PCCP) STRUCTURAL PERFORMANCE RISK ANALYSIS
 PRESTRESSED CONCRETE CYLINDER PIPE -PHASE 3
 PROGRAMMATIC ENVIRONMENTAL DOCUMENTATION OF ORANGE COUNTY
 PROGRAMMATIC ENVIRONMENTAL DOCUMENTATION OF SAN BERNARDINO COUNTY
 PROGRAMMABLE LOGIC CONTROLLER (PLC) STANDARDIZATION
 PROGRAMMATIC ENVIRONMENTAL DOCUMENTATION FOR THE LOS ANGELES CO. OPERATING REGION
 PROGRAMMATIC ENVIRONMENTAL DOCUMENTATION FOR THE ORANGE COUNTY OPERATING REGION
 PROGRAMMATIC ENVIRONMENTAL DOCUMENTATION FOR THE RIVERSIDE/SAN DIEGO CO. OPERATING REGION
 PROGRAMMATIC ENVIRONMENTAL DOCUMENTATION FOR THE WESTERN SAN BERNARDINO COUNTY OPERATING REGION
 PUDDINGSTONE SPILLWAY CROSS CONNECTION
 PV RESERVOIR HYPOCHLORITE PUMP AND PIPING REPLACEMENT
 R&R FOR DISTRIBUTION
 REAL PROPERTY ACQUISITION
 RED MOUNTAIN - OCT. 2007 FIRE DAMAGE - COMMUNICATION POWER TOWERS & METER STRUCTURES REPAIR/REPLACE (INCIDENT NO. 2007-1023-0271)
 RED MOUNTAIN HEP FLOOD DAMAGE
 RED MTN COMM. TOWER & METER STRUCTURE
 REHABILITATION OF THE GREG AVE PCS CONTROL BUILDING INTERIOR
 RELOCATION OF ORANGE COUNTY FEEDER
 RELOCATION OF PORTION OF ORANGE COUNTY FEEDER (MWD'S SHARE)
 REMAINING PORTIONS
 REPAIRS TO THE LA-35 DISCHARGE STRUCTURE
 REPLACE 2 FIRE & DOMESTIC WATER SYSTEM
 REPLACE COMMUNICATION LINE TO THE SAN GABRIEL CONTROL TOWER

TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS

Description

Distribution Facilities

REPLACE COPPER GROUNDWIRES ON DESERT HIGH VOLTAGE TRANSMISSION TOWERS
 REPLACE VALVE POSITION INDICATORS
 REPLACEMENT OF COMMUNICATION LINE AT SAN GABRIEL TOWER
 REPLACEMENT/ RELINE AT-RISK PCCP LINES - STAGE 1
 RIALTO FEEDER BROKEN BACK REPAIR
 RIALTO FEEDER VALVE STRUCTURE
 RIALTO FEEDER, REPAIRS AT SELECT LOCATIONS, STUDY
 RIALTO PIPELINE - CONSTRUCTION PHASE 1
 RIALTO PIPELINE - CONSTRUCTION PHASE 2
 RIALTO PIPELINE IMPROVEMENTS
 RIALTO PIPELINE IMPROVEMENTS - CONSTRUCTION
 RIALTO PIPELINE IMPROVEMENTS - CONSTRUCTION PHASE III
 RIALTO PIPELINE IMPROVEMENTS - DESIGN PHASE 2
 RIALTO PIPELINE IMPROVEMENTS - DESIGN PHASE 3
 RIALTO PIPELINE IMPROVEMENTS - FINAL DESIGN
 RIALTO PIPELINE IMPROVEMENTS - VALVE PROCUREMENT
 RIALTO PIPELINE IMPROVEMENTS PHASE 1 FINAL DESIGN
 RIALTO PIPELINE PCCP REHABILITATION
 RIALTO PIPELINE REPAIR @ STA 3196+44
 RIALTO PIPELINE REPAIR AT THOMPSON CREEK
 RIALTO PIPELINE REPAIRS AT STATION 3198+44
 RIALTO PIPELINE VALVE PROCUREMENT
 RIGHT OF WAY INFRASTRUCTURE PROTECTION PROGRAM - LOS ANGELES COUNTY REGION
 RIGHT OF WAY INFRASTRUCTURE PROTECTION PROGRAM - O. C. REGION
 RIGHT OF WAY INFRASTRUCTURE PROTECTION PROGRAM - RIVERSIDE AND SAN DIEGO COUNTY REGION
 RIGHT OF WAY INFRASTRUCTURE PROTECTION PROGRAM - WESTERN SAN BERNARDINO COUNTY REGION
 RIGHT OF WAY SURVEY AND MAPPING
 RIO HONDO PRESSURE CONTROL STRUCTURE VALVE REPLACEMENTS
 ROBERT B. DIEMER FILTRATION PLANT - LAND ACQUISITION
 ROOF REPLACEMENT AT SOTO ST. FACILITY
 SAN DIEGO #3 BLOWOFF TO PUMPWELL CONVERSION
 SAN DIEGO CANAL - EAST & WEST BYPASS SCREENING STRUCTURES STUDY
 SAN DIEGO CANAL - ELECTRICAL VAULT & CONDUCTOR REPLACEMENT
 SAN DIEGO CANAL - FENCING
 SAN DIEGO CANAL - INSTALL ACOUSTIC FLOW METER
 SAN DIEGO CANAL - PIEZOMETER
 SAN DIEGO CANAL - REPLACE SODIUM BISULFATE TANK
 SAN DIEGO CANAL - SEEPAGE STUDY
 SAN DIEGO CANAL BISULFITE TANK REPLACEMENT
 SAN DIEGO CANAL LINER REPAIR
 SAN DIEGO CANAL RADIAL GATE (V0-6) REHABILITATION
 SAN DIEGO CANAL RADIAL GATE (V0-8) REHABILITATION
 SAN DIEGO CANAL RADIAL GATE REHAB
 SAN DIEGO CANAL SEEPAGE STUDY
 SAN DIEGO CANAL WEST BYPASS TRASH RACK
 SAN DIEGO PIPELINE #4 VALVE REPLACEMENT
 SAN DIEGO PIPELINE 1 BLOW-OFF VALVE REPLACEMENT
 SAN DIEGO PIPELINE 3 & 5 REMOTE CONTROL OF BYPASS
 SAN DIEGO PIPELINE 4 AND ALD VALLEY PIPELINE CARBON FIBER REPAIRS
 SAN DIEGO PIPELINE 5 & LAKE SKINNER OUTLET REPAIR
 SAN DIEGO PIPELINE 6 - PRESSURE CONTROL STRUCTURE/HYDROELECTRIC PLANT - FEASIBILITY STUDY
 SAN DIEGO PIPELINE 6 NORTH REACH, ENVIRONMENTAL MONITORING DURING CONSTRUCTION
 SAN DIEGO PIPELINE NO. 1 JOINT REPAIR
 SAN DIEGO PIPELINE NO. 3 BYPASS
 SAN DIEGO PIPELINE NO. 3 PIPING MODIFICATIONS
 SAN DIEGO PIPELINE NO. 6 - RIVERSIDE BRANCH - ETIWANDA FACILITY/DROP INLET STRUCTURE
 SAN DIEGO PIPELINE NO. 6 - RIVERSIDE BRANCH - PLEASANT PEAK, COMMUNICATIONS
 SAN DIEGO PIPELINE NO. 6 - RIVERSIDE TUNNEL CONSTRUCTION - AS BUILT
 SAN DIEGO PIPELINE NO. 6 - RIVERSIDE TUNNEL COST OF RIGHT OF WAY (OPTIONAL PORTAL SITE)
 SAN DIEGO PIPELINE NO. 6 - RIVERSIDE TUNNEL ENVIRONMENTAL CONSTRUCTION
 SAN DIEGO PIPELINE NO. 6 - RIVERSIDE TUNNEL ENVIRONMENTAL PRELIMINARY DESIGN
 SAN DIEGO PIPELINE NO. 6 - RIVERSIDE TUNNEL PRELIMINARY DESIGN
 SAN DIEGO PIPELINE NO. 6 - RIVERSIDE TUNNEL PROGRAM MANAGEMENT
 SAN DIEGO PIPELINE NO. 6 - RIVERSIDE TUNNEL RIGHT OF WAY PRELIMINARY DESIGN
 SAN DIEGO PIPELINE NO. 6 - CONTRACT NO.1 SAN DIEGO CANAL TO MOUNT OLYMPUS
 SAN DIEGO PIPELINE NO. 6 - CONTRACT NO.2 MOUNT OLYMPUS TUNNEL & PORTALS
 SAN DIEGO PIPELINE NO. 6 - NORTH REACH CONSTRUCTION - AS BUILT
 SAN DIEGO PIPELINE NO. 6 - NORTH REACH ENVIRONMENTAL - CONSTRUCTION
 SAN DIEGO PIPELINE NO. 6 - NORTH REACH ENVIRONMENTAL PRELIMINARY DESIGN
 SAN DIEGO PIPELINE NO. 6 - NORTH REACH FINAL DESIGN & ADV/NTP
 SAN DIEGO PIPELINE NO. 6 - NORTH REACH POST DESIGN
 SAN DIEGO PIPELINE NO. 6 - NORTH REACH PRELIMINARY DESIGN
 SAN DIEGO PIPELINE NO. 6 - NORTH REACH PROGRAM MANAGEMENT - CONSTRUCTION
 SAN DIEGO PIPELINE NO. 6 - NORTH REACH PROGRAM MANAGEMENT - DESIGN

TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS

Description

Distribution Facilities

SAN DIEGO PIPELINE NO. 6 - NORTH REACH RIGHT OF WAY FINAL DESIGN
 SAN DIEGO PIPELINE NO. 6 - NORTH REACH RIGHT OF WAY PRELIMINARY DESIGN
 SAN DIEGO PIPELINE NO. 6 - NORTHERN PIPELINE COST OF RIGHT OF WAY
 SAN DIEGO PIPELINE NO. 6 - NORTHERN REACH ENVIRONMENTAL FINAL DESIGN
 SAN DIEGO PIPELINE NO. 6 - OPERATIONS SCOPING STUDY
 SAN DIEGO PIPELINE NO. 6 - PIPELINE/TUNNEL STUDY - DESIGN
 SAN DIEGO PIPELINE NO. 6 - PIPELINE/TUNNEL STUDY - ENVIRONMENTAL
 SAN DIEGO PIPELINE NO. 6 - PIPELINE/TUNNEL STUDY - PROJECT MANAGEMENT
 SAN DIEGO PIPELINE NO. 6 - PIPELINE/TUNNEL STUDY - RIGHT OF WAY
 SAN DIEGO PIPELINE NO. 6 - PROJECT MANAGEMENT
 SAN DIEGO PIPELINE NO. 6 - RIGHT OF WAY
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH - PROGRAM MANAGEMENT
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH / TUNNEL STUDY
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH CONSTRUCTION / AS BUILT
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH COST OF RIGHT OF WAY
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH ENVIRONMENTAL - CONSTRUCTION
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH ENVIRONMENTAL FINAL DESIGN
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH ENVIRONMENTAL PRELIMINARY DESIGN
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH FINAL DESIGN/ADV
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH PRELIMINARY DESIGN
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH RIGHT OF WAY FINAL DESIGN
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH RIGHT OF WAY PRELIMINARY DESIGN
 SAN DIEGO PIPELINE NO. 6 - SOUTH REACH TUNNEL ALIGNMENT ANALYSIS
 SAN DIEGO PIPELINE NO. 6 AREA STUDY
 SAN DIEGO PIPELINE NO. 6 ENVIRONMENTAL MITIGATION
 SAN DIEGO PIPELINE NO.4 & AULD VALLEY PIPELINE CARBON FIBER REPAIR STUDY
 SAN DIEGO PIPELINE NOS. 1AND 3 - VALVE REPLACEMENT
 SAN DIMAS AND RED MOUNTAIN POWER PLANTS STANDBY DIESEL ENGINE GENERATOR REPLACEMENTS
 SAN DIMAS CONTROL STRUCTURE 500 GALLONS DIESEL TANK REPLACEMENT
 SAN DIMAS HEP BATTERY BANK AND GENERATOR BREAKER
 SAN DIMAS PCS - UNINTERRUPTIBLE POWER SOURCE SYSTEMS INSTALLATION
 SAN FRANCISQUITO PIPELINE BLOW OFF STRUCTURE, STA 287+70, ACCESS ROAD CONSTRUCTION
 SAN GABRIEL TOWER AND SPILLWAY IMPROVEMENTS
 SAN GABRIEL TOWER SEISMIC UPGRADE
 SAN GABRIEL TOWER SLIDE GATE REHABILITATION
 SAN JACINTO #1 AND #2 CASA LOMA FAULT CROSSING STRUCTURE UPGRADE
 SAN JACINTO DIVERSION STRUCTURE SLIDE GATE V-03 REPLACEMENT
 SAN JOAQUIN RELIEF STRUCTURE FOR EASTERN ORANGE COUNTY FEEDER #2
 SAN JOAQUIN RELIEF STRUCTURE FOR EASTR OC FDR #2
 SAN JOAQUIN RESERVOIR, INSTALL BULKHEAD
 SANTA ANA RIVER BRIDGE EXPANSION JOINT REPLACEMENT
 SANTA ANA RIVER BRIDGE SEISMIC RETROFIT
 SANTA ANA RIVER BRIDGE SEISMIC UPGRADE
 SANTA MONICA FEEDER RELOCATION
 SANTA MONICA FEEDER STATION 495+10 REHABILITATION
 SANTIAGO CONTROL TOWER CATHODIC PROTECTION
 SANTIAGO LATERAL REPLACE MOTOR - OPERATED VALVE
 SANTIAGO LATERAL SECTIONALIZATION VALVE REPLACEMENT
 SANTIAGO LATERAL STA 216+40 BUTTERFLY VALVE REPLACEMENT
 SANTIAGO PRESSURE CONTROL STRUCTURE
 SANTIAGO TOWER ACCESS ROAD IMPROVEMENT
 SCADA COMMUNICATIONS MPLS UPGRADE - AT&T REGION (MINOR CAP)
 SCADA COMMUNICATIONS MPLS UPGRADE - VERIZON REGION (MINOR CAP)
 SCADA SYSTEM HARDWARE UPGRADE
 SCADA SYSTEM NT SOFTWARE UPGRADE
 SCADA SYSTEM SUPPORT PROGRAMS
 SD AND CASA LOMA CANALS LINING
 SD CANAL EAST & WEST BYPASS SCREENING STRUCTURES STUDY
 SD CANAL REPLACE SODIUM BISULFITE TANK
 SD PIPELINE 3 CULVERT ROAD REHAB
 SD PIPELINE 3,4, AND 5 PROTECTIVE COVER
 SD PIPELINE 4 EXPLORATORY EXCAVATION
 SD PIPELINE 5 EXPLORATOTY EXCAVATION
 SD PIPELINES 3 AND 5 REMOTE CONTROL BYPASS STRUCTURE GATES AND ISOLATION VALVES
 SECOND LOWER & SEPULVEDA FEEDERS SCI DRAIN STATIONS
 SECOND LOWER CROSS FEEDER - VALVE PROCUREMENT
 SECOND LOWER CROSS FEEDER CONSTRUCTION
 SECOND LOWER CROSS FEEDER FINAL DESIGN
 SECOND LOWER FEEDER - INSTALL LINER
 SECOND LOWER FEEDER CATHODIC PROTECTION SYSTEM
 SECOND LOWER FEEDER CURRENT MITIGATION REFURBISHMENT
 SECOND LOWER FEEDER PCCP REHABILITATION
 SECOND LOWER FEEDER PCCP REPAIRS
 SECOND LOWER FEEDER RELIABILITY AT 3 LOCATIONS - SEISMIC STUDY
 SEISMIC UPGRADE OF 11 FACILITIES ON THE ALLEN MCCOLLOCH PIPELINE

TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS

Description

Distribution Facilities

SEISMIC UPGRADES AT 10 SERVICE CONNECTION STRUCTURES ALONG AMP
 SELECTED PRESSURE REPLACE VALVE POSITION INDICATORS
 SEPULVEDA CANYON CONTROL FACILITY BYPASS PROJECT
 SEPULVEDA CANYON CONTROL FACILITY WATER STORAGE TANKS SEISMIC UPGRADE
 SEPULVEDA CANYON POWER PLANT TAIL RACE COATINGS
 SEPULVEDA CANYON TANKS EXTERIOR AND INTERIOR RECOATING
 SEPULVEDA FEEDER - CARBON FIBER LINER REPAIRS
 SEPULVEDA FEEDER CATHODIC PROTECTION SYSTEM
 SEPULVEDA FEEDER CORROSION/INTERFERENCE MITIGATION, STATION 950+00 TO 1170+00
 SEPULVEDA FEEDER HEP AUTO PILOT
 SEPULVEDA FEEDER PCCP DEL AMO BLVD URGENT RELINING
 SEPULVEDA FEEDER REPAIRS AT 3 SITES
 SEPULVEDA FEEDER SOUTH CATHODIC PROTECTION SYSTEM
 SEPULVEDA FEEDER STATION 2002+02 TO 2273+28 STRAY CURRENT INTERFERENCE MITIGATION
 SEPULVEDA FEEDER STRAY CURRENT MITIGATION REFURBISHMENT
 SEPULVEDA FEEDER/EAST VALLEY FEEDER INTERCONNECTION ELECTRICAL UPGRADES
 SEPULVEDA PCS - PERIMETER ASPHALT REPAIRS
 SEPULVEDA PIPELINE PCCP REHABILITATION
 SEPULVEDA-WEST BASIN INTERCONNECTION VALVE REPLACEMENTS
 SERVICE CONNECTION LV-01 UPGRADES
 SERVICE CONNECTION OC-26 - RELOCATION OF METER CABINET, INSTRUMENT HOUSING & AIR VENT STACK
 SERVICE CONNECTION WB13 - WEST BASIN FEEDER
 SERVICE CONNECTIONS CB-12 & CB-16 TURNOUT VALVE REPLACEMENT & ELECTRICAL UPGRADE
 SERVICE CONNECTIONS WB-2A AND WB-2B EQUIPMENT RELOCATION
 SIMULATION AND MODELING APPLICATION FOR REAL TIME OPERATIONS SMART OPS
 SITE 3 SECOND LOWER FEEDER URGENT REPAIRS - FINAL DESIGN
 SITES 1 & 2 SECOND LOWER FEEDER URGENT REPAIRS - FINAL DESIGN & PIPE FABRICATION
 SKINNER ACCUSONIC FLOWMETER REPLACEMENT
 SKINNER BRANCH - AIR INJECTION MODIFICATIONS TO RED MOUNTAIN POWER PLANT
 SKINNER BRANCH - CASA LOMA CANAL
 SKINNER BRANCH - CASA LOMA SIPHON BARREL ONE
 SKINNER BRANCH - CATWALK FOR TRAVELING MAINTENANCE BRIDGE FOR
 SKINNER BRANCH - FABRICATE & REPLACE THE STEMS, NUTS & KEYS
 SKINNER BRANCH - REPAIR MODULE 1 AND 2 FLOCCULATORS BRIDGES
 SKINNER DAM REMEDIATION
 SKINNER DISTRIBUTION SYSTEM - CONTRACT # 1396
 SKINNER ELECTRICAL BUILDING HVAC UPGRADE
 SKINNER FACILITY AREA PAVING
 SKINNER FILTRATION PLANT - ELEVATED SLAB IN SERVICE BLDG 1
 SKINNER HELIPAD REHAB
 SKINNER REPLACEMENT FOR WETCELL BATTERY AND INVERTER
 SKINNER SCADA SERVERS RELOCATION
 SMART-OPS (FORMERLY RTOS)
 SOTO STREET FACILITY - BUILDING SEISMIC UPGRADE
 SOTO STREET FACILITY - REPLACE HEATING
 SOTO STREET FACILITY - ROOF REPLACEMENT
 SOUTH COUNTY PIPELINE PROTECTION AT SAN JUAN CREEK CROSSING
 SOUTH REACH / TUNNEL STUDY
 SOUTH REACH CONSTRUCTION/ASBUILT - FUTURE UNAPPROPRIATED
 SOUTH REACH DESIGN - FUTURE/UNAPPROPRIATED
 SOUTH REACH ENVIRONMENTAL - FUTURE/UNAPPROPRIATED
 SOUTH REACH FEASIBILITY STUDY
 SOUTH REACH PROJECT MANAGEMENT - FUTURE/UNAPPROPRIATED
 SOUTH REACH RIGHT OF WAY - FUTURE/UNAPPROPRIATED
 SPECIAL SERVICE BRANCH - REPLACE PLATE BENDING
 ST. JOHN'S CANYON CHANNEL EROSION MITIGATION
 SYSTEM RELIABILITY PROGRAM
 SYSTEM-WIDE ASPHALT REPLACEMENT
 TEMESCAL POWER PLANT REPLACE EMERGENCY GENERATOR
 TREATED WATER CROSS CONNECTION PREVENTION - FINAL DESIGN & CONSTRUCTION
 TREATED WATER CROSS CONNECTION PREVENTION - UNFUNDED WORK
 TWO-WAY RADIO ENHANCEMENT - EMERGENCY SERVICES, FIRE CONTROL, EVACUATION & BLDG. MAINT.
 TWO-WAY RADIO ENHANCEMENT FOR EMERGENCY SERVICES, FIRE CONTROL, EVACUATION AND BLDG. MAINTENANCE
 UNDER GROUND STORAGE TANK DISPENSER SPILL CONTAINMENT & REMEDIATION
 UNION STATION TWO-WAY RADIO ENHANCEMENT FOR EMERGENCY SERVICES, FIRE CONTROL, EVACUATION AND BUILDING MAINTENANCE
 UPGRADE CATHODIC PROTECTION RECTIFIERS
 UPGRADE HOLLYWOOD TUNNEL PORTAL SLEEVE VALVE EQUIPMENT
 UPGRADE SUNSET GARAGE
 UPPER FEEDER - SANTA ANA RIVER BRIDGE REPAIRS
 UPPER FEEDER - STRUCTURAL PROTECTION
 UPPER FEEDER AIR ENTRAINMENT
 UPPER FEEDER CATHODIC PROTECTION SYSTEM
 UPPER FEEDER GATE REHABILITATION
 UPPER FEEDER JUNCTION STRUCTURE SEISMIC UPGRADE
 UPPER FEEDER SANTA ANA RIVER DISCHARGE PAD

TABLE 3
CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS

Description

Distribution Facilities

UPPER FEEDER SERVICE CONNECTIONS UPGRADES
 UPPER NEWPORT BAY BLOW-OFF STRUCTURE REHABILITATION
 UPS SYSTEMS INSTALLATION AT FOOTHILL PCS
 UPS SYSTEMS INSTALLATION AT PERRIS CONTROL STRUCTURE
 UTILITY BUSINESS ARCHITECTURE (OBJECT MAPPING/MODELING)
 VACUUM AIR RELEASE VALVE RELOCATION PILOT PROGRAM
 VALLEY & LOS ANGELES DISTRIBUTION VALVE POSITION DISPLAY UPGRADE
 VALVE PROCUREMENT
 VIDEO CONFERENCE SYSTEM UPGRADE
 VIDEOCONFERENCING UPGRADE
 WADSWORTH PUMPING PLANT - MODIFICATION/REPAIRS OF FIFTY-NINE 6.9KV BREAKERS/CABINETS
 WADSWORTH PUMPING PLANT CONDUIT REPAIR AND PROTECTION
 WADSWORTH PUMPING PLANT CONTROL & PROTECTION UPGRADES
 WADSWORTH PUMPING PLANT FOREBAY GANTRY CRANE UPGRADE
 WADSWORTH PUMPING PLANT RECOATING 144" YARD PIPING
 WADSWORTH PUMPING PLANT SLEEVE VALVE REFURBISHMENT
 WADSWORTH PUMPING PLANT STOP LOGS ADDITION - STUDY
 WADSWORTH PUMPING PLANT YARD PIPING LINING REPLACEMENT
 WADSWORTH/DVL CONTROL & PROTECTION SYSTEM UPGRADE - UPS REPLACEMENT
 WATER DELIVERY SYSTEM AUTOMATION
 WATER PLANNING APPLICATION
 WATER QUALITY - REMOTE MONITORING
 WATER QUALITY LABORATORY BUILDING EXPANSION
 WATER QUALITY MONITORING AND EVENT DETECTION SYSTEM
 WEST COAST FEEDER - CATHODIC PROTECTION SYSTEMS
 WEST OC FEEDER VALVE REPLACEMENT
 WEST ORANGE COUNTY FEEDER OC-09 REHABILITATION
 WEST ORANGE COUNTY FEEDER VALVE REPLACEMENT
 WEST VALLEY AREA STUDY
 WEST VALLEY FEEDER # 1 STAGE 2 VALVE STRUCTURE MODIFICATIONS - CONSTRUCTION
 WEST VALLEY FEEDER NO. 1 - DE SOTO VALVE STRUCTURE IMPROVEMENTS
 WEST VALLEY FEEDER NO. 1 ACCESS ROADS AND STRUCTURE IMPROVEMENTS (STAGE 2)
 WEST VALLEY FEEDER NO. 1 ACCESS ROADS AND STRUCTURE IMPROVEMENTS (STAGE 3)
 WEST VALLEY FEEDER NO. 1 ACCESS ROADS AND STRUCTURES IMPROVEMENTS
 WEST VALLEY FEEDER NO. 1 VALVE STRUCTURE MODIFICATIONS
 WESTERN REGION PLUMBING RETROFIT
 WESTERN SAN BERNARDINO COUNTY REGION ENVIRONMENTAL MITIGATION MONITORING
 WEYM. PLT/LA VERNE FAC-BACKFLO PREV ASSY
 WEYMOUTH - BUILDING NO. 4 - HAND RAIL AND STAIRS ADDITION
 WEYMOUTH - FLAG POLE AREA LANDSCAPE UPGRADE
 WEYMOUTH ASPHALT REHABILITATION
 WEYMOUTH COMPRESSED AIR SYSTEM
 WEYMOUTH DISTRIBUTION SYSTEM - REPLACEMENT OF AREA CONTROL SYSTEMS - CONTRACT #1396
 WEYMOUTH FLOCCULATOR REHABILITATION
 WEYMOUTH WATER TREATMENT PLANT DOMESTIC AND FIRE WATER SYSTEM IMPROVEMENT
 WFP - ASPHALT REHABILITATION
 WFP - COMPRESSED AIR SYSTEM IMPROVEMENT
 WFP - PURCHASE OF REAL PROPERTY
 WFP - REPAIR TO BLDG # 1
 YORBA LINDA FEEDER - STA 924+11 PORTAL ACCESS
 YORBA LINDA FEEDER BYPASS
 YORBA LINDA PORTAL STRUCTURE ACCESS/TELEGRAPH CREEK BRIDGE

Sub-total Distribution facilities costs

\$76,379,326

TABLE 4

FISCAL YEAR 2022/23
ESTIMATED READINESS-TO-SERVE CHARGE REVENUE

Member Agency	Rolling Ten-Year Average Firm Deliveries (Acre-Feet) FY2010/11 - FY2019/20	RTS Share	6 months @ \$140 million per year (7/22-12/22)	Rolling Ten-Year Average Firm Deliveries (Acre-Feet) FY2011/12 - FY2020/21	RTS Share	6 months @ \$154 million per year (1/23-6/23)	Total RTS Charge FY 2022/23
Anaheim	17,275.2	1.21 %	\$848,899	19,376.9	1.37 %	\$ 1,051,617	\$ 1,900,516
Beverly Hills	10,355.2	0.73 %	508,852	10,308.7	0.73 %	559,471	1,068,322
Burbank	13,339.1	0.94 %	655,480	13,354.6	0.94 %	724,777	1,380,257
Calleguas MWD	96,173.4	6.75 %	4,725,935	96,573.4	6.81 %	5,241,203	9,967,138
Central Basin MWD	37,402.1	2.63 %	1,837,929	34,311.0	2.42 %	1,862,116	3,700,045
Compton	522.9	0.04 %	25,695	340.2	0.02 %	18,463	44,158
Eastern MWD	96,004.3	6.74 %	4,717,625	97,570.2	6.88 %	5,295,301	10,012,926
Foothill MWD	8,204.3	0.58 %	403,157	8,306.1	0.59 %	450,786	853,943
Fullerton	7,573.6	0.53 %	372,165	7,280.1	0.51 %	395,103	767,268
Glendale	16,339.5	1.15 %	802,919	16,256.7	1.15 %	882,279	1,685,197
Inland Empire Utilities Agency	56,041.5	3.93 %	2,753,864	55,761.7	3.93 %	3,026,283	5,780,147
Las Virgenes MWD	20,472.7	1.44 %	1,006,023	20,715.7	1.46 %	1,124,276	2,130,299
Long Beach	29,958.6	2.10 %	1,472,157	29,251.8	2.06 %	1,587,545	3,059,703
Los Angeles	258,508.9	18.15 %	12,703,057	273,537.0	19.28 %	14,845,319	27,548,376
Municipal Water District of Orange County	199,974.3	14.04 %	9,826,683	195,128.0	13.75 %	10,589,929	20,416,612
Pasadena	18,721.0	1.31 %	919,945	18,954.2	1.34 %	1,028,677	1,948,622
San Diego County Water Authority	232,196.6	16.30 %	11,410,078	214,362.4	15.11 %	11,633,813	23,043,891
San Fernando	35.6	— %	1,749	29.7	— %	1,612	3,361
San Marino	942.6	0.07 %	46,319	974.0	0.07 %	52,861	99,180
Santa Ana	10,060.6	0.71 %	494,375	9,606.6	0.68 %	521,367	1,015,742
Santa Monica	4,865.2	0.34 %	239,075	4,607.4	0.32 %	250,051	489,126
Three Valleys MWD	63,723.8	4.47 %	3,131,370	63,736.2	4.49 %	3,459,072	6,590,442
Torrance	15,852.7	1.11 %	778,997	15,549.0	1.10 %	843,871	1,622,868
Upper San Gabriel Valley MWD	27,250.3	1.91 %	1,339,072	30,096.0	2.12 %	1,633,361	2,972,434
West Basin MWD	114,374.8	8.03 %	5,620,347	113,660.3	8.01 %	6,168,538	11,788,885
Western MWD	68,340.5	4.80 %	3,358,234	69,139.3	4.87 %	3,752,308	7,110,541
MWD Total	1,424,509.3	100.00 %	\$70,000,000	1,418,787.2	100.00 %	\$77,000,000	\$147,000,000
Totals may not foot due to rounding							

TABLE 5
FISCAL YEAR 2022/23
ESTIMATED STANDBY CHARGE REVENUE

Member Agencies	Total Parcel Charge	Number of Parcels or Acres	Gross Revenues (Dollars)¹
Anaheim	\$8.55	69,024	\$590,155
Beverly Hills	—	—	—
Burbank	14.20	29,111	413,378
Calleguas MWD	9.58	260,024	2,491,030
Central Basin MWD	10.44	340,264	3,552,356
Compton	2.49	18,144	45,178
Eastern MWD	6.94	406,560	2,821,528
Foothill MWD	10.28	30,361	312,113
Fullerton	10.71	35,251	377,543
Glendale	12.23	45,057	551,050
Inland Empire Utilities Agency	7.59	262,180	1,989,945
Las Virgenes MWD	8.03	55,414	444,973
Long Beach	12.16	92,471	1,124,441
Los Angeles	—	—	—
Municipal Water District of Orange County ²	10.09	662,675	7,534,624
Pasadena	11.73	39,489	463,203
San Diego CWA	11.51	1,112,302	12,802,601
San Fernando	—	5,102	—
San Marino	8.24	4,972	40,972
Santa Ana	7.88	65,040	512,519
Santa Monica	—	—	—
Three Valleys MWD	12.21	151,490	1,849,691
Torrance	12.23	40,578	496,264
Upper San Gabriel Valley MWD	9.27	214,737	1,990,616
West Basin MWD	—	—	—
Western MWD of Riverside Co.	9.23	389,885	3,598,640
MWD Total		4,330,132	\$44,002,818

(1) Estimates per FY2019/20 parcel information

(2) Adjusted for inclusion of Coastal MWD

Note: Totals may not foot due to rounding.

**TABLE 6
PARCELS SUBJECT TO ANNEXATION STANDBY CHARGES
AS OF JULY 1, 2021**

Annexation	Parcel Number	Acres	Proposed Standby Charge (FY 2020/21)
Eastern MWD			
111th Fringe Area	910-230-003	5.82	40.39

REORGANIZATIONS BETWEEN MEMBER AGENCIES

Annexation	Parcel Number	Acres	Original Standby Charge	Proposed Standby Charge (FY 2020/21)
Reorg No. 2012-10			West Basin MWD	Las Virgenes M
From West Basin MWD	4438-037-003	5.27	0	42.32
To Las Virgenes MWD				

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

RESOLUTION 9304

**RESOLUTION OF THE BOARD OF DIRECTORS
OF THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
FIXING AND ADOPTING
A CAPACITY CHARGE
EFFECTIVE JANUARY 1, 2021**

The Board of Directors of The Metropolitan Water District of Southern California (the “Board”) hereby finds that:

1. The Board of The Metropolitan Water District of Southern California (“Metropolitan”), pursuant to Sections 133, 134 and 134.5 of the Metropolitan Water District Act (the “Act”), is authorized to fix such rate or rates for water as will result in revenue which, together with revenue from any water standby or availability of service charge or assessment, will pay the operating expenses of Metropolitan, provide for repairs and maintenance, provide for payment of the purchase price or other charges for property or services or other rights acquired by Metropolitan, and provide for the payment of the interest and principal of its bonded debt; and

2. The amount of revenue to be raised by the Capacity Charge shall be as determined by the Board and allocation of such charges among member agencies shall be in accordance with the method established by the Board; and

3. The Capacity Charge is a charge fixed and adopted by Metropolitan and charged to its member agencies, and is not a fee or charge imposed upon real property or upon persons as an incident of property ownership; and

4. The Capacity Charge is intended to recover the debt service and other appropriately allocated costs to construct, operate and maintain projects needed to meet peak demands on Metropolitan’s distribution system, as shown in the FYs 2022/23 and 2023/24 Cost of Service Report for Proposed Water Rates and Charges (the “2022 Cost of Service Report”), as introduced in February 4, 2022 and finalized following the Board’s approval of the budget, rates, and charges on April 12, 2022; and

5. Pursuant to Resolution 8329, adopted by the Board on July 9, 1991, Resolution 9199, adopted by the Board on March 8, 2016, and Resolution 9201, adopted by the Board on March 8, 2016, and as each is thereafter amended and supplemented, proceeds of the Capacity Charge and other revenues from the sale or availability of water are pledged to the payment of Metropolitan’s outstanding revenue bonds, subordinate revenue bonds and short-term certificates, and to revenue bonds, subordinate revenue bonds and short-term certificates to be issued pursuant to Resolution 8329, Resolution 9199, and Resolution 9201; and

6. The Capacity Charge is charged (on a dollar per cubic-foot-per-second basis) to member public agencies (“member agencies”), based upon the amount of capacity used by such member agency that is designed to recover the cost of providing peaking capacity within the distribution system; and

7. On April 12, 2022, the Board considered the options for rates and charges presented by the General Manager and approved the biennial budget for fiscal years 2022/23 and 2023/24 and adopted water rates for calendar years 2023 and 2024 and charges for calendar year 2021, and received information and documents available at <https://www.mwdh2o.com/who-we-are/budget-finance/>; and

8. In approving the biennial budget and adopting the rates and charges on April 12, 2022, the Board determined the amount of revenue to be raised by the Capacity Charge in calendar year 2023 to be based on a Capacity Charge in such year of \$10,600 per cubic-foot-per-second, based on information and documents available at <https://www.mwdh2o.com/who-we-are/budget-finance/>; and

9. Each of the meetings of the Board were conducted in accordance with the Brown Act (commencing at Section 54950 of the Government Code), for which due notice was provided and at which quorums were present and acting throughout;

NOW, THEREFORE, the Board does hereby resolve, determine and order as follows:

Section 1. That the Board hereby fixes and adopts a Capacity Charge, as described below, to be effective January 1, 2023.

Section 2. That said Capacity Charge shall be in an amount sufficient to provide for payment of the capital financing costs not paid from *ad valorem* property taxes, as well as other appropriately allocated costs, incurred to provide peaking capacity within Metropolitan's distribution system.

Section 3. That such Capacity Charge effective January 1, 2023 shall be a charge as specified in Section 5 (set in dollars per cubic-foot-per-second of the peak day capacity) for capacity provided to a member agency, based on the maximum summer day demand placed on the system between May 1 and September 30 for the three-calendar year period ending December 31, 2003, and thereafter for a rolling three-calendar year period.

Section 4. The allocation of the Capacity Charge among member agencies is based on data recorded by Metropolitan and shall be conclusive in the absence of manifest error. Corrections may be made by staff for any incorrect recording or calculation, upon verification by the member agency.

Section 5. That the Capacity Charge shall be a fixed charge as shown in the following table and collected from each member agency monthly, quarterly or semiannually as agreed to by Metropolitan and the member agency.

Table 1. Calendar Year 2023 Capacity Charge

Calendar Year 2023 Capacity Charge					
	Peak Day Demand (cfs) (May 1 through September 30)				Rate (\$/cfs): \$10,600
	Calendar Year				
Member Agency	2019	2020	2021	3-Year Peak	Calendar Year 2023 Capacity Charge
Anaheim	37.1	84.1	77.2	84.1	\$891,460
Beverly Hills	23.5	23.2	24.8	24.8	\$262,880
Burbank	17.3	16.6	15.5	17.3	\$183,380
Calleguas	168.9	178.2	189.6	189.6	\$2,009,760
Central Basin	48.6	51.9	54.1	54.1	\$573,460
Compton	2.9	0.0	0.0	2.9	\$30,740
Eastern	196.8	211.5	215.3	215.3	\$2,282,180
Foothill	16.0	19.3	22.8	22.8	\$241,680
Fullerton	13.1	14.1	20.0	20.0	\$212,000
Glendale	32.2	37.9	32.5	37.9	\$401,740
Inland Empire	118.7	98.4	101.4	118.7	\$1,258,220
Las Virgenes	39.4	41.7	42.9	42.9	\$454,740
Long Beach	51.8	67.3	45.7	67.3	\$713,380
Los Angeles	283.2	339.0	584.1	584.1	\$6,191,460
MWDOC	262.8	272.2	332.4	315.7	\$3,523,440
Pasadena	39.9	46.4	48.2	48.2	\$510,920
San Diego CWA	672.1	723.4	672.5	723.4	\$7,668,040
San Fernando	0.0	0.0	0.0	0.0	\$0
San Marino	2.3	7.3	5.4	7.3	\$77,380
Santa Ana	19.4	21.7	18.3	21.7	\$230,020
Santa Monica	20.7	17.0	15.1	20.7	\$219,420
Three Valleys	128.1	134.3	138.3	138.3	\$1,465,980
Torrance	27.8	28.9	27.2	28.9	\$306,340
Upper San Gabriel	29.1	21.1	32.4	32.4	\$343,440
West Basin	211.8	196.0	218.2	218.2	\$2,312,920
Western MWD	186.1	175.1	189.4	189.4	\$2,007,640
Total	2,649.6	2,826.6	3,123.3	3,226.0	\$34,372,620

Totals may not foot due to rounding

Section 6. That the Capacity Charge for each member agency, the method of its calculation, cost allocations and other data used in its determination are as specified in the adopted rates and charges to be effective January 1, 2021, which forms the basis of the Capacity Charge, and the corresponding 2020 Cost of Service Report. The adopted rates and charges and cost of service reports are on file and available for review by interested parties at Metropolitan’s headquarters.

Section 7. That the General Manager and the General Counsel are hereby authorized to do all things necessary and desirable to accomplish the purposes of this Resolution, including, without limitation, the commencement or defense of litigation.

Section 8. That if any provision of this Resolution or the application to any member agency, property or person whatsoever is held invalid, that invalidity shall not affect other provisions or

applications of this Resolution which can be given effect without the invalid portion or application, and to that end the provisions of this Resolution are severable.

Section 9. That the General Manager is hereby authorized and directed to take all necessary action to satisfy relevant statutes requiring notice by publication.

Section 10. That the Board Executive Secretary is hereby directed to transmit a certified copy of this Resolution to the presiding officer of the governing body of each member agency.

I HEREBY CERTIFY that the foregoing is a full, true and correct copy of a Resolution adopted by the Board of Directors of The Metropolitan Water District of Southern California, at its meeting held on April 14, 2020.



Secretary of the Board of Directors
of The Metropolitan Water District
of Southern California

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

