

# The Metropolitan Water District of Southern California

# Agenda

The mission of the Metropolitan Water District of Southern California is to provide its service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.

## **FAIRP Committee**

T. Smith, Chair  
L. Dick, Vice Chair  
D. Alvarez  
J. Armstrong  
R. Atwater  
A. Chacon  
D. De Jesus  
B. Dennstedt  
L. Fong-Sakai  
C. Miller  
M. Petersen  
B. Pressman  
T. Quinn  
K. Seckel

## **Finance, Audit, Insurance, and Real Property Committee - Final**

Meeting with Board of Directors \*

**April 11, 2023**

**9:30 a.m.**

Agendas, live streaming, meeting schedules, and other board materials are available here: <https://mwdh2o.legistar.com/Calendar.aspx>. A listen only phone line is available at 1-877-853-5257; enter meeting ID: 873 4767 0235. Members of the public may present their comments to the Board or a Committee on matters within their jurisdiction as listed on the agenda via in-person or teleconference. To participate via teleconference (833) 548-0276 and enter meeting ID: 876 9484 9772 or click <https://us06web.zoom.us/j/87694849772pwd=V3dGZGRYUjJ3allqdUxXTIJRM044Zz09>

## **Tuesday, April 11, 2023 Meeting Schedule**

**09:30 a.m. FAIRP  
11:30 a.m. Break  
12:00 p.m. BOD  
01:30 p.m. EOP**

**MWD Headquarters Building • 700 N. Alameda Street • Los Angeles, CA 90012**

**Teleconference Locations:**

**San Diego County Water Authority Library Conference Rm 4677 Overland Avenue • San Diego, CA 92123  
5707 Ocean View Boulevard • La Canada, CA 91011**

**Los Angeles Cleantech Incubator (LACI), 525 S. Hewitt Street, Los Angeles, CA 90013**

\* The Metropolitan Water District's meeting of this Committee is noticed as a joint committee meeting with the Board of Directors for the purpose of compliance with the Brown Act. Members of the Board who are not assigned to this Committee may participate as members of the Board, whether or not a quorum of the Board is present. In order to preserve the function of the committee as advisory to the Board, members of the Board who are not assigned to this Committee will not vote on matters before this Committee.

**1. Opportunity for members of the public to address the committee on matters within the committee's jurisdiction (As required by Gov. Code Section 54954.3(a))**

## **2. SUBCOMMITTEE REPORTS**

- A. Report from Subcommittee on Audits** [21-2111](#)
- B. Report from Subcommittee on Long-Term Regional Planning Processes and Business Modeling** [21-2112](#)

**\*\* CONSENT CALENDAR ITEMS -- ACTION \*\***

### 3. CONSENT CALENDAR OTHER ITEMS - ACTION

- A. Approval of the Minutes of the Finance, Audit, Insurance, and Real Property Committee Meeting for March 13, 2023 (Copies have been submitted to each Director, Any additions, corrections, or omissions) **[21-2101](#)**

**Attachments:** [04112023 FAIRP 3A \(03132023\) Minutes](#)

### 4. CONSENT CALENDAR ITEMS - ACTION

- 7-8 Approve and authorize the distribution of Appendix A for use in the issuance and remarketing of Metropolitan's Bonds; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA **[21-2062](#)**

**Attachments:** [04112023 FAIRP 7-8 B-L](#)  
[4112023 FAIRP 7-8 Presentation](#)

- 7-9 Adopt resolutions fixing and adopting a Readiness-to-Serve Charge and a Capacity Charge for calendar year 2024; the General Manager has determined the proposed action is exempt or otherwise not subject to CEQA **[21-2063](#)**

**Attachments:** [04112023 FAIRP 7-9 B-L](#)  
[04112023 FAIRP 7-9 Presentation](#)

- 7-10 Review and consider the Lead Agency's adopted Mitigated Negative Declaration and Addendum and take related CEQA actions, and adopt resolution for 112th Fringe Area Annexation to Eastern Municipal Water District and Metropolitan **[21-2064](#)**

**Attachments:** [04112023 FAIRP 7-10 B-L](#)  
[04112023 FAIRP 7-10 Presentation](#)

- 7-11 Approve the award of a four-year contract for external audit services with Macias Gini O'Connell, LLP, for the not-to-exceed amount of \$1,600,090; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA **[21-2065](#)**

**Attachments:** [04112023 FAIRP 7-11 B-L](#)  
[04112023 FAIRP 7-11 Presentation](#)



- 7-12** Approve proposed amendment to Administrative Code section 6450 regarding individual Board of Director requests for audit assignments; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA [21-2066](#)

**Attachments:** [04112023 FAIRP 7-12 BL](#)  
[04112023 FAIRP 7-12 Presentation](#)

- 7-13** Authorize a credit of up to \$200,000 to Western Municipal Water District for treatment surcharge costs incurred due to the unexpected extension of a Metropolitan shutdown; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA [21-2067](#)

**Attachments:** [04112023 FAIRP 7-13 B-L](#)  
[04112023 FAIRP 7-13 Presentation](#)

**\*\* END OF CONSENT CALENDAR ITEMS \*\***

**5. OTHER BOARD ITEMS - ACTION**

NONE

**6. BOARD INFORMATION ITEMS**

- 9-3** Next Steps on the Climate Adaptation Master Plan for Water [21-2068](#)

**Attachments:** [04112023 FAIRP 9-3 Presentation](#)

**7. COMMITTEE ITEMS**

- a.** Encroachment Update [21-2105](#)

**Attachments:** [04112023 FAIRP 7a Presentation](#)

**8. MANAGEMENT REPORTS**

- a.** Chief Financial Officer's Report [21-2102](#)

- b.** General Auditor's Report [21-2103](#)

- c.** Real Property Group Manager's Report [21-2104](#)

**9. FOLLOW-UP ITEMS**

NONE

**10. FUTURE AGENDA ITEMS**

## **11. ADJOURNMENT**

**NOTE:** This committee reviews items and makes a recommendation for final action to the full Board of Directors. Final action will be taken by the Board of Directors. Committee agendas may be obtained on Metropolitan's Web site <https://mwdh2o.legistar.com/Calendar.aspx>. This committee will not take any final action that is binding on the Board, even when a quorum of the Board is present.

Writings relating to open session agenda items distributed to Directors less than 72 hours prior to a regular meeting are available for public inspection at Metropolitan's Headquarters Building and on Metropolitan's Web site <https://mwdh2o.legistar.com/Calendar.aspx>.

Requests for a disability-related modification or accommodation, including auxiliary aids or services, in order to attend or participate in a meeting should be made to the Board Executive Secretary in advance of the meeting to ensure availability of the requested service or accommodation.

# **THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA**

## **MINUTES**

### **FINANCE, AUDIT, INSURANCE, AND REAL PROPERTY COMMITTEE**

**March 13, 2023**

Chair Smith called the hybrid teleconference and in-person meeting to order at 1:16 p.m.

Members present: Directors Alvarez, Armstrong (entered after roll call), Atwater, Chacon, De Jesus (entered after roll call), Dennstedt, Dick (entered after roll call), Fong-Sakai (entered after roll call), Miller (entered after roll call), Seckel (entered after roll call), and Smith.

Members absent: Directors Petersen, Pressman, and Quinn.

Other Board Members present: Directors Goldberg, Jung, Lefevre, McCoy, McMillan, and Ortega.

Committee Staff present: Chapman, Hagekhalil, Kasaine, Quilizapa, Ros, Scully, Suzuki, Upadhyay.

#### **1. OPPORTUNITY FOR MEMBERS OF THE PUBLIC TO ADDRESS THE COMMITTEE ON MATTERS WITHIN THE COMMITTEE'S JURISDICTION**

None

Director Armstrong entered the meeting.

#### **2. OPPORTUNITY FOR DIRECTORS WHO ARE NOT MEMBERS OF THE COMMITTEE TO ADDRESS THE COMMITTEE ON MATTERS WITHIN THE COMMITTEE'S JURISDICTION**

None

Director Fong-Sakai entered the meeting.

Chair Smith announced to the committee that Committee item 7a will be heard before the Consent Calendar items.

7a Subject: Financing Overview for Bond Issuance (SB 450)

Presented by: Samuel Smalls, Manager of Treasury and Debt Management

Ms. Kasaine introduced the item and Mr. Smalls presented the committee with an overview of SB 450 requirements and the two bond transactions expected to close in May.

The following Directors provided comments or asked questions:

1. Smith
2. Fong-Sakai
3. Alvarez
4. Armstrong

Staff responded to Directors' comments and questions.

### **CONSENT CALENDAR ITEMS — ACTION**

#### **3. CONSENT CALENDAR OTHER ITEMS – ACTION**

- A. Subject: Approval of the Minutes of the Finance, Audit, Insurance, and Real Property Committee Meeting for January 24, 2023 (Copies have been submitted to each Director, Any additions, corrections, or omissions)

#### **4. CONSENT CALENDAR ITEMS – ACTION**

- 7-1 Subject: Adopt the Twenty-Fifth Supplemental Resolution to the Master Bond Resolution authorizing the issuance of up to \$330 million of Water Revenue Bonds, 2023 Series; and approve expenditures to fund the costs of issuance of the Bonds; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

- Motion: a. Adopt the Twenty-Fifth Supplemental Resolution to the Master Bond Resolution authorizing the issuance of up to \$330 million of Water Revenue Bonds, 2023 Series, and providing the terms and conditions for the sale and issuance of said Water Revenue Bonds; and  
b. Approve approximately \$1.1 million for the payment of the costs of issuance of the Water Revenue Bonds to be paid from bond proceeds or Metropolitan funds.

Presented by: Samuel Smalls, Manager of Treasury and Debt Management

Ms. Kasaine introduced the item and Mr. Smalls gave a brief overview of the item.

The following Directors provided comments or asked questions:

1. Fong-Sakai
2. Smith

Staff responded to Directors' comments and questions.

- 7-2 Subject: Authorize the General Manager to issue a new fifty-year license agreement, with options to extend for up to fifty additional years, to DesertXpress Enterprises, LLC for the purpose of a high-speed rail line traversing Metropolitan property in the city of Fontana,

California; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Motion: Authorize issuing a license agreement to Brightline West for an initial fifty-year term with options to extend, totaling an additional fifty years.

Presented by: None

Directors Miller, De Jesus and Seckel entered the meeting.

After completion of the presentations, Director De Jesus made a motion, seconded by Director Armstrong, to approve the consent calendar consisting of items 3A, 7-1 and 7-2.

The vote was:

Ayes: Directors Alvarez, Armstrong, Atwater, De Jesus, Dennstedt, Dick, Fong-Sakai, Miller, Seckel, and Smith

Noes: None

Abstentions: None

Absent: Directors Chacon, Petersen, Pressman, and Quinn

The motion for items 3A, 7-1, 7-2 passed by a vote of 10 ayes, 0 noes, 0 abstain, and 4 absent.

## **END OF CONSENT CALENDAR ITEMS**

### **5. OTHER BOARD ITEMS – ACTION**

None

### **6. BOARD INFORMATION ITEMS**

None

### **7. COMMITTEE ITEMS**

b. Subject: Quarterly Investment Activities Report

Presented by: Kyle Jones, Managing Director, PFM Asset Management LLC

Mr. Smalls introduced the item and Mr. Jones presented the committee with an overview of Metropolitan's investment activities portfolio through January 31, 2023. The report included market environment, investment strategy and returns, and earnings projection.

c. Subject: Quarterly Financial Report

Presented by: Shanice Wong, Assistant Controller/Unit Manager-Accounting

Ms. Kasaine introduced the item and Ms. Wong presented the committee with Metropolitan's quarterly financial report for the period ending December 31, 2022. The report included cumulative water transactions in acre-feet, receipts, and expenditures for fiscal year 2022/23.

Ms. Wong also reported on reimbursable costs and Operations & Maintenance costs for the Delta Conveyance Project through December 2022.

The following Directors provided comments or asked questions:

1. Smith

Staff responded to Directors' comments and questions.

- d. Subject: Revenue Report

No Presentation given.

## **8. MANAGEMENT REPORTS**

- a. Subject: Chief Financial Officer's report

Ms. Kasaine presented the committee with staff's responses to Director Smith's questions.

- b. Subject: General Auditor's Report

Mr. Suzuki highlighted the status on this year's audit plan and overviewed general auditor activities.

- c. Subject: Real Property Group Manager's Report

Mr. Chapman presented the committee with an overview of desert housing maintenance and improvements.

The following Directors provided comments or asked questions:

1. Miller

Staff responded to Directors' comments and questions.

## **9. FOLLOW-UP ITEMS**

None

## **10. FUTURE AGENDA ITEMS**

None

## **11. ADJOURNMENT**

The next meeting will be held on April 10, 2023.

Meeting adjourned at 2:19 p.m.

Timothy Smith  
Chair





● **Board of Directors**

***Finance, Audit, Insurance, and Real Property Committee***

4/11/2023 Board Meeting

7-8

**Subject**

Approve and authorize the distribution of Appendix A for use in the issuance and remarketing of Metropolitan's Bonds; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

**Executive Summary**

This board letter requests authorization to finalize and include Appendix A in Metropolitan's bond offering statements for use with future financings. With Board approval, staff will work with a finance team to finalize Appendix A for distribution to potential investors as part of a preliminary offering statement. The first of three potential financings for calendar year 2023 is expected to set its bond rates in mid-May 2023 (pricing date); however, distribution of the preliminary offering statement to investors is expected to occur in early May 2023, when ratings are expected to be confirmed. This window of time between the distribution of the preliminary offering statement and the pricing date enables Metropolitan and its underwriting team to pre-market the bonds for broad investor participation to achieve the best pricing execution that produces the lowest debt service costs.

**Details**

**Background**

Metropolitan's bond disclosures provide information to investors about Metropolitan's water supply, conservation and water shortage measures, regional water resources, water delivery system, capital investment plan, governance and management, revenues and expenses (including historical and projected), and power sources and costs in an appendix to its offering statements titled Appendix A, which is included as **Attachment 1**. Federal securities regulations require that bond disclosures not misstate facts that would be material to a reasonable investor in Metropolitan's bonds or omit material facts that, if undisclosed, would mislead investors.

Metropolitan's procedures to ensure compliance with federal securities regulations include, among others, board review and approval of Appendix A. Metropolitan's procedures provide for the Board's biannual approval of Appendix A, unless there are no financial transactions requiring an update. The Board's approval of the disclosures in Appendix A will support offering statements for financings through the next biannual update. Appendix A may be updated to describe events that occur after the distribution of this letter. However, material updates to Appendix A for financings made before the Board's next biannual review will be provided to the Board for review and comment in advance of its use for a financing.

**Attachment 2** reflects changes to Appendix A that have been made to the disclosure since the Board's prior approval of Appendix A on May 28, 2022.

After Appendix A is approved, staff will work with a finance team, including disclosure counsel, bond counsel, underwriters, remarketing agents, a municipal advisor and counsel for underwriters, and remarketing agents, where applicable, to finalize bond offering statements that include or incorporate Appendix A. Once completed, the General Manager, or other designee of the Ad Hoc Committee authorized in Metropolitan's bond resolutions, will authorize distribution of the bond offering statements. (The Ad Hoc Committee is generally comprised of the Chair of the Board, the Chair of the Finance, Audit, Insurance, and Real Property Committee, and the General Manager.)

The bond offering statements will then be electronically distributed to potential investors to provide material information concerning the issuance of bonds and the financial and operating condition of Metropolitan to assist with investment decisions concerning the bonds. As part of Metropolitan's most recent offering statements, Appendix A will be posted on the Budget & Finance page of Metropolitan's website ([MWD | Financial Reports & Documents \(mwdh2o.com\)](http://MWD.FinancialReports&Documents(mwdh2o.com))), on our investor relations portal ([Bonds, Documents, Resources | Metropolitan | BondLink \(buymetwaterbonds.com\)](http://Bonds,Documents,Resources|Metropolitan|BondLink(buymetwaterbonds.com))) and on the Municipal Securities Rulemaking Board's Electronic Municipal Market Access System ([Municipal Securities Rulemaking Board::EMMA \(msrb.org\)](http://MunicipalSecuritiesRulemakingBoard::EMMA(msrb.org))).

## Policy

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Metropolitan Water District Disclosure Procedures

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

## California Environmental Quality Act (CEQA)

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### CEQA determination for Option #1:

The proposed action is not defined as a project under CEQA (Public Resources Code Section 21065, State CEQA Guidelines Section 15378) because the proposed action will not cause either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment and involves continuing administrative activities, such as general policy and procedure making (Section 15378(b)(2) of the State CEQA Guidelines). In addition, the proposed action is not defined as a project under CEQA because it involves government funding mechanisms or other government fiscal activities which do not involve any commitment to any specific project which may result in a potentially significant physical impact on the environment (Section 15378(b)(4) of the State CEQA Guidelines).

### CEQA determination for Option #2:

None required

## Board Options

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### Option #1

- a. Approve the draft of Appendix A (**Attachment 1**) attached to this board letter.
- b. Authorize the General Manager, or other designee of the Ad Hoc Committee, to finalize, with changes approved by the General Manager and General Counsel, Appendix A.
- c. Authorize distribution of Appendix A, finalized by the General Manager or other designee of the Ad Hoc Committee, in connection with the sale or remarketing of bonds.

**Fiscal Impact:** Approval will enable Metropolitan to undertake bond issuance and remarketings which, in current market conditions, could result in attractive borrowing costs for capital needs and/or significant debt service savings.

**Business Analysis:** It is Metropolitan's practice to take advantage of favorable market opportunities to issue new debt, and to remarket and refund outstanding debt and realize debt service savings.

### Option #2

Do not approve Option #1



**Fiscal Impact:** Metropolitan would not have a current disclosure in order to participate in bond financings and, therefore, would not be able to remarket variable rate debt as it comes due, refund existing debt that would forgo potentially significant reductions in debt service costs, or issue new debt to finance a portion of the capital program.

**Business Analysis:** Metropolitan would forgo the opportunity to take advantage of favorable market conditions to issue new debt or to remarket and refund outstanding debt for debt service savings.

**Staff Recommendation**

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Option #1

	3/27/2023
Katano Kasaine	Date
Assistant General Manager/ Chief Financial Officer	
	3/27/2023
Adel Hagekhalil	Date
General Manager	

**Attachment 1 – Appendix A [REVISED ATTACHMENT]****Attachment 2 – Appendix A (redline marked against prior approved Appendix A of May 28, 2022). [REVISED ATTACHMENT]**

Ref# cfo12693609

*Board Distribution Draft, 04/06/23*

## **APPENDIX A**

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### **The Metropolitan Water District of Southern California**

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## INTRODUCTION

*This Appendix A provides general information regarding The Metropolitan Water District of Southern California (“Metropolitan”), including information regarding Metropolitan’s operations and finances. Certain statements included or incorporated by reference in this Appendix A constitute “forward-looking statements.” Such statements are generally identifiable by the terminology used such as “plan,” “project,” “expect,” “estimate,” “budget” or other similar words. Such statements are based on facts and assumptions set forth in Metropolitan’s current planning documents including, without limitation, its most recent biennial budget. The achievement of results or other expectations contained in such forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Actual results may differ from Metropolitan’s forecasts. Metropolitan is not obligated to issue any updates or revisions to the forward-looking statements in any event.*

*Metropolitan maintains a website that may include information on programs or projects described in this Appendix A; however, none of the information on Metropolitan’s website is incorporated by reference or intended to assist investors in making an investment decision or to provide any additional information with respect to the information included in this Appendix A. The information presented on Metropolitan’s website is not part of the Official Statement and should not be relied upon in making investment decisions.*

### Formation and Purpose

Metropolitan is a metropolitan water district created in 1928 under the authority of the Metropolitan Water District Act (California Statutes 1927, Chapter 429, as reenacted in 1969 as Chapter 209, as amended (herein referred to as the “Act”). The Act authorizes Metropolitan to: levy property taxes within its service area; establish water rates; impose 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 of Directors (the “Board”) is authorized to establish terms and conditions under which additional areas may be annexed to Metropolitan’s service area.

Metropolitan’s primary purpose is to provide a supplemental supply of water for domestic and municipal uses at wholesale rates to its member agencies. If additional water is available, such water may be sold for other beneficial uses. As a water wholesaler, Metropolitan has no retail customers.

The mission of Metropolitan, as promulgated by the Board, is to provide its service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.

Metropolitan’s rates and charges for water transactions and availability are set by its Board and are not subject to regulation or approval by the California Public Utilities Commission or any other state or federal agency. Metropolitan imports water from two principal sources: northern California via the Edmund G. Brown California Aqueduct (the “California Aqueduct”) of the State Water Project owned by the State of California (the “State” or “California”) and the Colorado River via the Colorado River Aqueduct (“CRA”) owned by Metropolitan.

### Member Agencies

Metropolitan is comprised of 26 member agencies, all of which are public entities, including 14 cities, 11 municipal water districts, and one county water authority, which collectively serve the residents and businesses of more than 300 cities and numerous unincorporated communities. Member agencies request water from Metropolitan at various delivery points within Metropolitan’s system and pay for such water at uniform rates established by the Board for each class of water service. Metropolitan’s water is a supplemental supply

for its member agencies, most of whom have local supplies and other sources of water. See “METROPOLITAN REVENUES–Principal Customers” in this Appendix A for a listing of the ten member agencies representing the highest level of water transactions and revenues of Metropolitan during the fiscal year ended June 30, 2022. No member is required to purchase water from Metropolitan, but all member agencies are required to pay readiness-to-serve charges whether or not they purchase water from Metropolitan. See “METROPOLITAN REVENUES–Rate Structure,” “–Member Agency Purchase Orders” and “–Other Charges” in this Appendix A. Local supplies include water produced by local agencies from various sources including but not limited to groundwater, surface water, locally-owned imported supplies, recycled water, and seawater desalination (see “REGIONAL WATER RESOURCES” in this Appendix A). Metropolitan’s member agencies may develop additional sources of water and Metropolitan provides support for several programs to develop these local resources. See also “REGIONAL WATER RESOURCES–Local Water Supplies” in this Appendix A.

The following table lists the 26 member agencies of Metropolitan.

Municipal Water Districts		Cities		County Water Authority
Calleguas	Las Virgenes	Anaheim	Los Angeles	San Diego <sup>(1)</sup>
Central Basin	Orange County	Beverly Hills	Pasadena	
Eastern	Three Valleys	Burbank	San Fernando	
Foothill	West Basin	Compton	San Marino	
Inland Empire Utilities Agency		Fullerton	Santa Ana	
Upper San Gabriel Valley		Glendale	Santa Monica	
Western of Riverside County		Long Beach	Torrance	

<sup>(1)</sup> The San Diego County Water Authority, Metropolitan’s second largest customer based on water transactions for fiscal year 2021-22, is a plaintiff in litigation challenging certain rates adopted by the Board and asserting other claims. See “METROPOLITAN REVENUES–Litigation Challenging Rate Structure” in this Appendix A.

## Service Area

Metropolitan’s service area comprises approximately 5,200 square miles and includes all or 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 4,575 square miles since that time. The expansion was primarily the result of annexation of the service areas of additional member agencies.

Metropolitan estimates that approximately 19 million people lived in Metropolitan’s service area (as of July 2022), 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”). The economy of Metropolitan’s service area is exceptionally diverse. In 2021, the economy of the six counties which contain Metropolitan’s service area had a gross domestic product larger than all but eleven nations of the world. Metropolitan has historically provided between 40 and 60 percent of the water used annually within its service area. For additional economic and demographic information concerning the six county area containing Metropolitan’s service area, see Appendix E–“SELECTED DEMOGRAPHIC AND ECONOMIC INFORMATION FOR METROPOLITAN’S SERVICE AREA.”

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. Since 2000, annual rainfall has ranged from approximately 4 to 21 inches along the coastal area, 6 to 38 inches in foothill areas, and 5 to 22 inches in inland areas. See also “METROPOLITAN’S WATER SUPPLY–General Overview,” “–Current Water Conditions

and Drought Response Actions,” and “–Climate Action Planning and Other Environmental, Social and Governance Initiatives.”

## **GOVERNANCE AND MANAGEMENT**

### **Board of Directors**

Metropolitan is governed by a 38-member Board of Directors, made up of representatives from all of Metropolitan’s 26 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. Changes in relative assessed valuation do not terminate any director’s term. In 2019, California Assembly Bill 1220 (Garcia) amended the Act to provide that “A member public agency shall not have fewer than the number of representatives the member public agency had as of January 1, 2019.” Accordingly, the Board may, from time to time, have more than 38 directors.

The Board includes business, professional, and civic leaders. Directors are appointed by member agencies in accordance with those agencies’ processes and the Act. They 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 was adopted by the Board in 1977. The Administrative Code is periodically amended to reflect new policies or changes to existing policies that occur from time to time.

### **Management**

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. Following is a biographical summary of Metropolitan’s principal executive officers.

*Adel Hagekhalil, General Manager* – Mr. Hagekhalil was appointed as General Manager in June 2021. Before joining Metropolitan, Mr. Hagekhalil was appointed in 2018 by Los Angeles Mayor Eric Garcetti to serve as the executive director and general manager of the City of Los Angeles’ Bureau of Street Services. His responsibilities included oversight of the management, maintenance and improvement of the city’s network of streets, sidewalks, trees and bikeways. Mr. Hagekhalil also focused on climate change adaptation and multi-benefit integrated active transportation corridors. Previously, he served nearly 10 years as assistant general manager of the Los Angeles’ Bureau of Sanitation, overseeing the city’s wastewater collection system, stormwater and watershed protection program, water quality compliance, advance planning and facilities. He also helped develop the city’s 2040 One Water LA Plan, a regional watershed approach to integrate water supply, reuse, conservation, stormwater management and wastewater facilities planning. Mr. Hagekhalil is a member of the American Public Works Association as well as the Water Environment Federation (“WEF”), which recognized him in 2019 as a WEF Fellow for his contribution to enhancing and forwarding the water industry. He also served for more than a decade as a board member of the National Association of Clean Water Agencies, including a term as president. Mr. Hagekhalil is a registered civil engineer and national board-certified environmental engineer. He earned his bachelor’s and master’s degrees in civil engineering from the University of Houston, Texas.

*Marcia Scully, General Counsel* – Ms. Scully was appointed as Metropolitan’s General Counsel in March 2012. She previously served as Metropolitan’s Interim General Counsel from March 2011 to March 2012. Ms. Scully joined Metropolitan in 1995, after a decade of private law practice, providing legal representation to Metropolitan on construction, employment, Colorado River and significant litigation matters. From 1981 to 1985 she was assistant city attorney for the City of Inglewood. Ms. Scully served as president

of the University of Michigan's Alumnae Club of Los Angeles and is a recipient of the 1996 State Bar of California, District 7 President's Pro Bono Service Award and the Southern California Association of Non-Profit Housing Advocate of the Year Award. She is also a member of the League of Women Voters for Whittier and was appointed for two terms on the City of Whittier's Planning Commission, three years of which were served as chair. Ms. Scully earned a bachelor's degree in liberal arts from the University of Michigan, a master's degree in urban planning from Wayne State University and her law degree from Loyola Law School.

*Scott Suzuki, General Auditor* – Mr. Suzuki assumed the position of General Auditor on February 6, 2023. As general auditor, Mr. Suzuki will independently review internal controls, financial records and reports, develop a flexible annual audit plan, ensure that assets and resources are properly accounted for and safeguarded against waste, loss or misuse, and administer Metropolitan's contract for audit services with an independent public accounting firm. Prior to joining Metropolitan, Mr. Suzuki served the County of Orange for almost 21 years in various auditing and accounting roles, concluding as assistant director of internal audit. He also held auditor positions at Home Base Deloitte, and the California State University system. Mr. Suzuki holds a Bachelor of Arts degree in business economics from the University of California, Los Angeles. He holds a certified public accountant (CPA) license and certified internal auditor (CIA), certified information systems auditor (CISA), and certified fraud examiner (CFE) designations.

*Abel Salinas, Ethics Officer* – Mr. Salinas was appointed as Metropolitan's Ethics Officer in July 2019. He is responsible for making recommendations regarding rules and policies related to lobbying, conflicts of interest, contracts, campaign contributions and internal disclosures, while providing education and advice about these rules. Prior to joining Metropolitan, Mr. Salinas worked as the Special Agent in Charge in the U.S. Department of Labor's Office of Inspector General. Before joining that agency, he served for three years in the U.S. Office of Personnel Management. Mr. Salinas holds a bachelor's degree in criminal justice from University of Texas-Pan American and a master's degree in policy management from Georgetown University.

*Deven Upadhyay, Executive Officer and Assistant General Manager, Water Resources and Engineering* – Mr. Upadhyay focuses primarily on key Metropolitan strategies and innovative planning efforts for the Colorado River and the State Water Project. He is responsible for managing the engineering services and water resource management groups, and the Colorado River and Bay Delta programs. Prior to his current position, Mr. Upadhyay was formerly Metropolitan's Chief Operating Officer from November 2017. He has over 25 years of experience in the water industry. He joined Metropolitan in 1995, beginning as a Resource Specialist and then left Metropolitan in 2005 to work at the Municipal Water District of Orange County. In 2008, he returned to Metropolitan as a Budget and Financial Planning Section Manager and became a Water Resource Management Group Manager in 2010. Mr. Upadhyay has a Bachelor of Arts degree in economics from the California State University, Fullerton and a master's degree in public administration from the University of La Verne.

*Katano Kasaine, Assistant General Manager/Chief Financial Officer* – Ms. Kasaine is responsible for directing Metropolitan's financial activities, including accounting and financial reporting, debt issuance and management, financial planning and strategy, managing Metropolitan's investment portfolio, budget administration, financial analysis, financial systems management, and developing rates and charges. In addition, she is responsible for human resources, administrative services, risk management, and business continuity activities. Before joining Metropolitan in August 2019, Ms. Kasaine worked at the City of Oakland for 25 years, holding various leadership positions, notably as the city's Finance Director/Treasurer. She holds a bachelor's degree in business administration from Dominican University in San Rafael, California and a master's degree in public health from Loma Linda University.

*Shane Chapman, Assistant General Manager, Operations* – Mr. Chapman is responsible for the strategic direction and management of Metropolitan's operations. His primary responsibilities include managing water system operations, information technology, cybersecurity, real property, and security. Prior to his current position, Mr. Chapman previously was Metropolitan's Chief Administrative Officer from January

2018. He joined Metropolitan as a Resource Specialist in 1991, progressing to the level of Program Manager in 2001. He became the Revenue, Rates and Budget Manager in 2003 and Assistant Group Manager in Water System Operations in 2006. Mr. Chapman previously served as General Manager of the Upper San Gabriel Valley Municipal Water District for seven years. Mr. Chapman has a Bachelor of Arts degree in economics from Claremont McKenna College and a master's degree in public administration from the University of Southern California.

*Dee Zinke, Assistant General Manager, External Affairs* – Ms. Zinke has been responsible for Metropolitan's communications, public outreach, education, member services, and legislative matters since January 2016. She joined Metropolitan in 2009 as Manager of the Legislative Services Section. Before coming to Metropolitan, Ms. Zinke was the Manager of Governmental and Legislative Affairs at the Calleguas Municipal Water District. Prior to her public service, she worked in the private sector as the Executive Officer and Senior Legislative Advocate for the Building Industry Association of Greater Los Angeles and Ventura Counties and as Director of Communications for E-Systems, a defense contractor specializing in communication, surveillance and navigation systems, based in Washington, D.C. Ms. Zinke holds a Bachelor of Arts degree in communication and psychology from Virginia Polytechnic Institute and State University.

### **Employee Relations**

**General.** The total number of budgeted regular full-time Metropolitan employees for fiscal year 2022-23 is 1,929. Of the filled positions, 1,260 were represented by AFSCME Local 1902, 93 by the Supervisors Association, 310 by the Management and Professional Employees Association and 126 by the Association of Confidential Employees. The remaining 39 employees are unrepresented. The four bargaining units represent 98 percent of Metropolitan's current employees. The Memorandum of Understanding ("MOU") with AFSCME Local 1902 extends through December 31, 2024. The MOUs with the Management and Professional Employees Association and the Association of Confidential Employees have also been extended through December 31, 2024. The MOU with the Supervisors Association expired on December 31, 2021 and is currently being negotiated. Until a successor contract is executed, the terms of the expired MOU will continue to govern.

**State Audit of Workplace Concerns.** The acting California State Auditor ("State Auditor") conducted an audit of Metropolitan's personnel and hiring practices after Metropolitan was the subject of allegations of discrimination and harassment in the workplace. The State Auditor reviewed Metropolitan's handling of equal employment opportunity ("EEO") complaints from 2004 to 2021, as well as hiring practices, the independence and authority of Metropolitan's Ethics office, safety program, and maintenance of workforce housing at Metropolitan's desert facilities.

The State Auditor issued its audit report on April 21, 2022. The audit report identified a number of deficiencies in Metropolitan's personnel and hiring practices. The findings of the audit report included that: (i) Metropolitan's EEO policy and procedures did not align with best practices in certain key areas and did not ensure timely investigation of and response to EEO complaints; (ii) Metropolitan's hiring processes did not include appropriate safeguards to consistently ensure or demonstrate that its hiring decisions were equitable and reasonable and sufficiently protected applicants from potential discrimination; (iii) Metropolitan had not taken adequate actions to ensure its Ethics office is able to independently conduct its duties; and (iv) Metropolitan had not instituted adequate procedures to timely respond to employee workforce housing maintenance issues, and Metropolitan's implementation of a comprehensive, long-term solution to address employee workforce housing has been slow.

The State audit report included several recommendations to address its key findings. In addition to recommendations made to Metropolitan, the audit report recommends that the State Legislature enact legislation requiring Metropolitan to formally adopt procedures for hiring and promoting employees and establishing certain additional requirements to support the independence and autonomy of Metropolitan's



Ethics office. Metropolitan accepted all the recommendations identified in the State audit and anticipates all recommendations will be fully implemented by the April 2023 deadline. In addition, Metropolitan is implementing certain policies and procedures recommended by a Workplace Climate Assessment that Metropolitan commissioned from an outside law firm and received in 2021. Among other things, Metropolitan hired its first Chief Equal Employment Opportunity Officer in March 2022 to help implement a suite of changes that will be designed to build and reaffirm a workplace culture of inclusion, respect, safety and accountability. Metropolitan also created a Diversity, Equity, and Inclusion Office and hired its first Chief Diversity, Equity and Inclusion Officer in May 2022. The Diversity, Equity and Inclusion Office has established programs to support Metropolitan's workforce.

### **Risk Management**

Metropolitan is exposed to various risks of loss related to, among other things, the design and construction of facilities, and the treatment and delivery of water. With the assistance of third-party claims administrators, Metropolitan is self-insured for property losses, liability, and workers' compensation. Metropolitan self-insures the first \$25 million per liability occurrence, with commercial general liability coverage of \$75 million in excess of the self-insured retention. The \$25 million self-insured retention is maintained as a separate restricted reserve. Metropolitan is also self-insured for loss or damage to its property, with the \$25 million self-insured retention also being accessible for emergency repairs and Metropolitan property losses. In addition, Metropolitan obtains other excess and specialty insurance coverages such as directors' and officers' liability, fiduciary liability and aircraft hull and liability coverage.

Metropolitan self-insures the first \$5 million for workers' compensation with statutory excess coverage. The self-insurance retentions and reserve levels currently maintained by Metropolitan may be modified by the Board at its sole discretion.

### **Cybersecurity**

Metropolitan has adopted and maintains an active Cybersecurity Program ("CSP") that includes policies reviewed by Metropolitan's Office of Enterprise Cybersecurity, Audit department and independent third-party auditors and consultants. Metropolitan has appointed an Information Security Officer who is responsible for overseeing the annual review of the CSP and its alignment with Metropolitan's Strategic Plan. Metropolitan's policies and procedures on information governance, risk management, and compliance are consistent with best practices outlined by the Cybersecurity and Infrastructure Security Agency (CISA) Shields Up initiative and are consistent with the requirements prescribed by the America's Water Infrastructure Act (AWIA) for risk assessment and emergency response. Metropolitan's Cybersecurity Team is responsible for identifying cybersecurity risks to Metropolitan, preventing, investigating, and responding to any cybersecurity incidents, and providing guidance and education on the implementation of new technologies at Metropolitan. All persons or entities authorized to use Metropolitan's computer resources are required to participate in Metropolitan's Cybersecurity Awareness Training, which is conducted annually. See also "RISK FACTORS – Cybersecurity; Other Safety and Security Risks" in the front part of this Official Statement.

### **Business Continuity**

Metropolitan maintains a Business Continuity Program to ensure that plans are in place across the District to mitigate, respond to and recover from disruptive events that may impact normal operations. The plans ensure that strategies are in place to continue critical operations in the event of impacts to information technology systems, facilities, staffing levels, key vendors and resources. Using a continuous improvement model, Business Continuity Plans are reviewed, updated and exercised on a regular basis.

### **COVID-19 Pandemic**

Metropolitan continues to monitor and respond to the COVID-19 pandemic and developments surrounding it. As of the date of this Official Statement, Metropolitan does not expect that the COVID-19

pandemic and its impacts will have a material adverse effect on its ability to pay debt service on its bonds or other obligations.

During the COVID-19 pandemic, Metropolitan implemented a number of steps to maintain continuity of its critical and essential business functions and avoid widespread impacts to its workforce from the COVID-19 outbreak. Metropolitan has transitioned to a formal hybrid working environment with employees reporting to work facilities for a minimum of two days a week. Metropolitan is working with its labor and management association representatives to adopt a formal teleworking operating policy and to develop other specifics of return to work protocols.

Metropolitan's ability to treat and deliver water was not interrupted or impaired as a result of the COVID-19 pandemic. COVID-19 is not believed to present a threat to the safety of Metropolitan's treated water supplies. While Metropolitan initially paused certain construction work on non-essential capital projects at the onset of the COVID-19 outbreak, such activity has generally resumed. Metropolitan continues to advance a variety of infrastructure and system reliability projects, although some projects continue to be impacted by supply chain issues.

On February 28, 2023, the Governor of the State of California issued a proclamation terminating the State's COVID-19 state of emergency, as had been previously announced. While the major impacts of the COVID-19 pandemic appear to be lessening, the ultimate effects of the COVID-19 pandemic and its aftermath, including inflation and the possibility of recession, on global, national, and local economies remain uncertain. As of the date of this Official Statement, Metropolitan has not experienced a material adverse impact to its finances or operations as a result of COVID-19. However, given the uncertainties surrounding the COVID-19 pandemic, its aftermath, and the effect of widespread public health emergencies in general, there can be no assurances that the impact of the COVID-19 pandemic, the worsening of the current state of the COVID-19 pandemic, or the outbreak of another infectious disease in the region, will not materially adversely impact the financial condition of Metropolitan in the future.

## **METROPOLITAN'S WATER SUPPLY**

### **General Overview**

Metropolitan's principal sources of water supplies are the State Water Project and the Colorado River. Metropolitan receives water delivered from the State Water Project under provisions of a State water supply contract, including contracted supplies, use of carryover storage in the 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 the availability of surplus supplies. Water management programs supplement these Colorado River supplies. To secure additional supplies, Metropolitan also has groundwater banking partnerships and water transfer and storage arrangements within and outside its service area.

Metropolitan's State Water Contract provides for up to 1,911,500 acre-feet contracted amount of State Water Project supplies annually. The amount of State Water Project water available for allocation under the State Water Contract each year is determined by the California Department of Water Resources ("DWR") based on existing supplies in storage, forecasted hydrology, and other factors, including human health and safety needs, water quality and environmental flow obligations and other operational considerations. Over the ten-year period 2013 through 2022, Metropolitan's State Water Project allocation averaged approximately 35 percent, which is equal to roughly 670,000 acre-feet annually. (An acre-foot is the amount of water that will cover one acre to a depth of one foot and equals approximately 325,851 gallons, which represents the needs of three average families in and around the home for one year within Metropolitan's service area.) Over the ten-year period 2013 through 2022, the amount of water received by Metropolitan from the State Water Project, including human health and safety supplies, and transfer, groundwater banking, and exchange programs

delivered through the California Aqueduct varied from a low of 468,000 acre-feet in calendar year 2022 to a high of 1,473,000 acre-feet in calendar year 2017.

Metropolitan's rights to Colorado River water include a fourth priority right to 550,000 acre-feet of Colorado River water annually (its basic apportionment) and a fifth priority right to an additional 662,000 acre-feet annually (when surplus is available, which availability has been limited since 2003). Metropolitan has additional available Colorado River supplies, totaling up to 526,000 acre-feet per year, under water supply programs, transfer, exchanges, and certain conservation and storage agreements. Over the ten-year period 2013 through 2022, Metropolitan's total available Colorado River supplies have averaged approximately 988,000 acre-feet annually, with annual volumes dependent primarily on programs to augment supplies, including transfers of conserved water from agriculture.

Metropolitan's principal water supply sources, and other supply arrangements and water management programs are more fully described herein. See also "Current Water Conditions and Drought Response Actions" in this Appendix A.

The water supply for Metropolitan's service area is provided in part by Metropolitan and in part by non-Metropolitan sources available to Metropolitan's member agencies. The demand for supplemental water supplies provided by Metropolitan is dependent on water use at the retail consumer level and the amount of locally supplied and conserved water. From calendar years 2013 through 2022, Metropolitan's water transactions (including water sales, exchanges and wheeling) with member agencies have averaged approximately 1.64 million acre-feet annually.

Metropolitan's water supplies in calendar year 2023 comprise a combination of available State Water Project supplies allocated to it based upon its proportional contracted entitlement amount as set forth in "Table A" of its State water supply contract ("Table A State Water Project water" as further described herein), CRA deliveries, storage reserves, and supplemental water transfers and purchases. See "Current Water Conditions and Drought Response Actions."

Metropolitan faces a variety of long-term challenges in providing adequate, reliable and high-quality supplemental water supplies for Southern California. These challenges include, among others: (1) population growth within the service area; (2) increased competition for low-cost water supplies; (3) variable weather conditions, including extended drought periods; (4) increased environmental regulations; and (5) climate change. Metropolitan's resources and strategies for meeting these long-term challenges are set forth in its Integrated Water Resources Plan, as updated from time to time. See "Integrated Water Resources Plan." In addition, Metropolitan manages water supplies in response to the prevailing hydrologic conditions by implementing its Water Surplus and Drought Management ("WSDM") Plan, and in times of prolonged or severe shortages, the Water Supply Allocation Plan (the "Water Supply Allocation Plan"). See "CONSERVATION AND WATER SHORTAGE MEASURES–Water Surplus and Drought Management Plan" and "Water Supply Allocation Plan" in this Appendix A. The Water Supply Allocation Plan provides for the equitable distribution of available limited water supplies regionwide in case of extreme water shortages within Metropolitan's service area. Implementation of the Water Supply Allocation Plan for fiscal year 2022-23 is not expected. In April 2022, in response to minimal supplies of State Water Project water being available in 2022 to meet normal demands in parts of Metropolitan's service area that cannot be supplied with Colorado River water, Metropolitan's Board approved the framework of an Emergency Water Conservation Program to be implemented to reduce demands for State Water Project water in those areas. In March 2023, in light of improved State Water Project water supply conditions, Metropolitan's Board terminated the Emergency Water Conservation Program. See "CONSERVATION AND WATER SHORTAGE MEASURES–Emergency Water Conservation Program for the State Water Project Dependent Area" in this Appendix A.

Hydrologic conditions can have a significant impact on Metropolitan's imported water supply sources. For Metropolitan's State Water Project supplies, precipitation in California's northern Sierra Nevada during the fall and winter helps replenish storage levels in Lake Oroville, a key State Water Project facility. The subsequent runoff from the spring snowmelt helps satisfy regulatory requirements in the San Francisco Bay/Sacramento-San Joaquin River Delta ("Bay-Delta") bolstering water supply reliability in the same year. See "--State Water Project -- Bay-Delta Proceedings Affecting State Water Project." The source of Metropolitan's Colorado River supplies is primarily the watersheds of the Upper Colorado River Basin in the states of Colorado, Utah, and Wyoming. See "--Colorado River Aqueduct." Although precipitation is primarily observed in the winter and spring, summer storms are common and can affect water supply conditions. See also "--Current Water Conditions and Drought Response Actions."

Uncertainties from potential future temperature and precipitation changes in a climate driven by increased concentrations of atmospheric carbon dioxide and other greenhouse gases ("GHGs") also present challenges. Areas of concern to California water planners identified by researchers include: reduction in Sierra Nevada and Colorado Basin snowpack; increased intensity and frequency of extreme weather events; shifting runoff patterns to earlier in the year when reservoir storage is more constrained due to flood protection; and rising sea levels resulting in increased risk of damage from storms, high-tide events, and the erosion of levees and potential cutbacks of deliveries of imported water. While the range of potential impacts from climate change remain subject to study and debate, climate change is among the uncertainties that Metropolitan seeks to address through its planning processes. See "--Integrated Water Resources Plan" and "--Climate Action Planning and Other Environmental, Social and Governance Initiatives."

### **Current Water Conditions and Drought Response Actions**

The water years 2020 through 2022 combined ranked as the three driest years in California's statewide precipitation record. (A water year begins on October 1 and ends on the following September 30.) Beginning in April 2021, Governor Newsom issued a series of drought emergency proclamations affecting various counties throughout the State, culminating in an October 19, 2021 proclamation declaring a drought state of emergency to be in effect statewide and directing local water suppliers to implement water shortage contingency plans at a level appropriate to local conditions. On March 28, 2022, Governor Newsom issued an executive order directing the State Water Resources Control Board (the "SWRCB") to consider adopting regulations by May 25, 2022, to require urban water suppliers with water shortage contingency plans to implement, at a minimum, shortage response actions for a shortage level of up to 20 percent (a "Level 2" shortage). On May 24, 2022, in response to the executive order, the SWRCB adopted a new emergency water conservation regulation. The new regulation temporarily bans irrigating turf with potable water at commercial, industrial, and institutional properties, such as grass in front of or next to large industrial or commercial buildings. The ban does not include watering turf that is used for recreation or other community purposes, water used at residences or water to maintain trees. The regulation also requires all urban water suppliers to implement conservation actions under Level 2 of their water shortage contingency plans.

Water year 2023 began as a dry year. However, conditions improved significantly as the months progressed and between late December 2022 and mid-March 2023, a series of 11 atmospheric rivers occurred in California, bringing extreme precipitation and a massive amount of snow. The State Water Project annual allocation for 2023 started at five percent of contracted amounts on December 1, 2022, but has subsequently been increased (through three increases) to 75 percent of contracted amounts (1,433,625 acre-feet for Metropolitan) as of March 24, 2023. See "--State Water Project -- Background and Current Supply."

As of March 14, 2023, northern Sierra precipitation was 132 percent of the 30-year average for the time of year, while the snowpack was at 169 percent of the 30-year April 1<sup>st</sup> peak average and still growing. As of March 1, 2023, the median water year runoff forecast for the Sacramento River was 20.2 million acre-feet or 114 percent of the 30-year average. On March 10, 2023, DWR increased releases from Lake Oroville using the main spillway to reduce the volume of water stored and make way for increased inflow due to

incoming storms. As of March 14, 2023, Lake Oroville was at 2.74 million acre-feet or 117% of historical average for the date, while San Luis Reservoir was at 994,000 acre-feet for the State Water Project or 94% of the State Water Project capacity in the shared San Luis Reservoir. Due to the full reservoirs and additional inflows as a result of the atmospheric rivers experienced in California in March 2023, on March 10, 2023, DWR indicated that certain interruptible State Water Project supplies that may be made available pursuant to the terms of the State water supply contracts when such water is not needed to fulfill the State Water Project contractors' annual entitlements or for meeting State Water Project operational requirements, including storage goals (referred to as "Article 21 water") would potentially become available in the following weeks. As of March 14, 2023, Metropolitan has signed the guideline agreeing to the terms of receiving Article 21 water, and on March 21, 2023, Metropolitan received confirmation of the initial availability of these Article 21 supplies. DWR will notify Metropolitan and the other State Water Project contractors on a weekly basis as to the availability of Article 21 supplies for the succeeding week.

As of March 6, 2023, the Upper Colorado River Basin snowpack was 132 percent of the 30-year median while the water year runoff forecast into Lake Powell was 113 percent. Despite above normal conditions at this point in time, the Colorado River Basin is still experiencing an extended drought. On March 5, 2023, the total system storage in the Colorado River Basin was 32 percent of capacity, which is a decrease of 4 percent, or 2.5 million acre-feet, from the same time last year. On August 16, 2022, the United States Bureau of Reclamation (the "Bureau of Reclamation") declared a Tier 2 Shortage condition for the Colorado River Basin for 2023, as the storage level of Lake Mead behind Hoover Dam was projected to be below 1,050 feet at the end of 2022. This shortage condition results in reduced deliveries to Arizona, Nevada, and Mexico. Because of its higher priority, California, including Metropolitan, is not affected by this shortage declaration and will be able to take ICS (defined below) out of Lake Mead, if needed, to augment Metropolitan's Colorado River supplies to meet demands in its service area. As of March 6, 2023, the Bureau of Reclamation is projecting a supply of Colorado River water in calendar year 2023 of 909,000 acre-feet, which includes approximately 277,700 acre-feet pursuant to the Exchange Agreement, to be available to Metropolitan. Additional Colorado River supply tends to be available from higher priority water users as the year progresses. Based on recent higher priority water use, Metropolitan expects final Colorado River supplies to be approximately 991,000 acre-feet. In the event that actual supply is less than Metropolitan's projection, Metropolitan expects to augment such supply with water stored in Lake Mead to meet local water demands.

Lake Powell has declined to the lowest elevation since it was filled nearly sixty years ago. On May 4, 2022, the Department of Interior announced that it would reduce releases of water from Glen Canyon Dam from the planned amount of 7.48 million acre-feet to 7.0 million acre-feet during the 2022 water year in order to reduce or delay Lake Powell declining below critically low elevations. Operation of Glen Canyon Dam below certain reservoir elevations may threaten dam infrastructure, would interrupt hydropower generation and would interrupt water supplies for two communities near Glen Canyon Dam. This action was taken to avoid these outcomes. The Bureau of Reclamation will address the future release of these 480,000 acre-feet with input from the Colorado River Basin States (hereinafter defined). In a separate effort to protect critical reservoir elevations at Lake Powell, the Bureau of Reclamation and the States of the Upper Division of the Colorado River Basin approved the 2022 Drought Response Operations Plan to release 500,000 acre-feet of water from Flaming Gorge Reservoir to Lake Powell between May 2022 and April 2023.

On June 14, 2022, in testimony before the United States Senate, the Commissioner of the Bureau of Reclamation announced that the Bureau of Reclamation estimates that between two and four million acre-feet of additional conservation is needed in the Colorado River system in 2023 in order to prevent further declines in Lake Mead and Lake Powell below critical levels. The Commissioner called upon the Colorado River Basin States to develop a plan for the needed conservation measures within 60 days. The Commissioner further indicated that the Bureau of Reclamation was prepared to use its emergency authority to mandate measures if agreement among the states could not be reached. While the Colorado River Basin States did not develop a consensus plan within that timeline, two proposed alternatives have been submitted to the Bureau of

Reclamation for the Supplemental Environmental Impact Statement (“SEIS”) being prepared to modify the 2007 interim guidelines for Colorado River operations in 2023, 2024, and possibly through 2026. The Bureau of Reclamation is expected to develop its own alternative that will be modeled in the SEIS based on its emergency authority. The Colorado River Basin States will continue working toward a single proposal for a preferred alternative for the final SEIS. The Bureau of Reclamation plans to issue a draft SEIS for public comment in the spring of 2023 and a final SEIS and Record of Decision in the summer of 2023. See “–Colorado River Aqueduct – Colorado River Operations: Surplus and Shortage Guidelines – *Ongoing Activities Relating to Colorado River Operations.*”

Metropolitan has planned and prepared for dry conditions by investing in vital infrastructure to increase its storage capacity and enhance operational flexibility. However, conditions in calendar year 2022, the third consecutive dry year and the second year of a five percent allocation from the State Water Project, exposed the issue that certain areas within Metropolitan service area are dependent exclusively on the State Water Project. During calendar year 2022, DWR invoked for the first in time in history, an article of the State Water Project contract and allocated water for human health and safety in addition to the normal allocation process. Metropolitan took delivery of approximately 134,000 acre-feet of human health and safety supplies that must be returned within five calendar years of the calendar year of delivery, with mandatory return amounts to be made in years when State Water Project allocations are 40 percent of contracted amounts or greater. See “–State Water Project – Background and Current Supply.” In addition to the human health and safety supplies and mandatory water use reductions for the State Water Project dependent area agencies, Metropolitan met the water demands in its service area in calendar year 2022 using a combination of CRA deliveries, storage reserves and supplemental water transfers and purchases. In 2022, approximately 28,000 acre-feet of water transfers were secured.

Metropolitan’s storage as of January 1, 2023 is estimated to be 2.99 million acre-feet. See “–Storage Capacity and Water in Storage.” On January 9, 2023, the Board authorized the General Manager to secure additional water in 2023 pursuant to one-year water transfers from various water districts and private water purveyors throughout the State at a maximum cost of up to \$100 million. As of February 28, 2023, Metropolitan’s projected supply/demand estimate for calendar year 2023 is approximately 119,000 acre-feet of surplus supplies based upon its demand estimate of 1.44 million acre-feet, and its supply estimate of 1.56 million acre-feet.

From early 2021, in response to the dry conditions, Metropolitan implemented certain operational measures and programs to minimize State Water Project deliveries, such as delivering Diamond Valley Lake water for the first time in history to the Henry J. Mills Treatment Plant, and expanding the delivery of Colorado River water. These measures were made possible by Metropolitan’s continued investment in facility upgrades and improvements. Metropolitan also paid for several member agencies to shift from service connections that utilize State Water Project supplies to service connections that use Colorado River water to conserve State Water Project supplies. With the current 75 percent State Water Project allocation and the perspective for additional increases in the upcoming months, these drought measures are being phased out, starting with stopping deliveries from Diamond Valley Lake on March 16, 2023 and beginning the rebuilding of surface storage in Castaic Lake and Lake Perris. See “–Water Transfer, Storage and Exchange Programs –State Water Project and Colorado River Aqueduct Arrangements – *Operational Shift Cost Offset Program.*”

Metropolitan continues to encourage responsible and efficient water use to lower demands. Following the Governor’s October 2021 proclamation of a statewide drought emergency, on November 9, 2021, Metropolitan’s Board of Directors declared a drought emergency and called on its member agencies dependent on State Water Project water to use increased conservation measures or other means to reduce their use of those supplies. To assist in these conservation efforts, Metropolitan’s Board also approved a series of measures to expand various rebate and water-efficiency programs. On April 26, 2022 Metropolitan’s Board approved the framework of an Emergency Water Conservation Program for the State Water Project dependent area to



further reduce demand on State Water Project supplies. Due to the improved hydrologic conditions and the increased State Water Project allocation for 2023, the Board voted to rescind the Emergency Water Conservation Program on March 14, 2023. See “CONSERVATION AND WATER SHORTAGE MEASURES–Emergency Water Conservation Program for the State Water Project Dependent Area” in this Appendix A. On March 24, 2023, the Governor announced that certain of the Statewide water conservation measures previously imposed would be eased.

Metropolitan’s financial reserve policy provides funds to manage through periods of reduced sales. See “METROPOLITAN REVENUES–Financial Reserve Policy” in this Appendix A. In years when actual sales are less than projections, Metropolitan uses various tools to manage reductions in revenues, such as reducing expenditures below budgeted levels, reducing funding of capital projects from revenues, and drawing on reserves. See also “MANAGEMENT’S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES” in this Appendix A.

### **Integrated Water Resources Plan**

**Overview and Background.** The Integrated Water Resources Plan (the “IRP”) is Metropolitan’s principal water resources planning document. Metropolitan, its member agencies, subagencies and groundwater basin managers developed Metropolitan’s first IRP as a long-term planning guideline for resources and capital investments over a 25-year planning cycle. The purpose of the IRP was the development of a portfolio of preferred resources to meet the water supply reliability and water quality needs for the region in a cost-effective and environmentally sound manner. The first IRP was adopted by the Board in January 1996 and has been subsequently updated approximately every five years (*i.e.*, in 2004, 2010 and 2015). Work on Metropolitan’s 2020 IRP commenced in February 2020 and is ongoing as described under “–2020 IRP” below.

Metropolitan’s last IRP update (the “2015 IRP Update”) was adopted by the Board on January 12, 2016 as a strategy to set goals and a framework for water resources development. The strategy reflected in the 2015 IRP Update was aimed at providing regional reliability through 2040 by stabilizing Metropolitan’s traditional imported water supplies and continuing to develop additional conservation programs and local resources, with an increased emphasis on regional collaboration. It also advances long-term planning for potential future contingency resources, such as potable reuse, storm water capture and seawater desalination.

Specifically, the 2015 IRP Update identifies the goals, approaches and regional targets for water resource development that are needed to ensure reliability under planned conditions through the year 2040, focusing on the following primary resource areas: (i) State Water Project, (ii) Colorado River Aqueduct, (iii) water transfers and exchanges; (iv) water conservation, and (v) local water supplies. It provides an adaptive management approach to address future uncertainty, including uncertainty from climate change. Adaptive water management, as opposed to a rigid set of planned actions over future decades, is designed to be a systematic process for improving management policies and practices by learning from the outcomes of implemented management strategies. An adaptive management approach began to evolve with Metropolitan’s first IRP in 1996, after drought-related shortages in 1991 prompted a rethinking of Southern California’s long-term water strategy. Reliance on imported supplies to meet future water needs has decreased steadily over time, replaced by plans for local actions to meet new demands. The 2015 IRP Update continues a diversified portfolio approach to water management.

**2020 IRP.** In February 2020, Metropolitan initiated a new process for the development of the 2020 IRP. The year 2020 marked the conclusion of the 25-year planning cycle envisioned by the original 1996 IRP. The development of the 2020 IRP utilizing this new process is ongoing. The 2020 IRP builds upon Metropolitan’s adaptive management strategy by using a scenario planning approach. The 2020 IRP anticipates ranges for how much water Southern California can expect from its imported and local supplies, as well as regional water demands, across four plausible scenarios through 2045.

Development of the 2020 IRP is being undertaken in two phases (i) Phase 1: Regional Needs Assessment, and (ii) Phase 2: One Water Implementation. As the first phase of the 2020 IRP's development, the Regional Needs Assessment analyzed potential gaps between the expected supplies and the forecasted demands across the four IRP scenarios. The Regional Needs Assessment presents key technical findings and examines the effectiveness of generalized portfolio categories. The Regional Needs Assessment also frames and guides the establishment of more specific targets to maintain reliability over the planning period and informs Metropolitan's Board on resource investment decisions as well as the establishment of a plan to fund them. In light of the future uncertainties inherent in long-term resource planning, including uncertainties about climate change and regulatory requirements, as well as Southern California's population and economy, the 2020 IRP's scenario planning approach better prepares the region for a wider range of potential outcomes by identifying solutions and policies across a variety of possible future conditions. This strategy is designed to enable Metropolitan and its member agencies to manage future challenges and changes in California's water conditions and to balance investments with water reliability benefits.

The Board adopted the 2020 IRP Regional Needs Assessment Report in April 2022, thus completing the IRP Regional Needs Assessment phase. The 2020 IRP Regional Needs Assessment outcomes can be summarized through a set of findings grounded in the scenario reliability analysis. The findings fall within five key focus areas: SWP Dependent Areas, Storage, Retail Demand/Demand Management, Metropolitan Imported Supplies, and Local Supply. Adopting the Regional Needs Assessment allows the analysis and findings to serve as both a foundation and as guardrails for the One Water Implementation phase.

The One Water Implementation phase will take the results and findings of Phase 1 into a collaborative process to identify integrated regional solutions. Using a One Water approach, the implementation phase will translate the high-level portfolio analysis from Phase 1 into specific policies, programs, and projects to address the findings and mitigate the potential shortages. Comprehensive, adaptive management strategy and evaluation criteria will be developed to guide these specific actions. The adaptive management strategy will also establish a process for monitoring key reliability indicators to support decision-making.

Information and materials relating to Metropolitan's ongoing development of its 2020 IRP are available at: <https://www.mwdh2o.com/how-we-plan/integrated-resource-plan/>. The materials and other information set forth on Metropolitan's website are not incorporated into this Appendix A and should not be construed to be a part of this Appendix A by virtue of the foregoing reference to such materials and website.

Specific projects identified by Metropolitan in connection with the implementation of its IRP are subject to Board consideration and approval, as well as environmental and regulatory documentation and compliance.

### **Climate Action Planning and Other Environmental, Social and Governance Initiatives**

**General; Background.** Metropolitan has long supported sustainability efforts, dating back to its founding in 1928, when planners and engineers designed the CRA to deliver water primarily by gravity across 242 miles of California desert to the State's south coastal plain. Metropolitan recognized the need for a reliable supply of power by investing in the construction of Hoover Dam and Parker Dam. Together, these dams produce clean, carbon-free energy that have historically supplied more than half of the energy needed to power the CRA pumps. See "METROPOLITAN EXPENSES—Power Sources and Costs; Related Long-Term Commitments – *Colorado River Aqueduct*."

In the decades that followed, Metropolitan has continued to make investments in clean energy and energy-efficient design to reduce GHG emissions, as well as climate adaptation investments to bolster water supply availability, particularly during times of drought. In addition, Metropolitan has partnered with the scientific community, including academic research institutions and the private sector, to test and ultimately implement advanced technologies that monitor and enhance Metropolitan's water supplies. Metropolitan's

efforts to date in this area have focused not only on the goal of achieving broad environmental sustainability and efficiency objectives but also environmental risk mitigation.

Metropolitan has adopted several planning documents that address the core issues of environmental sustainability, improving climate resiliency of operations, and advancing the goal of carbon neutrality. These documents include the Climate Action Plan (discussed below), the Energy Sustainability Plan, Metropolitan's Capital Investment Plan, and its IRP discussed above. Metropolitan coordinates its ongoing sustainability efforts through its Chief Sustainability, Resilience, and Innovation Officer ("SRI Officer").

Information and materials relating to Metropolitan's planning actions relating to climate change are available at: <https://www.mwdh2o.com/planning-for-tomorrow/addressing-climate-change/>. The materials and other information set forth on Metropolitan's website are not incorporated into this Appendix A and should not be construed to be a part of this Appendix A by virtue of the foregoing reference to such materials and website.

***Climate Change and Climate Action Plan.*** Climate change is expected to increase average temperatures across the western United States. In the Colorado River Basin, that is expected to result in decreased runoff and lower flows as less snow is coupled with increased evapotranspiration from trees and plants. In the Sierra Nevada, precipitation is anticipated to increasingly fall as rain in a few large storms, rather than as snow. Sierra snowpack, a critical storage tool in California's water management as it holds water high in the mountains until peak summer demand, has been projected to decrease by up to 65 percent by the end of the century. In the local Southern California region, climate change threatens groundwater basins with saltwater intrusion and less natural replenishment. These factors are expected to reduce the reliability of Metropolitan's imported water supply for Southern California.

Metropolitan has long recognized the threat to its water supply posed by these long-term impacts and has been addressing climate change for more than two decades through its IRP. Pursuant to its IRP (originally adopted in January 1996 and subsequently updated in 2004, 2010 and 2015), Metropolitan has invested in local supplies, developed new storage, and increased the flexibility of its water system facilities to be able to take delivery of water from diverse sources when available. Below are a few examples:

- Metropolitan has increased the water storage capacity of its dams and reservoirs by more than 13-fold since 1990 and has built the Inland Feeder, a large conveyance pipeline that allows for the movement of water into that storage. See "METROPOLITAN'S WATER DELIVERY SYSTEM" in this Appendix A. With snowpack dwindling, these investments provide a valuable opportunity to capture water in wet years and save it for dry ones.
- Metropolitan has increased the operational flexibility of its water delivery system through infrastructure improvements, such as the Inland Feeder, which provides the ability to capture and store high allocations of State Water Project supplies when available, and agreements to deliver Colorado River water supplies when State supplies are in drought, and vice versa. See "—Water Transfer, Storage and Exchange Programs."
- Metropolitan has invested approximately \$840 million in conservation programs, which have helped decrease potable per capita water consumption over time in Metropolitan's service area from 209 gallons per person per day in 1990 to 129 gallons per person per day in 2021 – a 38 percent reduction. Metropolitan plans to continue to expand these efforts into the future. See "CONSERVATION AND WATER STORAGE MEASURES" in this Appendix A.
- Metropolitan's Local Resources Program accelerates the development of local water supply reliability projects by incentivizing agencies within Metropolitan's service area to construct recycled water, groundwater recovery and seawater desalination projects. Since 1982, Metropolitan has invested

approximately \$534 million in recycled water projects. See “REGIONAL WATER RESOURCES—Local Water Supplies” in this Appendix A.

- Metropolitan has partnered with other utilities and organizations across the nation to understand both the effects of climate change and potential opportunities to build resilience. These collaborators include the Water Utility Climate Alliance, a collaboration of large water providers working on climate issues affecting the country’s water agencies, and the California Resilience Challenge, a collaboration of businesses, utilities, and non-profit organizations developing climate adaptation planning projects.

In May 2022, Metropolitan adopted a Climate Action Plan, a comprehensive planning document that outlines Metropolitan’s strategy for reducing GHG emissions associated with future construction, operation, and maintenance activities. The Climate Action Plan includes an analysis of Metropolitan’s historical GHG emissions, a forecast of future GHG emissions, sets a GHG reduction target for reducing emissions consistent with applicable state policies, and identifies a suite of specific GHG reduction actions that Metropolitan can implement to achieve its adopted targets. The Climate Action Plan establishes a GHG emissions reduction goal of 40 percent by 2030 and carbon neutrality by 2045. Metropolitan’s Climate Action Plan includes nine strategies that target the reduction of direct emissions from natural gas and fuel combustion by supporting the transition to a zero emissions vehicle fleet and reduction of natural gas combustion; reducing indirect emissions associated with electricity consumption through improved energy efficiency and utilizing low-carbon and carbon-free electricity; and implementing GHG reduction measures that incentivize sustainable employee commutes, increase waste diversion, increase water conservation and local water supply, and investigating and implementing carbon capture and carbon sequestration opportunities on Metropolitan-owned lands.

Metropolitan’s Climate Action Plan includes an implementation strategy, annual GHG inventories, a public-facing tracking and monitoring tool to ensure progress towards meeting its goal, and five-year updates to capture new and emerging technologies for GHG emissions reductions. The strategies included in the Climate Action Plan provide the co-benefits of improved infrastructure reliability, greater energy resiliency, and expected reduced costs associated with energy procurement and maintenance.

***Energy Sustainability.*** Metropolitan meets its energy demands through its investments in hydroelectric and solar power and the purchase of more than 2,000 GWh of electricity annually from the regional power grid. In November 2020, Metropolitan developed an Energy Sustainability Plan. The Energy Sustainability Plan includes a framework of sustainable actions focused on energy cost containment, reliability, affordability, conservation and adaptation, including reconfiguring certain existing power plants and variable-speed pump drives at pumping stations, and assessing the integration of islanded operations for microgrid purposes. Metropolitan invests in renewable energy resources, including buying and generating hydroelectric power to help meet much of its electricity needs. Currently, over three-quarters of Metropolitan’s pumping and water treatment energy needs are met through renewable/sustainable energy resources. In addition to using power generated at Parker and Hoover Dams, Metropolitan has built 15 in-stream hydroelectric plants throughout its distribution system with a total capacity of about 130 megawatts. Metropolitan has also installed 5.5 megawatts of photovoltaic solar power at its facilities and is implementing a project to add battery energy storage at three of its water treatment plants to store green energy when power rates are low and discharge that energy when rates are higher.

***Diversity, Equity and Inclusion and Governance.*** In its dedication to improving workplace culture for all employees, Metropolitan’s Board has adopted a statement pledging its support of diversity, equity and inclusion initiatives. The Statement of Commitment is the result of a collaborative discussion among the 38-member board and provides guidance so that staff can develop, implement and maintain policies and practices to support diversity, equity and inclusion. In May 2022, Metropolitan hired its first Chief Diversity, Equity and Inclusion officer to help plan, develop, and implement strategies and initiatives designed to ensure that Metropolitan is a diverse and inclusive organization. See “GOVERNANCE AND MANAGEMENT—Management” and “—Employee Relations” in this Appendix A.

## State Water Project

### **Background and Current Supply**

One of Metropolitan's two major sources of water is the State Water Project, which is owned by the State, and managed and operated by DWR. The State Water Project 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 State Water Project 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 39.2 million residents, including the population within the service area of Metropolitan.

The State Water Project's watershed encompasses the mountains and waterways around the Feather River, the principal tributary of the Sacramento River, in the Sacramento Valley of Northern California. Through the State Water Project, Feather River water stored in and released from Oroville Dam (located about 70 miles north of Sacramento, east of the city of Oroville, California) and unregulated flows diverted directly from the Bay-Delta are transported south through the Central Valley of California, over the Tehachapi Mountains and into Southern California, via the California Aqueduct, to four delivery points near the northern and eastern boundaries of Metropolitan's service area. The total length of the California Aqueduct is approximately 444 miles. See "METROPOLITAN'S WATER DELIVERY SYSTEM—Primary Facilities and Method of Delivery —*State Water Project*" in this Appendix A.

From calendar year 2013 through 2022, the amount of water received by Metropolitan from the State Water Project, including water from human health and safety supplies, and water transfer, groundwater banking and exchange programs delivered through the California Aqueduct (described under "—Water Transfer, Storage and Exchange Programs" below), varied from a low of 468,000 acre-feet in the calendar year 2022 to a high of 1,473,000 acre-feet in 2017. In calendar years 2021 and 2022, DWR's allocation to State Water Project contractors (defined below) was five percent of contracted amounts, or 95,575 acre-feet, for Metropolitan.

On December 1, 2022, DWR announced an initial calendar year 2023 allocation of five percent of contracted amounts, based on DWR's expectation of continued extreme drought conditions in the region. On January 26, 2023, DWR increased the annual allocation estimate to 30 percent of contracted amounts, based on increased precipitation experienced in December 2022 and January 2023 and estimates of future runoff. On February 22, 2023, DWR announced a further increase in the annual allocation estimate to 35 percent of contracted amounts, and on March 24, 2023, DWR announced an additional increase in the annual allocation estimate to 75 percent of contracted amounts, or 1,433,625 acre-feet for Metropolitan, based on improved snowpack conditions and reservoir storage levels. Further changes to the 2023 allocation may occur depending on the amount of additional precipitation experienced in the State. See also "—Current Water Conditions and Drought Response Actions."

In 2022, due to historically dry conditions, DWR exercised a provision of the State water supply contract that allowed DWR State Water Project to provide State Water Project Water to certain State Water Project contractors, that was in addition to the contracted amounts, to meet minimum demands for domestic supply, fire protection or sanitation. Under this provision, Metropolitan requested and received from DWR delivery of an additional 133,842 acre feet of certain human health and safety supplies to the State Water Project dependent portion of Metropolitan's service area ("SWP Dependent Area"). The human health and safety supplies received by Metropolitan in 2022 are to be returned within five calendar years of the calendar year of delivery, with mandatory returns to be made in years when State Water Project allocations are 40 percent of contracted amounts or greater, thus creating a water supply debt that effectively reduces future allocations and slows storage recovery once the drought eases. Metropolitan is required to return 95,575 acre-feet in 2023 so long as the State Water Project allocation remains at 40 percent or higher. Due to the increase in State Water Project allocation for 2023, Metropolitan has determined not to request additional supplies for human health and safety purposes for 2023.

### **State Water Contract**

***General Terms of the Contract.*** In 1960, Metropolitan signed a water supply contract (as amended, the “State Water Contract”) with DWR to receive water from the State Water Project. Metropolitan is one of 29 agencies and districts that have long-term contracts for water service from DWR (known collectively as the “State Water Project contractors” and sometimes referred to herein as “Contractors”). Metropolitan is the largest of the State Water Project contractors in terms of the number of people it serves (approximately 19 million), the share of State Water Project water that it has contracted to receive (approximately 46 percent), and the percentage of total annual payments made to DWR by agencies with State water supply contracts (approximately 53 percent for calendar year 2023). Metropolitan received its first delivery of State Water Project water in 1972.

Pursuant to the terms of the State water supply contracts, all water-supply related expenditures for capital and operations, maintenance, power, and replacement costs associated with the State Water Project facilities are paid for by the State Water Project contractors as components of their annual payment obligations to DWR. In exchange, Contractors have the right to participate in the system, with an entitlement to water service from the State Water Project and the right to use the portion of the State Water Project conveyance system necessary to deliver water to them. Each year DWR estimates the total State Water Project water available for delivery to the State Water Project contractors and allocates the available project water among the State Water Project contractors in accordance with the State Water Project supply contracts. On or about December 1 of each year, DWR announces an initial allocation estimate for the upcoming year, but periodically provides subsequent estimates throughout the year if warranted by developing precipitation and water supply conditions. Based upon the updated rainfall and snowpack values, DWR’s total water supply availability projections are refined during each calendar year and allocations to the State Water Project contractors are adjusted accordingly.

Under its State Water Contract, Metropolitan has a contractual right to its proportionate share of the State Water Project water that DWR determines annually is available for allocation to the Contractors. This determination is made by DWR each year based on existing supplies in storage, forecasted hydrology, and other factors, including water quality and environmental flow obligations and other operational considerations. Available State Water Project water is then allocated to the Contractors in proportion to the amounts set forth in “Table A” of their respective State water supply contract (sometimes referred to herein as “Table A State Water Project water”); provided, that in accordance with the terms of the State water supply contracts, the State may allocate on some other basis if such action is required to meet minimum demands of contractors for domestic supply, fire protection, or sanitation during the year. Pursuant to Table A of its State Water Contract, Metropolitan is entitled to approximately 46 percent of the total annual allocation made available to State Water Project contractors each year. Metropolitan’s State Water Contract, under a 100 percent allocation, provides Metropolitan 1,911,500 acre-feet of water. The 100 percent allocation is referred to as the contracted amount. See also “–Current Water Conditions and Drought Response Actions” for information regarding Metropolitan’s allocation of State Water Project water for 2023.

The term of Metropolitan’s State Water Contract currently extends to December 31, 2085, or until all DWR bonds issued to finance construction of project facilities are repaid, whichever is longer. Upon expiration of the State Water Contract term, Metropolitan has the option to continue service under substantially the same terms and conditions. See also “–Amendment of Contract Term.”

***Project Improvement Amendments.*** Metropolitan’s State Water Contract has been amended a number of times since its original execution and delivery. Several of the amendments, entered into by DWR and various subsets of State Water Project contractors, relate to the financing and construction of a variety of State Water Project facilities and improvements and impose certain cost responsibility therefor on the affected Contractors, including Metropolitan. For a description of Metropolitan’s financial obligations under its State Water Contract, including with respect to such amendments, see “METROPOLITAN EXPENSES–State Water Contract Obligations” in this Appendix A.

**Water Management Amendments.** Metropolitan and other State Water Project contractors have undertaken negotiations with DWR to amend their State water supply contracts to clarify the criteria applicable to certain water management tools including single and multi-year water transfers and exchanges. The water management provisions amendment allows for greater flexibility for transfers and exchanges among the State Water Project contractors. Specifically, the amendment confirms existing practices for exchanges, allows more flexibility for non-permanent water transfers, and allows for the transfer and exchange of certain portions of Article 56 carryover water (see “–Water Transfer, Storage and Exchange Programs –State Water Project Agreements and Programs – *Metropolitan Article 56 Carryover*”). DWR certified a final EIR for the water management amendments in August 2020. In September 2020, North Coast Rivers Alliance, California Water Impact Network and others separately filed two lawsuits challenging DWR’s final EIR and approval of the State water supply contract water management provisions amendment under the California Environmental Quality Act (“CEQA”). North Coast Rivers Alliance also alleges violations of the Delta Reform Act, and public trust doctrine, and seeks declaratory and injunctive relief. The cases were deemed related and assigned to the same judge. DWR is in the process of compiling the administrative record. Any adverse impact of this litigation and rulings on Metropolitan’s State Water Project supplies cannot be determined at this time. Despite the pending litigation, enough of the State Water Project contractors approved and executed the amendment as required by DWR for it to be deemed fully executed. The amendments went into effect on February 28, 2021. The State Water Project contractors association, made up of 27 State Water Project contractors, has intervened in the two related cases to protect the interests of the Contractors.

**Amendment of Contract Term.** In 2014, DWR and the State Water Project contractors reached an Agreement in Principle (the “Agreement in Principle”) on an amendment to extend their State water supply contracts to December 31, 2085 and to make certain other changes related to financial management of the State Water Project. The Agreement in Principle served as the “proposed project” for purposes of the environmental review required under CEQA, which such review was completed in December 2018. Following DWR’s approval of the proposed project, three separate lawsuits were filed: one by DWR seeking to validate the contract extension amendment, and two by environmental groups and other entities challenging DWR’s approval of the amendment and the adequacy of the underlying environmental review. These cases were deemed related by the court and assigned to a single judge. After a three-day trial in January 2022, the court issued a final statement of decision on March 9, 2022, in which it ruled that the amendments were valid and rejected all other challenges and claims. In late April 2022, final judgments were entered in all three cases and served on the parties. In May 2022, two separate appeals were filed. Briefing on these appeals is expected to be complete by summer 2023. Any potential adverse impact of the appeals on Metropolitan’s State Water Project supplies cannot be determined at this time. As of January 1, 2023, 25 of the 29 State Water Project contractors, including Metropolitan, had executed the amendment, exceeding the DWR established thresholds needed for the amendment to become effective. These Contractors also executed waivers allowing the amendment to be implemented notwithstanding the pending litigation. As a result, the contract extension amendment became effective on January 1, 2023 and the term of the water supply contracts of the State Water Project contractors executing the amendment was extended to December 31, 2085. While an adverse outcome in the pending appeals could potentially affect the ongoing validity and future implementation of the amendment, Metropolitan considers the risk to be low given the favorable outcome at trial.

**Amendments for Allocation of Conveyance Costs.** Metropolitan and other State Water Project contractors embarked on a third public process to further negotiate proposed amendments to their State water supply contracts related to cost allocation for a potential Delta Conveyance project. Pursuant to the terms of a prior settlement, negotiations for this State Water Project contract amendment were completed in public. In March 2021, DWR and the State Water Project contractors concluded public negotiations and reached an Agreement in Principle (the “Delta Conveyance AIP”) that will be the basis for amendment of the State water supply contracts. The future contract amendment contemplated by the Delta Conveyance AIP would provide a mechanism that would allow for the costs related to any Delta Conveyance project to be allocated and collected by DWR. The Delta Conveyance AIP also provides for the allocation of benefits for any Delta Conveyance project in proportion to each State Water Project contractor’s participation. DWR will maintain a table reflecting decisions made by public agency governing boards regarding that agency’s participation.

Contract language for the proposed amendments is under development. Consideration of the amendments for approval by DWR and the State Water Project contractors would not occur until after DWR's completion of the Delta Conveyance project environmental review, which is not expected before 2024. See "*Bay-Delta Planning Activities*" and "*Delta Conveyance*" under "Bay-Delta Proceedings Affecting State Water Project" below.

### **Coordinated Operations with Central Valley Project**

DWR operates the State Water Project in coordination with the federal Central Valley Project, which is operated by the Bureau of Reclamation. Since 1986, the coordinated operations have been undertaken pursuant to a Coordinated Operations Agreement for the Central Valley Project and State Water Project (the "COA"). The COA defines how the State and federal water projects share water quality and environmental flow obligations imposed by regulatory agencies. The agreement calls for periodic review to determine whether updates are needed in light of changed conditions. After completing a joint review process, DWR and the Bureau of Reclamation agreed to amend the COA to reflect water quality regulations, biological opinions and hydrology updated since the 1986 agreement was signed. On December 13, 2018, DWR and the Bureau of Reclamation executed an Addendum to the COA (the "COA Addendum"). The COA Addendum provides for DWR's adjustment of State Water Project operations to modify pumping operations, as well as project storage withdrawals to meet in-basin uses, pursuant to revised calculations based on water year types. The COA Addendum will shift responsibilities for meeting obligations between the Central Valley Project and the State Water Project, resulting in a shift of approximately 120,000 acre-feet in long-term average annual exports from the State Water Project to the Central Valley Project.

In executing the COA Addendum, DWR found the agreement to be exempt from environmental review under CEQA as an ongoing project and that the adjustments in operations are within the original scope of the project. On January 16, 2019, commercial fishing groups and an American Indian tribe ("petitioners") filed a lawsuit against DWR alleging that entering the COA Addendum violated CEQA, the Delta Reform Act, and the public trust doctrine. On April 11, 2019, Westlands Water District ("Westlands") filed a motion to intervene, which was not opposed by any party. The court granted Westlands' motion on June 7, 2019. On October 7, 2019, the North Delta Water Agency filed a motion to intervene. On November 19, 2019, the court granted North Delta Water Agency's motion. The petitioners are still in the process of preparing the administrative record. The effect of this lawsuit on the COA Addendum and State Water Project operations cannot be determined at this time.

### **2017 Oroville Dam Spillway Incident**

Oroville Dam, the earthfill embankment dam on the Feather River which impounds Lake Oroville, is operated by DWR as a facility of the State Water Project. On February 7, 2017, the main flood control spillway at Oroville Dam, a gated and concrete lined facility, experienced significant damage as DWR released water to manage higher inflows driven by continued precipitation in the Feather River basin. The damaged main spillway impaired DWR's ability to manage lake levels causing water to flow over the emergency spillway structure, an ungated, 1,730-foot-long concrete barrier located adjacent to the main flood control spillway structure. Use of the emergency spillway structure resulted in erosion that threatened the stability of the emergency spillway structure. This concern prompted the Butte County Sheriff to issue an evacuation order for approximately 200,000 people living in Oroville and the surrounding communities.

On November 1, 2018, DWR completed reconstruction of the main spillway to its original design capacity of approximately 270,000 cubic feet per second ("cfs"), a capacity almost twice its highest historical outflow. Work on the emergency spillway was substantially completed in April 2019. Mitigation measures such as slope revegetation were completed in 2021. DWR has estimated the total costs of the recovery and restoration project prior to any federal or other reimbursement to be approximately \$1.2 billion. As of January 2023, DWR has received or expects to receive reimbursement of a total of approximately \$617 million of these costs under the Public Assistance Program of the Federal Emergency Management Agency ("FEMA"). Remaining costs of about \$567 million were charged to the State Water Project contractors under the State



water supply contracts, of which Metropolitan's share totaled about \$259 million. DWR financed these remaining costs with DWR bonds.

Various lawsuits were filed against DWR asserting claims for property damage, economic losses, environmental impacts and civil penalties related to this incident. Neither Metropolitan nor any other State Water Project contractor was named as a defendant in any of these lawsuits. Most of these cases, which were coordinated in Sacramento Superior Court (Case No. JCCP 4974), have now been resolved, either through decisions in favor of DWR or settlements with terms favorable to DWR. With one exception discussed below, cumulative payments for all claims related to the Oroville Dam spillway incident are anticipated to be less than \$40 million.

The primary outstanding lawsuit is one that was filed by the Butte County District Attorney ("DA"), which seeks up to \$51 billion in civil penalties. This lawsuit asserts a single claim under California Fish and Game Code section 5650, *et seq.*, which makes it unlawful to deposit or place certain substances into the waters of the State, including lime, slag and "any substance or material deleterious to fish, plant life, mammals, or bird life." Among other things, the statute provides for the assessment of civil penalties of up to \$25,000 a day and \$10 per pound of material deposited in violation of its strictures. On September 3, 2020, DWR filed a motion for summary judgment in the Butte County DA case. On December 18, 2020, the court granted the motion, ruling that DWR is not subject to the penalty provisions of the California Fish and Game Code sections at issue. Accordingly, the matter was dismissed and judgment was entered on January 11, 2021. The Butte County DA filed a notice of appeal on February 9, 2021. On March 30, 2021, the Third District Court of Appeal ordered this case to mediation, but no settlement was reached. As a result, the court terminated the mediation on January 6, 2022. On October 25, 2022, the Butte County DA filed its opening brief in the appeal. DWR filed a responsive brief on February 22, 2023. All briefing is expected to complete by summer 2023. At this time, Metropolitan cannot predict the outcome of this litigation or the amount of civil penalties that might be assessed in the event the Butte County DA prevails on an appeal of the decision.

The State water supply contracts provide that Metropolitan and the other State Water Project contractors are not liable for any claim of damage of any nature arising out of or connected to the control, carriage, handling, use, disposal or distribution of State Water Project water prior to the point where it reaches their turnouts. However, DWR has asserted that regardless of legal liability all costs of the State Water Project system must be borne by State Water Project contractors. Thus, DWR has indicated that it intends to bill the State Water Project contractors for any expenditures related to litigation (cost of litigation, settlements, damages awards/verdicts) arising from the Oroville Dam spillway incident and costs incurred by DWR to date have been reflected in DWR charges. Metropolitan has established that all charges related to this litigation are being paid under protest, and it has an existing tolling agreement with DWR to preserve its legal right to seek recovery of these charges and/or dispute any future charges that DWR may seek to assess related to such litigation.

### **Bay-Delta Proceedings Affecting State Water Project**

**General.** In addition to being a source of water for diversion into the State Water Project, the Bay-Delta is the source of water for local agricultural, municipal, and industrial needs. The Bay-Delta also supports significant resident and anadromous fish and wildlife resources, as well as recreational uses of water. Both the State Water Project's upstream reservoir operations and its Bay-Delta diversions can at times affect these other uses of Bay-Delta water directly, or indirectly, through impacts on Bay-Delta water quality. A variety of proceedings and other activities are ongoing with the participation of various State and federal agencies, as well as California's environmental, urban and agricultural communities, in an effort to develop long-term, collectively negotiated solutions to the environmental and water management issues concerning the Bay-Delta. Metropolitan actively participates in these proceedings. Metropolitan cannot predict the outcome of any of the litigation or regulatory processes described below but believes that a materially adverse impact on the operation of State Water Project pumps could negatively impact Metropolitan's State Water Project deliveries and/or Metropolitan's water reserves.

***SWRCB Regulatory Activities and Decisions.*** The SWRCB is the agency responsible for setting water quality standards and administering water rights throughout California. The SWRCB exercises its regulatory authority over the Bay-Delta by means of public proceedings leading to regulations and decisions that can affect the availability of water to Metropolitan and other users of State Water Project water. These include the Water Quality Control Plan (“WQCP”) for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary, which establishes the water quality objectives and proposed flow regime of the estuary, and water rights decisions, which assign responsibility for implementing the objectives of the WQCP to users throughout the system by adjusting their respective water rights permits.

Since 2000, SWRCB’s Water Rights Decision 1641 (“D-1641”) has governed the State Water Project’s ability to export water from the Bay-Delta for delivery to Metropolitan and other agencies receiving water from the State Water Project. D-1641 allocated responsibility for meeting flow requirements and salinity and other water quality objectives established earlier by the WQCP.

The WQCP gets reviewed periodically and new standards and allocations of responsibility can be imposed on the State Water Project as a result. The SWRCB’s current review and update of the WQCP is being undertaken in phased proceedings. In December 2018, the SWRCB completed Phase 1 of the WQCP proceedings, adopting the plan amendments and environmental documents to support new flow standards for the Lower San Joaquin River tributaries and revised southern Delta salinity objectives. Various stakeholders filed suit against the SWRCB challenging these amendments. As part of Phase 2 proceedings, a framework document for the second plan amendment process, focused on the Sacramento River and its tributaries, Delta eastside tributaries, Delta outflows, and interior Delta flows, was released in July 2018. The framework describes changes that will likely be proposed by the SWRCB through formally proposed amendments and supporting environmental documents unless it approves an alternative. The proposed changes include certain unimpaired flow requirements for the Sacramento River and its salmon-bearing tributaries. The SWRCB has also encouraged all stakeholders to work together to reach one or more voluntary agreements for consideration by the SWRCB that could implement the proposed amendments to the WQCP through a variety of tools, including non-flow habitat restoration for sensitive salmon and smelt species, while seeking to protect water supply reliability. Metropolitan is participating in the Phase 2 proceedings and voluntary agreement negotiations. On March 29, 2022, Metropolitan’s General Manager signed a Memorandum of Understanding Advancing a Term Sheet for the Voluntary Agreements to Update and Implement the Bay-Delta Water Quality Control Plan, and Other Related Actions (the “VA MOU”). Other parties include the California Natural Resources Agency (“Natural Resources”), the California Environmental Protection Agency, the California Department of Fish and Wildlife (“CDFW”), the Bureau of Reclamation, DWR, the State Water Contractors association and additional agricultural and municipal water users. Under the VA MOU, the parties “seek to take a comprehensive approach to integrate flow and non-flow measures, including habitat restoration, subject to ongoing adaptive management based on a science program” as described in an attached term sheet. The proposed approach under the VA MOU provides for implementation over eight years with a potential extension to up to 15 years. In January 2023, the SRWCB projected a consideration of adoption of the voluntary agreements by the end of 2024.

***Bay-Delta Planning Activities.*** In 2000, several State and federal agencies released the CALFED Bay-Delta Programmatic Record of Decision and Environmental Impact Report/Environmental Impact Statement (“EIR/EIS”) that outlined and disclosed the environmental impacts of a 30-year plan to improve the Bay-Delta’s ecosystem, water supply reliability, water quality, and levee stability. CALFED is the consortium of State and federal agencies with management and regulatory responsibilities in the San Francisco Bay/Sacramento-San Joaquin Delta Estuary. The CALFED Record of Decision remains in effect and many of the State, federal, and local projects begun under CALFED continue.

In 2006, multiple State and federal resource agencies, water agencies, and other stakeholder groups entered into a planning agreement for the Bay-Delta Conservation Plan (“BDCP”). The BDCP was originally conceived as a comprehensive conservation strategy for the Bay-Delta designed to restore and protect ecosystem health, water supply, and water quality within a stable regulatory framework to be implemented

over a 50-year time frame with corresponding long-term permit authorizations from fish and wildlife regulatory agencies. The BDCP includes both alternatives for new water conveyance infrastructure and extensive habitat restoration in the Bay-Delta.

The existing State Water Project Delta water conveyance system needs to be improved and modernized to address operational constraints on pumping in the south Delta as well as risks to water supplies and water quality from climate change, earthquakes, and flooding. Operational constraints are largely due to biological opinions and incidental take permits to which the State Water Project is subject that substantially limit the way DWR operates the State Water Project.

In 2015, the State and federal lead agencies proposed an alternative implementation strategy and new alternatives to the BDCP to provide for the protection of water supplies conveyed through the Bay-Delta and the restoration of the ecosystem of the Bay-Delta, termed “California WaterFix” and “California EcoRestore,” respectively. Planned water conveyance improvements, California WaterFix, would be implemented by DWR and the Bureau of Reclamation as a stand-alone project with the required habitat restoration limited to that directly related to construction mitigation. Ecosystem improvements and habitat restoration more generally, California EcoRestore, would be undertaken under a more phased approach.

**California EcoRestore.** As part of California EcoRestore, which was initiated in 2015, the State is pursuing more than 30,000 acres of Delta habitat restoration. During the period 2015 through December 2020, California EcoRestore was on track to restore 3,500 acres of non-tidal wetland; projected to restore 14,000 acres of tidal and subtidal habitat, 18,580 acres of floodplain, and 1,650 acres of riparian and upland habitat, exceeding initial estimates. Work on several California EcoRestore projects is ongoing. The overall estimated cost to complete the current list of 32 California EcoRestore projects is \$750 to \$950 million, with approximately half expected to be paid from the State Water Project by State Water Project contractors and half from other funding sources. Over the first five years (which was 2015-2020), California EcoRestore represents an investment of approximately \$500 million for implementation and planning costs. This includes certain amounts being paid by the State Water Project contractors, including Metropolitan, for the costs of habitat restoration required to mitigate State and federal water project impacts pursuant to the biological opinions. See also “–Endangered Species Act and Other Environmental Considerations Relating to Water Supply – Endangered Species Act Considerations – State Water Project.”

**Delta Conveyance.** On April 29, 2019, Governor Newsom issued an executive order directing identified State agencies to develop a comprehensive statewide strategy to build a climate-resilient water system, directing the State agencies to inventory and assess the current planning for modernizing conveyance through the Bay-Delta with a new single tunnel project (rather than the previously contemplated two-tunnel California WaterFix). Consistent with the Governor’s direction, in January 2020, DWR commenced a formal environmental review process under CEQA for a proposed single tunnel Delta Conveyance Project. The new conveyance facilities being reviewed include intake structures on the Sacramento River, with a total capacity of 6,000 cfs, and a single tunnel to convey water to the existing pumping plants in the south Delta. On July 27, 2022, DWR released the Delta Conveyance Draft EIR for public and agency comment under CEQA. The proposed project would convey water to a new pumping facility in the south Delta that would lift water into the existing Bethany Reservoir, part of the California Aqueduct. The public comment period closed on December 16, 2022, and DWR is now preparing responses to comments. Planning, environmental review and conceptual design work by DWR are expected to be completed over the 2023-2024 timeframe.

On August 20, 2020, the U.S. Army Corps of Engineers (“Army Corps”), the lead agency for the Delta Conveyance Project under the National Environmental Policy Act (“NEPA”), issued a notice of intent of the development of the EIS for the Delta Conveyance Project. On December 16, 2022, the Army Corps released the Draft EIS for public and agency comment under NEPA. The comment period closed on March 16, 2023.

Metropolitan’s Board has previously authorized Metropolitan’s participation in two joint powers agencies relating to a Bay-Delta conveyance project (originally formed in connection with California

WaterFix): the Delta Conveyance Design and Construction Authority (the “DCA”), formed by the participating water agencies to actively participate with DWR in the design and construction of the conveyance project in coordination with DWR and under the control and supervision of DWR; and the Delta Conveyance Finance Authority (the “Financing JPA”), formed by the participating water agencies to facilitate financing for the conveyance project. The DCA is providing engineering and design activities to support the DWR’s planning and environmental analysis for the potential new Delta Conveyance Project.

In August 2020, the DCA released preliminary cost information for the proposed Delta Conveyance Project based on an early cost assessment prepared by the DCA. The DCA’s early assessment is based on preliminary engineering, not a full conceptual engineering report, and includes project costs for construction, management, oversight, mitigation, planning, soft costs, and contingencies. Based on these assumptions, the DCA’s early assessment estimated a project cost of approximately \$15.9 billion in 2020 non-discounted dollars, which includes a 44 percent overall contingency applied to the preliminary construction costs.

Approximately \$340.7 million of investment is estimated to be needed over four years (2021 through 2024) to fund planning and pre-construction costs for the proposed Delta Conveyance Project. At its December 8, 2020 Board meeting, Metropolitan’s Board authorized the General Manager to execute a funding agreement with DWR and commit funding for a Metropolitan participation level of 47.2 percent of such costs of preliminary design, environmental planning and other pre-construction activities to assist in the environmental process for the proposed Delta Conveyance Project. Metropolitan’s 47.2 percent share amounts to an estimated funding commitment of \$160.8 million over the four years 2021 through 2024. Eighteen other State Water Project contractors also have approved funding a share of the planning and pre-construction costs. Like prior agreements for BDCP and California WaterFix, the funding agreement provides that funds would be reimbursed to Metropolitan if the project is approved and when the first bonds, if any, for the project are issued. In connection with approving the funding agreement, at its December 2020 Board meeting, the Board also authorized the General Manager to execute an amendment to the DCA joint exercise of powers agreement. The amendment was developed to address changes in the anticipated participation structure for the proposed Delta Conveyance Project from that contemplated for California WaterFix.

Metropolitan’s December 8, 2020 action to approve the funding of planning and pre-construction costs does not commit Metropolitan to participate in the Delta Conveyance Project. Any final decision to commit to the project and incur final design and construction costs would require Board approval following completion of the environmental review for the proposed Delta Conveyance Project, which is not expected to occur until 2024 or later.

On August 6, 2020, DWR adopted certain resolutions to authorize the issuance of bonds to finance costs of the Delta Conveyance Project environmental review, planning, design and, if and when such a project is approved, the costs of acquisition and construction thereof. The same day, it filed a complaint in Sacramento County Superior Court seeking to validate its authority to issue the bonds. Fourteen answers have been filed in the validation action. Trial is scheduled for May 15, 2023. DWR, joined by Metropolitan and several other supporting parties, filed its opening brief on January 13, 2023. Additional lawsuits could be filed in the future with respect to any new Bay-Delta conveyance project and may impact the anticipated timing and costs of any proposed new single tunnel Delta Conveyance Project.

## **Colorado River Aqueduct**

### **Background**

The Colorado River was Metropolitan’s original source of water after Metropolitan’s establishment in 1928. Metropolitan has a legal entitlement to receive water from the Colorado River under a permanent service contract with the Secretary of the Interior. Water from the Colorado River and its tributaries is also available to other users in California, as well as users in the states of Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming (collectively, the “Colorado River Basin States”), resulting in both competition and the need for cooperation among these holders of Colorado River entitlements. In addition, under a 1944 treaty, Mexico has

the right to delivery of 1.5 million acre-feet of Colorado River water annually except as provided under shortage conditions described in Treaty Minute 323. The United States and Mexico agreed to conditions for reduced deliveries of Colorado River water to Mexico in Treaty Minute 323, adopted in 2017. Treaty Minute 323 established the rules under which Mexico agreed to take shortages and create reservoir storage in Lake Mead. Those conditions are in parity with the requirements placed on the Lower Basin States (defined below) in the Lower Basin Drought Contingency Plan (described under “– Colorado River Operations: Surplus and Storage Guidelines – *Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead*”). Mexico can also schedule delivery of an additional 200,000 acre-feet of Colorado River water per year if water is available in excess of the requirements in the United States and the 1.5 million acre-feet allotted to Mexico.

Construction of the CRA, which is owned and operated by Metropolitan, was undertaken by Metropolitan to provide for the transportation of its Colorado River water entitlement to its service area. The CRA originates at Lake Havasu on the Colorado River and extends approximately 242 miles through a series of pump stations and reservoirs to its terminus at Lake Mathews in Riverside County. Up to 1.25 million acre-feet of water per year may be conveyed through the CRA to Metropolitan’s member agencies, subject to the availability of Colorado River water for delivery to Metropolitan as described below. Metropolitan first delivered CRA water to its member agencies in 1941.

### **Colorado River Water Apportionment and Seven-Party Agreement**

Pursuant to the federal Boulder Canyon Project Act of 1928, California is apportioned the use of 4.4 million acre-feet of water from the Colorado River each year plus one-half of any surplus that may be available for use collectively in Arizona, California and Nevada (the “Lower Basin States”). Under an agreement entered into in 1931 among the California entities that expected to receive a portion of California’s apportionment of Colorado River water (the “Seven-Party Agreement”) and which has formed the basis for the distribution of Colorado River water made available to California, Metropolitan holds the fourth priority right to 550,000 acre-feet per year. This is the last priority within California’s basic apportionment. In addition, Metropolitan holds the fifth priority right to 662,000 acre-feet of water, which is in excess of California’s basic apportionment. Until 2003, Metropolitan had been able to take full advantage of its fifth priority right as a result of the availability of surplus water and water apportioned to Arizona and Nevada that was not needed by those states. However, during the 1990s Arizona and Nevada increased their use of water from the Colorado River, and by 2002 no unused apportionment was available for California. As a result, California has limited its annual use to 4.4 million acre-feet since 2003, not including supplies made available under water supply programs such as Intentionally Created Surplus (“ICS”) and certain conservation and storage agreements. In addition, a severe drought in the Colorado River Basin from 2000-2004 reduced storage in system reservoirs, ending the availability of surplus deliveries to Metropolitan. Prior to 2003, Metropolitan could divert over 1.25 million acre feet in any year. Since 2003, Metropolitan’s net diversions of Colorado River water have ranged from a low of 537,607 acre feet in 2019 to a high of approximately 1,179,000 acre feet in 2015. Average annual net diversions for 2013 through 2022 (based on preliminary estimates) were 948,682 acre feet, with annual volumes dependent primarily on programs to augment supplies, including transfers of conserved water from agriculture and water made available to and owned by Metropolitan pursuant to the Exchange Agreement, in exchange for which Metropolitan delivers a like amount to SDCWA from any Metropolitan supply. See “– Quantification Settlement Agreement” and “– Colorado River Operations: Surplus and Shortage Guidelines.” See also “–Current Water Conditions and Drought Response Actions” and “–Water Transfer, Storage and Exchange Programs – Colorado River Aqueduct Agreements and Programs.” In 2022, based upon preliminary estimates, Metropolitan’s total available Colorado River supply was just over 1.1 million acre-feet. A portion of the available supply was supply from Metropolitan’s Lake Mead ICS supplies. See also “–Storage Capacity and Water in Storage.”

The following table sets forth the existing priorities of the California users of Colorado River water established under the 1931 Seven-Party Agreement.

**PRIORITIES UNDER THE 1931 CALIFORNIA SEVEN-PARTY AGREEMENT<sup>(1)</sup>**

Priority	Description	Acre-Feet Annually
1	Palo Verde Irrigation District gross area of 104,500 acres of land in the Palo Verde Valley	3,850,000
2	Yuma Project in California not exceeding a gross area of 25,000 acres in California	
3(a)	Imperial Irrigation District and other lands in Imperial and Coachella Valleys <sup>(2)</sup> to be served by All-American Canal	
3(b)	Palo Verde Irrigation District – 16,000 acres of land on the Lower Palo Verde Mesa	
4	Metropolitan Water District of Southern California for use on the coastal plain	550,000
	<b>SUBTOTAL</b>	4,400,000
5(a)	Metropolitan Water District of Southern California for use on the coastal plain	550,000
5(b)	Metropolitan Water District of Southern California for use on the coastal plain <sup>(3)</sup>	112,000
6(a)	Imperial Irrigation District and other lands in Imperial and Coachella Valleys to be served by the All-American Canal	300,000
6(b)	Palo Verde Irrigation District – 16,000 acres of land on the Lower Palo Verde Mesa	
	<b>TOTAL</b>	5,362,000
7	Agricultural use in the Colorado River Basin in California	Remaining surplus

Source: *Metropolitan*.

- (1) Agreement dated August 18, 1931, among Palo Verde Irrigation District, Imperial Irrigation District, Coachella Valley County Water District, Metropolitan, the City of Los Angeles, the City of San Diego and the County of San Diego. These priorities were memorialized in the agencies' respective water delivery contracts with the Secretary of the Interior.
- (2) The Coachella Valley Water District serves Coachella Valley.
- (3) In 1946, the City of San Diego, the San Diego County Water Authority, Metropolitan and the Secretary of the Interior entered into a contract that merged and added the City and County of San Diego's rights to storage and delivery of Colorado River water to the rights of Metropolitan.

### **Quantification Settlement Agreement**

The Quantification Settlement Agreement (“QSA”), executed by the Coachella Valley Water District (“CVWD”), Imperial Irrigation District (“IID”), Metropolitan, and others in October 2003, establishes Colorado River water use limits for IID and CVWD, and provides for specific acquisitions of conserved water and water supply arrangements. 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.

Specific programs under the QSA and related agreements include lining portions of the All-American and Coachella Canals, which were completed in 2009 and conserve over 98,000 acre-feet annually. Metropolitan receives this water and delivers over 77,000 acre-feet of exchange water annually to the San Diego County Water Authority (“SDCWA”), and provides 16,000 acre-feet of water annually by exchange to the United States for use by the La Jolla, Pala, Pauma, Rincon, and San Pasqual Bands of Mission Indians, the San Luis Rey River Indian Water Authority, the City of Escondido, and the Vista Irrigation District. Water became available for exchange with the United States following a May 17, 2017 notice from the Federal Energy Regulatory Commission (“FERC”) satisfying the last requirement of Section 104 of the San Luis Rey Indian Water Rights Settlement Act (Title I of Public Law 100-675, as amended). The QSA and related agreements also authorized the transfer of conserved water annually by IID to SDCWA (up to a maximum amount in 2021 of 205,000 acre-feet, then stabilizing to 200,000 acre-feet per year). Metropolitan receives this water and delivers an equal amount of exchange water annually to SDCWA. See description under “–Metropolitan and San Diego County Water Authority Exchange Agreement” below; see also “METROPOLITAN REVENUES–Principal Customers” in this Appendix A. Also included under the QSA related agreements is a delivery and exchange agreement between Metropolitan and CVWD that provides for Metropolitan, when requested, to deliver annually up to 35,000 acre-feet of Metropolitan’s State Water Project contractual water to CVWD by exchange with Metropolitan’s available Colorado River supplies.

### **Metropolitan and San Diego County Water Authority Exchange Agreement**

No facilities exist to deliver conserved water acquired by SDCWA from IID and water allocated to SDCWA that has been conserved as a result of the lining of the All-American and Coachella Canals. See “–Quantification Settlement Agreement.” Accordingly, in 2003, Metropolitan and SDCWA entered into an exchange agreement (the “Exchange Agreement”), pursuant to which SDCWA makes available to Metropolitan at its intake at Lake Havasu on the Colorado River the conserved Colorado River water SDCWA receives under the QSA related agreements. Metropolitan delivers an equal volume of water from its own sources of supply through its delivery system to SDCWA. The Exchange Agreement limits the amount of water that Metropolitan delivers to 277,700 acre-feet per year, except that an additional 5,000 acre-feet was exchanged in 2021 and an additional 2,500 acre-feet was exchanged in 2022. In consideration for the exchange of the conserved water made available to Metropolitan by SDCWA with the exchange water delivered by Metropolitan, SDCWA pays the agreement price. The price payable by SDCWA is calculated using the charges set by Metropolitan’s Board from time to time to be paid by its member agencies for the conveyance of water through Metropolitan’s facilities. See “METROPOLITAN REVENUES–Litigation Challenging Rate Structure” in this Appendix A for a description of Metropolitan’s charges for the conveyance of water through Metropolitan’s facilities and litigation in which SDCWA is challenging such charges. The term of the Exchange Agreement, as it relates to conserved water transferred by IID to SDCWA, extends through 2047, and as it relates to water allocated to SDCWA that has been conserved as a result of the lining of the All-American and Coachella Canals, extends through 2112; subject, in each case, to the right of SDCWA, upon a minimum of five years’ advance written notice to Metropolitan, to permanently reduce the aggregate quantity of conserved water made available to Metropolitan under the Exchange Agreement to the extent SDCWA decides continually and regularly to transport such conserved water to SDCWA through alternative facilities (which do not presently exist). In 2022, preliminary estimates of water delivered to Metropolitan by SDCWA for exchange was approximately 280,200 acre-feet, consisting of 202,500 acre-feet of IID conservation plus 77,700 acre-feet of conserved water from the Coachella Canal and All-American Canal lining projects.

### **Colorado River Operations: Surplus and Shortage Guidelines**

**General.** The Secretary of the Interior is vested with the responsibility of managing the mainstream waters of the lower Colorado River pursuant to federal law. Each year, the Secretary of the Interior is required to declare the Colorado River water supply availability conditions for the Lower Basin States in terms of “normal,” “surplus” or “shortage” and has adopted operations criteria in the form of guidelines to determine the availability of surplus or potential shortage allocations among the Lower Basin States and reservoir operations for such conditions.

**Interim Surplus Guidelines.** In January 2001, the Secretary of the Interior adopted guidelines (the “Interim Surplus Guidelines”), initially for use through 2016, in determining the availability and quantity of surplus Colorado River water available for use in California, Arizona and Nevada. The Interim Surplus Guidelines were amended in 2007 and now extend through 2026. The purpose of the Interim Surplus Guidelines was to provide mainstream users of Colorado River water, particularly those in California and Nevada who had been utilizing surplus flows, a greater degree of predictability with respect to the availability and quantity of surplus water. Under the Interim Surplus Guidelines, Metropolitan initially expected to divert up to 1.25 million acre-feet of Colorado River water annually under foreseeable runoff and reservoir storage scenarios from 2004 through 2016. However, as described above, an extended drought in the Colorado River Basin reduced these initial expectations, and Metropolitan has not received any surplus water since 2002 and does not expect to receive any surplus water in the foreseeable future.

**Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead.** In May 2005, the Secretary of the Interior directed the Bureau of Reclamation to develop additional strategies for improving coordinated management of the reservoirs of the Colorado River system. In November 2007, the Bureau of Reclamation issued a Final EIS regarding new federal guidelines concerning the operation of the Colorado River system reservoirs, particularly during drought and low reservoir conditions. These guidelines provide water release criteria from Lake Powell and water storage and water release criteria from Lake Mead during shortage and surplus conditions in the Lower Basin, provide a mechanism for the storage and delivery of conserved system and non-system water in Lake Mead, and extend the Interim Surplus Guidelines through 2026 (as noted above). The Secretary of the Interior issued the final guidelines through a Record of Decision signed in December 2007. The Record of Decision and accompanying agreement among the Colorado River Basin States protect reservoir levels by reducing deliveries during low inflow periods, encouraging agencies to develop conservation programs and allowing the Colorado River Basin States to develop and store new water supplies. The Colorado River Basin Project Act of 1968 insulates California from shortages in all but the most extreme hydrologic conditions. Consistent with these legal protections, under the guidelines, Arizona and Nevada are first subject to the initial annual shortages identified by the Secretary in a shared amount of up to 500,000 acre-feet.

The guidelines also created the ICS program, which allows water contractors in the Lower Basin States to store conserved water in Lake Mead. Under this program, ICS water (water that has been conserved through an extraordinary conservation measure, such as land fallowing) is eligible for storage in Lake Mead by Metropolitan. ICS can be created through 2026 and delivered through 2036. See the table entitled “Metropolitan’s Water Storage Capacity and Water in Storage” under “–Storage Capacity and Water in Storage.” Under the guidelines and the subsequent Colorado River Drought Contingency Plan Authorization Act, California can create and deliver up to 400,000 acre-feet of extraordinary conservation ICS (“EC ICS”) annually and accumulate up to 1.5 million acre-feet of EC ICS in Lake Mead. In December 2007, California contractors for Colorado River water executed the California Agreement for the Creation and Delivery of Extraordinary Conservation Intentionally Created Surplus (the “California ICS Agreement”), which established terms and conditions for the creation, accumulation, and delivery of EC ICS by California contractors receiving Colorado River water. Under the California ICS Agreement, the State’s EC ICS creation, accumulation, and delivery limits provided to California under the 2007 interim shortage guidelines are apportioned between IID and Metropolitan. No other California contractors were permitted to create or accumulate ICS. Under the terms of the agreement, IID is allowed to store up to 25,000 acre-feet per year of



EC ICS in Lake Mead with a cumulative limit of 50,000 acre-feet, in addition to any acquired Binational ICS water (water that has been conserved through conservation projects in Mexico). Metropolitan is permitted to use the remaining available ICS creation, delivery, and accumulation limits provided to California.

The Secretary of the Interior delivers the stored ICS water to Metropolitan in accordance with the terms of December 13, 2007, January 6, 2010, and November 20, 2012 Delivery Agreements between the United States and Metropolitan. As of January 1, 2023, Metropolitan had an estimated 1,139,000 acre-feet in its ICS accounts. These ICS accounts include water conserved by fallowing in the Palo Verde Valley, projects implemented with IID in its service area, groundwater desalination, the Warren H. Brock Reservoir Project, and international agreements that converted water conserved by Mexico to the United States.

***Colorado River Drought Contingency Plans.*** Since the 2007 Lower Basin shortage guidelines were issued for the coordinated operations of Lake Powell and Lake Mead, the Colorado River has continued to experience drought conditions. The seven Colorado River Basin States, the U.S. Department of Interior through the Bureau of Reclamation, and water users in the Colorado River Basin, including Metropolitan, began developing Drought Contingency Plans (“DCPs”) to reduce the risk of Lake Powell and Lake Mead declining below critical elevations through 2026.

In April 2019, the President of the United States signed the Colorado River Drought Contingency Plan Authorization Act (referenced above), directing the Secretary of the Interior to sign and implement four DCP agreements related to the Upper and Lower Basin DCPs without delay. The agreements were executed and the Upper and Lower Basin DCPs became effective on May 20, 2019. The Lower Basin Drought Contingency Plan Agreement requires California, Arizona and Nevada to store defined volumes of water in Lake Mead at specified lake levels. California would begin making contributions if Lake Mead’s elevation is projected to be 1,045 feet above sea level or below on January 1. For the calculation in 2023, the Bureau of Reclamation assumed that the 480,000 acre-feet that remained in Powell to protect critical infrastructure was released to Lake Mead. See “–Current Water Conditions and Drought Response Action.” Under that assumption, on January 1, 2023, elevation for Lake Mead was projected to be 1,052 feet and no DCP contribution is required by California in 2023. It is expected that the 480,000 acre-feet will be returned to the Lower Basin when available and DCP contribution amounts will return to being determined based on actual elevation of Lake Mead. Depending on the lake’s elevation, California’s contributions would range from 200,000 to 350,000 acre-feet a year (“DCP Contributions”). Pursuant to intrastate implementation agreements and a settlement agreement with IID, Metropolitan will be responsible for 90 percent of California’s DCP Contributions under the Lower Basin DCP. CVWD will be responsible for 7 percent of California’s required DCP Contributions. While IID is not a party to the DCP, if Metropolitan is required to make a DCP contribution, IID will assist Metropolitan in making DCP contributions by contributing the lesser of either: (a) three percent of California’s DCP contribution or (b) the amount of water IID has stored with Metropolitan. The terms of the settlement agreement with IID referenced above and the mechanism by which IID will contribute to California’s DCP Contributions is described in more detail under “–Water Transfer, Storage and Exchange Programs –Colorado River Aqueduct Agreements and Programs – *California ICS Agreement Intrastate Storage Provisions*” in this Appendix A.

Implementation of the Lower Basin DCP enhances Metropolitan’s ability to store water in Lake Mead and ensures that water in storage can be delivered later. The Lower Basin DCP increases the total volume of water that California may store in Lake Mead by 200,000 acre-feet, for a total of 1.7 million acre-feet, which Metropolitan will have the right to use. Both EC ICS and Binational ICS count towards the total volume of water that California may store in Lake Mead. Water stored as ICS will be available for delivery as long as Lake Mead’s elevation remains above 1,025 feet. Previously, that water would likely have become inaccessible below a Lake Mead elevation of 1,075 feet. DCP Contributions may be made through conversion of existing ICS. These types of DCP Contributions become DCP ICS. DCP Contributions may also be made by leaving water in Lake Mead that there was a legal right to have delivered. This type of DCP Contribution becomes system water and may not be recovered. Rules are set for delivery of DCP ICS through 2026 and between

2027-2057. The Lower Basin DCP will be effective through 2026, however, the SEIS could alter provisions of the DCP.

***Ongoing Activities Relating to Colorado River Operations.*** Before the DCP and 2007 Lower Basin shortage guidelines terminate in 2026, the U.S. Department of Interior through the Bureau of Reclamation, the seven Colorado River Basin States, and water users in the Colorado River Basin, including Metropolitan, are expected to develop new shortage guidelines for the management and operation of the Colorado River. In a process separate from the post-2026 guidelines development process, in November 2022, the Bureau of Reclamation initiated an expedited process to modify the 2007 interim guidelines for Colorado River operations in 2023, 2024, and possibly through 2026. The Bureau of Reclamation suggested modifications may include additional shortage provisions and reductions in allowable annual Lake Powell release volumes. The Bureau of Reclamation will consider three alternatives in the SEIS for these modifications: a “No Action Alternative,” a “Reservoir Operations Modification Alternative” developed by the Bureau of Reclamation, and a potential “Framework Agreement Alternative” developed by the seven Colorado River Basin States through a consensus-based process. Representatives from water agencies in the Colorado River Basin States, including Metropolitan, have been negotiating over a possible Framework Agreement Alternative, but they did not reach agreement by the Bureau of Reclamation’s January 31, 2023 deadline. As described under “–Current Water Conditions and Drought Response Actions,” two proposed alternatives have been submitted to the Bureau of Reclamation. One such proposal was submitted on behalf of the States of Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming. The other alternative was submitted by the Colorado River Board of California on behalf of California. The Bureau of Reclamation is expected to develop its own alternative that will be modeled in the SEIS based on its emergency authority. The Colorado River Basin States will continue working toward a single proposal for a preferred alternative for the final SEIS. The Bureau of Reclamation plans to issue the draft SEIS for public comment in spring of 2023 and a final SEIS and Record of Decision in the summer of 2023.

***Lake Mead 500+ Plan.*** In December 2021, Metropolitan, the U.S. Department of Interior, the Arizona Department of Water Resources, the Central Arizona Project, and the Southern Nevada Water Authority (“SNWA”) executed a memorandum of understanding for an agreement to invest up to \$200 million in projects over the two years 2022 and 2023 to keep Lake Mead from dropping to critically low levels. The agreement, known as the “500+ Plan,” aims to add 500,000 acre-feet of additional water to Lake Mead in both 2022 and 2023 by facilitating actions to conserve water across the Lower Colorado River Basin. The additional water, enough water to serve about 1.5 million households per year, would add about 16 feet total to the reservoir’s level. Under the memorandum of understanding, the Arizona Department of Water Resources committed to provide up to \$40 million to the initiative over two years, with Metropolitan, the Central Arizona Project and SNWA each agreeing to contribute up to \$20 million. The federal government plans to match those commitments, providing an additional \$100 million. As of the end of calendar year 2022 over 500,000 acre-feet of additional water was added to Lake Mead. The Bureau of Reclamation, using funding from the 2022 Inflation Reduction Act, has established, and requested proposals for, a new Lower Basin System Conservation and Efficiency Program, which has effectively superseded the Lake Mead 500+ Plan.

***Related Litigation–Navajo Nation Suit.*** In 2003, the Navajo Nation filed litigation against the Department of the Interior, specifically the Bureau of Reclamation and the Bureau of Indian Affairs, alleging that the Bureau of Reclamation has failed to determine the extent and quantity of the water rights of the Navajo Nation in the Colorado River and that the Bureau of Indian Affairs has failed to otherwise protect the interests of the Navajo Nation. The complaint challenges the adequacy of the environmental review for the Interim Surplus Guidelines (described under “–Colorado River Operations: Surplus and Shortage Guidelines – *Interim Surplus Guidelines*”) and seeks to prohibit the Department of the Interior from allocating any “surplus” water until such time as a determination of the rights of the Navajo Nation is completed. Metropolitan and other California water agencies filed motions to intervene in this action. In October 2004, the court granted the motions to intervene and stayed the litigation to allow negotiations among the Navajo Nation, federal defendants, Central Arizona Water Conservation District, State of Arizona and Arizona Department of Water

Resources. After years of negotiations, a tentative settlement was proposed in 2012 that would provide the Navajo Nation with specified rights to water from the Little Colorado River and groundwater basins under the reservation, along with federal funding for the development of water supply systems on the tribe's reservation. The proposed agreement was rejected by tribal councils for both the Navajo and the Hopi, who were seeking to intervene. In June 2013, the Navajo Nation amended its complaint and added a legal challenge to the Lower Basin Shortage Guidelines adopted by the Secretary of the Interior in 2007 that allow Metropolitan and other Colorado River water users to store water in Lake Mead (described under “– Colorado River Operations: Surplus and Shortage Guidelines – *Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead*”). Metropolitan has used these new guidelines to store over 1,000,000 acre-feet of water in Lake Mead, a portion of which has been delivered, and the remainder of which may be delivered at Metropolitan's request in future years.

Following years of procedural challenges and appeals, in April 2021, the Ninth Circuit held that the Navajo Nation's claim for breach of trust against the United States was not barred and its legal challenges could continue. Appeals to the U.S. Supreme Court were due May 18, 2022. Certain intervenors, including Metropolitan, filed an appeal on May 17, 2022. The Department of the Interior requested an extension to July 25, 2022 to file any appeal. On July 15, 2022, the Department of the Interior filed a separate appeal and a response to intervenors' appeal, arguing that the U.S. Supreme Court should reverse the Ninth Circuit decision on the breach of trust issue. On November 4, 2022, the U.S. Supreme Court granted both appeals and consolidated them. The parties have briefed the arguments, and matter is set for oral argument before the U.S. Supreme Court on March 20, 2023. Metropolitan is unable to assess at this time the likely outcome of this litigation or any future claims, or their potential effect on Colorado River water supplies.

## **Endangered Species Act and Other Environmental Considerations Relating to Water Supply**

### **Endangered Species Act Considerations - State Water Project**

**General.** DWR has altered the operations of the State Water Project to accommodate species of fish listed as threatened or endangered under the federal Endangered Species Act (“ESA”) and/or California ESA.

The federal ESA requires that before any federal agency authorizes, funds, or carries out an action that may affect a listed species or designated critical habitat, it must consult with the appropriate federal fishery agency (either the National Marine Fisheries Service (“NMFS”) or the U.S. Fish and Wildlife Service (“USFWS”) depending on the species) to determine whether the action would jeopardize the continued existence of any threatened or endangered species, or adversely modify habitat critical to the species' needs. The result of the consultation is known as a “biological opinion.” In a biological opinion, a federal fishery agency determines whether the action would cause jeopardy to a threatened or endangered species or adverse modification to critical habitat; and if jeopardy or adverse modification is found, recommends reasonable and prudent alternatives that would allow the action to proceed without causing jeopardy or adverse modification. If no jeopardy or adverse modification is found, the fish agency issues a “no jeopardy opinion.” The biological opinion also includes an “incidental take statement.” The incidental take statement allows the action to go forward even though it will result in some level of “take,” including harming or killing some members of the species, incidental to the agency action, provided that the agency action does not jeopardize the continued existence of any threatened or endangered species and complies with reasonable mitigation and minimization measures recommended by the federal fishery agency or as incorporated into the project description.

The California ESA generally requires an incidental take permit or consistency determination for any action that may cause take of a State-listed species of fish or wildlife. To issue an incidental take permit or consistency determination, CDFW must determine that the impacts of the authorized take will be minimized and fully mitigated and will not cause jeopardy.

**Federal ESA--Biological Opinions.** On August 2, 2016, DWR and the Bureau of Reclamation requested that USFWS and NMFS reinitiate federal ESA consultation on the coordinated operations of the

State Water Project and the federal Central Valley Project to update them with the latest best available science and lessons learned operating under the prior 2008 and 2009 biological opinions. In January 2019, the Bureau of Reclamation submitted the initial biological assessment to USFWS and NMFS. The biological assessment contains a description of the Bureau of Reclamation's and DWR's proposed long-term coordinated operations plan (the "2019 Long-Term Operations Plan"). On October 22, 2019, USFWS and NMFS issued new federal biological opinions (the "2019 biological opinions") that provide incidental take coverage for the 2019 Long-Term Operations Plan. On February 18, 2020, the Bureau of Reclamation signed a Record of Decision, pursuant to NEPA, completing its environmental review and adopting the 2019 Long-Term Operations Plan.

The 2019 Long-Term Operations Plan incorporates and updates many of the requirements contained in the previous 2008 and 2009 biological opinions. It also includes over \$1 billion over a ten-year period in costs for conservation, monitoring and new science, some of which is in the form of commitments carried forward from the previous biological opinions. Those costs are shared by the State Water Project and the federal Central Valley Project. The prior 2008 and 2009 biological opinions resulted in an estimated reduction in State Water Project deliveries of 0.3 million acre-feet during critically dry years to 1.3 million acre-feet in above normal water years as compared to the previous baseline. The 2019 Long-Term Operations Plan and 2019 biological opinions are expected to increase State Water Project deliveries by an annual average of 200,000 acre-feet as compared to the previous biological opinions.

On January 20, 2021, President Biden issued an Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis (the "President's Executive Order on Public Health and the Environment") directing all executive departments and agencies to immediately review, and, as appropriate and consistent with applicable law, take action to address the promulgation of federal regulations and other actions during the prior four years for consistency with the new administration's policies. Among numerous actions identified for review, the U.S. Department of Commerce and U.S. Department of Interior heads were directed to review the 2019 biological opinions. On September 30, 2021, the Bureau of Reclamation Regional Director for Interior Region 10 sent a letter to the USFWS and NMFS re-initiating consultation on the long-term operations of the state and federal water projects. The consultation process requires the Bureau of Reclamation and DWR to develop a biological assessment describing the proposed operating criteria that would be analyzed under the biological permitting process and perform an effects analysis. The NMFS and USFWS would then review the assessment and determine what the operating requirements might be under a biological opinion if the 2019 biological opinion is modified in any way. On February 28, 2022, the Notice of Intent was published in the Federal Register officially starting the federal ESA and NEPA process. At this point, it is unclear what changes to the 2019 biological opinions will be made and their possible effect on Metropolitan.

***Federal ESA–Litigation.*** On December 2, 2019, a group of non-governmental organizations, including commercial fishing groups and the Natural Resources Defense Council (the "NGOs"), sued USFWS and NMFS, alleging the 2019 biological opinions were arbitrary and capricious, later amending the lawsuit to include claims under the federal ESA and NEPA related to decisions made by the Bureau of Reclamation. On February 20, 2020, Natural Resources, the California Environmental Protection Agency, and the California Attorney General (collectively, the "State Petitioners") sued the federal agencies, making similar allegations. The State Water Project contractors intervened in both cases to defend the 2019 biological opinions. The NGOs and the State Petitioners filed a preliminary injunction seeking a court order imposing interim operations consistent with the prior 2008 and 2009 biological opinions pending rulings on the merits of plaintiffs' challenges to the two 2019 biological opinions. On May 11, 2020, the court granted, in part, the motions for preliminary injunction, thereby requiring the Central Valley Project to operate to one of the reasonable and prudent alternatives (referred to as the "inflow-to-export ratio") in the 2009 biological opinion through May 31, 2020. As noted above, on September 30, 2021, the federal defendants formally re-initiated consultation on the challenged biological opinions. In October 2021, the federal defendants and state plaintiffs issued a draft Interim Operations Plan ("IOP") that would govern Central Valley Project-State Water Project coordinated operations through the 2021-2022 water year ending on September 30, 2022. In November 2021, the federal

defendants moved for a remand of the biological opinions without vacating them, requested a stay through September 30, 2022, and requested that the court impose the IOP as equitable relief. The State Petitioners moved to have the IOP imposed as a preliminary injunction, while the NGOs moved for a preliminary injunction seeking an order imposing greater operational restrictions than under the IOP. On March 11, 2022, the court denied the State Petitioners' and NGO plaintiffs' motions for preliminary injunctive relief and granted the federal defendants' request for a remand without vacating the biological opinions, equitable relief imposing the IOP and a stay of the litigation through September 30, 2022. On September 30, 2022, the federal defendants and state plaintiffs filed a joint status report describing the status of the reinitiated Central Valley Project and State Water Project consultation; recommending an IOP for 2022-2023 water year similar to the 2021-22 water year IOP, and requesting a continued stay. On February 24, 2023, the court issued an order approving an IOP for 2023 and extended the stay through December 31, 2023. USFWS and NMFS have produced their respective administrative records. Once the administrative records are finalized, the parties anticipate stipulating to a briefing schedule to resolve the merits of the cases. However, considering the re-initiation of consultation and stay, the cases may be further stayed to allow completion of the reinitiated consultation and issuance of new or amended biological opinions without reaching the merits of the claims. Metropolitan is unable to predict the outcome of any litigation relating to the federal 2019 biological opinions or any potential effect on Metropolitan's State Water Project water supplies.

***California ESA–DWR Permit Litigation.*** As described above, operations of the State Water Project require both federal ESA and California ESA authorizations. DWR described and analyzed its proposed State Water Project long-term operations plan for purposes of obtaining a new California ESA permit in its November 2019 Draft EIR under CEQA. Its 2019 Draft EIR proposed essentially the same operations plan as for the federal 2019 biological opinions, with the addition of operations for the State-only listed species, Longfin smelt. In December 2019, DWR submitted its application for an incidental take permit under the California ESA to CDFW, with a modified State operation plan that added new outflow and environmental commitments. On March 27, 2020, DWR released its final EIR and Notice of Determination, describing and adopting a State operation plan with additional operational restrictions and additional conservation commitments. On March 31, 2020, CDFW issued an incidental take permit for the State Water Project that included further operational restrictions and outflow. As issued, the incidental take permit reduces State Water Project deliveries by more than 200,000 acre-feet on average annually and adds another \$218 million over a ten-year period in environmental commitments for the State Water Project.

On April 28, 2020, Metropolitan and the Mojave Water Agency ("Mojave") jointly sued CDFW, DWR and Natural Resources, alleging that the new California ESA permit and final EIR violate CEQA and the California ESA. Metropolitan and Mojave also allege that DWR breached the State Water Contract and the implied covenant of good faith and fair dealing by, among other things, accepting an incidental take permit containing mitigation requirements in excess of that required by law. Subsequently, two State Water Project contractors and a Metropolitan member agency joined with Metropolitan and Mojave in a first amended complaint. Various other water agencies also filed CEQA and CESA actions, or subsequently joined in a first amended complaint in which the individual water contractors allege causes of action for breach of contract and the implied covenant of good faith and fair dealing. In addition, another State Water Project contractor, the San Bernardino Valley Municipal Water District ("SBVMWD"), filed a complaint alleging violations of CEQA and CESA, as well as breach of contract and the implied covenant of good faith and fair dealing, unconstitutional takings, and anticipatory repudiation of contract. Several federal Central Valley Project water contractors also filed a CEQA challenge. Four other lawsuits have been filed by certain commercial fishing groups and an American Indian tribe, several environmental groups, and two in-Delta water agencies challenging the final EIR as inadequate under CEQA and alleging violations of the Delta Reform Act, public trust doctrine and, in one of the cases, certain water right statutes.

All eight cases have been coordinated in Sacramento County Superior Court. On May 7, 2021 the coordination trial judge ordered the CEQA and CESA causes of action as well as certain other administrative record-based claims alleged by petitioners in several other cases bifurcated from the State Water Project

contractors' respective contractual and unconstitutional takings causes of action, with the CEQA and CESA causes of action to be tried first. The court also ordered that a discovery stay remain in place pending final resolution of the CEQA, CESA and other administrative record claims. Metropolitan and the other State Water Project contractor petitioners have moved to augment the administrative records for the CEQA and CESA causes of action, and a hearing was held on February 10, 2023. Metropolitan is unable to assess at this time the likely outcome of litigation relating to the California ESA permit, including any future litigation or any future claims that may be filed, or any potential effect on Metropolitan's State Water Project water supplies.

### **Endangered Species Act Considerations - Colorado River**

Federal and state environmental laws protecting fish species and other wildlife species have the potential to affect Colorado River operations. A number of species that are on either "endangered" or "threatened" lists under the ESAs are present in the area of the Lower Colorado River, including among others, the bonytail chub, razorback sucker, southwestern willow flycatcher, and Yuma clapper rail. To address this issue, a broad-based state/federal/tribal/private regional partnership that includes water, hydroelectric power and wildlife management agencies in Arizona, California, and Nevada have developed a multi-species conservation program for the main stem of the Lower Colorado River (the Lower Colorado River Multi-Species Conservation Program or "MSCP"). The MSCP allows Metropolitan to obtain federal and state permits for any incidental take of protected species resulting from current and future water and power operations of its Colorado River facilities and to minimize any uncertainty from additional listings of endangered species. The MSCP also covers operations of federal dams and power plants on the river that deliver water and hydroelectric power for use by Metropolitan and other agencies. The MSCP covers 27 species and habitat in the Lower Colorado River from Lake Mead to the Mexican border for a term of 50 years (commencing in 2005). Over the 50-year term of the program, the total cost to Metropolitan is estimated to be about \$88.5 million (in 2003 dollars), with annual costs ranging between \$0.8 million and \$4.7 million (in 2003 dollars).

### **Invasive Species - Mussel Control Programs**

Zebra and quagga mussels are established in many regions of the United States. Mussels can reproduce quickly and, if left unmanaged, can reduce flows by clogging intakes and raw water conveyance systems, alter or destroy fish habitats, and affect lakes and beaches. Mussel management activities may require changes in water delivery protocols to reduce risks of spreading mussel populations and increase operation and maintenance costs.

In January 2007, quagga mussels were discovered in Lake Mead. All pipelines and facilities that transport raw Colorado River water are considered to be infested with quagga mussels. Metropolitan has a quagga mussel control plan, approved by the CDFW to address the presence of mussels in the CRA system and limit further spread of mussels. Year-round monitoring for mussel larvae is conducted at various locations in the CRA system and at select non-infested areas of Metropolitan's system and some locations in the State Water Project. Shutdown inspections have demonstrated that control activities effectively limit mussel infestation in the CRA and prevent the further spread of mussels to other bodies of water and water systems. Metropolitan's costs for controlling quagga mussels in the CRA system have been approximately \$5 million per year.

Established mussel populations are located within ten miles of the State Water Project. A few adult mussels have also been detected in the West Branch of the State Water Project in 2016 and 2021. Also, in early 2023, a single confirmed veliger (larval stage of quagga mussels) was detected at Metropolitan's Foothill Pressure Control Structure, which delivers water from Castaic Lake to the Joseph Jensen Treatment Plant. However, there is currently no evidence of established mussel populations, nor have they impacted Metropolitan's State Water Project deliveries. Metropolitan will coordinate with DWR for further monitoring of the southern portion of the State Water Project and discussion of potential control strategies, if they become necessary.

## Water Transfer, Storage and Exchange Programs

### General

To supplement its State Water Project and Colorado River water supplies, Metropolitan has developed and actively manages a portfolio of water supply programs, including water transfers, storage, and exchange agreements. Supplies are conveyed through the California Aqueduct, utilizing Metropolitan's rights under its State Water Contract to use the portion of the State Water Project conveyance system necessary to deliver water to it, or through available CRA capacity. Consistent with its long-term planning efforts, Metropolitan continues to pursue voluntary water transfer and exchange programs with State, federal, public and private water districts, and individuals to help mitigate supply/demand imbalances and provide additional dry-year supply sources. A summary description of Metropolitan's supply programs is set forth below. In addition to the arrangements described below, Metropolitan is entitled to storage and access to stored water in connection with various storage programs and facilities. See "Colorado River Aqueduct" above, as well as the table entitled "Metropolitan's Water Storage Capacity and Water in Storage" under "Storage Capacity and Water in Storage" below.

### State Water Project Agreements and Programs

In addition to the basic State Water Project contract provisions, Metropolitan has other contract rights that accrue to the overall value of the State Water Project. Because each Contractor is paying for physical facilities, they also have the right to use the facilities to move water supplies associated with agreements, water transfers and water exchanges. Metropolitan has entered into agreements and exchanges that provide additional water supplies.

Existing and potential water transfers and exchanges are an important element for improving the water supply reliability within Metropolitan's service area and accomplishing the reliability goal set by Metropolitan's Board. Under voluntary water transfers and exchanges with agricultural users, agricultural communities may periodically sell or conserve a portion of their agricultural water supply to make it available to support the State's urban areas. The portfolio of supplemental supplies that Metropolitan has developed to be conveyed through the California Aqueduct extend from north of the Bay-Delta to Southern California. Certain of these arrangements are described below.

***Castaic Lake and Lake Perris.*** Metropolitan has contractual rights to withdraw up to 65,000 acre-feet of water in Lake Perris (East Branch terminal reservoir) and 153,940 acre-feet of water in Castaic Lake (West Branch terminal reservoir). This storage provides Metropolitan with additional options for managing State Water Project deliveries to maximize yield from the project. Any water used must be returned to the State Water Project within five years or it is deducted from allocated amounts in the sixth year.

***Metropolitan Article 56 Carryover.*** Metropolitan has the right to store its allocated contract amount for delivery in subsequent years. Metropolitan can store between 100,000 and 200,000 acre-feet, depending on the final water supply allocation percentage.

***Yuba River Accord.*** Metropolitan entered into an agreement with DWR in December 2007 to purchase a portion of the water released by the Yuba County Water Agency ("YCWA"). YCWA was involved in a SWRCB proceeding in which it was required to increase Yuba River fishery flows. Within the framework of agreements known as the Yuba River Accord, DWR entered into an agreement for the long-term purchase of water from YCWA. The agreement permits YCWA to transfer additional supplies at its discretion. Metropolitan, other State Water Project contractors, and the San Luis & Delta-Mendota Water Authority entered into separate agreements with DWR for the purchase of portions of the water made available. Metropolitan's agreement allows Metropolitan to purchase, in dry years through 2025, available water supplies which have ranged from approximately 6,555 acre-feet to 67,068 acre-feet per year.

Metropolitan has also developed other groundwater storage and exchange programs, certain of which are described below. See “METROPOLITAN’S WATER DELIVERY SYSTEM–Water Quality and Treatment” in this Appendix A for information regarding certain water quality regulations and developments that impact or may impact some of Metropolitan’s groundwater storage programs.

***Arvin-Edison/Metropolitan Water Management Program.*** In December 1997, Metropolitan entered into an agreement with the Arvin-Edison Water Storage District (“Arvin-Edison”), an irrigation agency located southeast of Bakersfield, California. Under the program, Arvin-Edison stores water on behalf of Metropolitan. In January 2008, Metropolitan and Arvin-Edison amended the agreement to enhance the program’s capabilities and to increase the delivery of water to the California Aqueduct. To facilitate the program, new wells, spreading basins and a return conveyance facility connecting Arvin-Edison’s existing facilities to the California Aqueduct have been constructed. The agreement also provides Metropolitan priority use of Arvin-Edison’s facilities to convey high-quality water available on the east side of the San Joaquin Valley to the California Aqueduct. Up to 350,000 acre-feet of Metropolitan’s water may be stored, and Arvin-Edison is obligated to return up to 75,000 acre-feet of stored water in any year to Metropolitan, upon request. The agreement will terminate in 2035 unless extended. Metropolitan’s estimated storage account balance under the Arvin-Edison/Metropolitan Water Management Program as of January 1, 2023 is shown in the table entitled “Metropolitan’s Water Storage Capacity and Water in Storage” under “–Storage Capacity and Water in Storage” below. As a result of detecting 1,2,3-trichloropropane (“TCP”) in Arvin-Edison wells above the maximum contaminant level (“MCL”) in 2018, Metropolitan has suspended the return of groundwater from the program until the water quality concerns can be further evaluated and managed. Instead, Metropolitan has requested that Arvin-Edison provide only surface water that can satisfy DWR’s standards for direct pump-back into the California Aqueduct, or alternative methods satisfactory to Metropolitan, in order to meet both the DWR pump-in requirements and Metropolitan’s request for the return of water. In 2021 and 2022, Metropolitan recovered in aggregate 23,130 acre-feet by exchanges with surface water. In February 2023, Arvin-Edison began returning surface water supplies to Metropolitan. The estimated recovery of surface water supplies in 2023 is 20,000 acre-feet.

In October 2021, Arvin-Edison sued The Dow Chemical Company, Shell Oil Company, and others regarding TCP in Arvin-Edison’s groundwater. According to Arvin-Edison’s complaint, the defendants are the manufacturers and distributors of the TCP that caused the contamination of Arvin-Edison’s groundwater supplies. Arvin-Edison alleges that the widespread presence of TCP at concentrations above the MCL in its wells has caused certain of its water banking partners (including Metropolitan) to reduce and/or suspend their water banking and management programs. Based upon a mitigation feasibility study dated November 4, 2021 prepared for Arvin-Edison, Arvin-Edison estimates that treatment would cost approximately \$465 million, which includes capital costs and the present worth of operation and maintenance treatment costs over a 50-year period. Metropolitan’s person most qualified (“PMQ”) deposition was taken on January 27, 2023, and mediation is scheduled for the end of March 2023. If Arvin-Edison prevails in its litigation, a monetary recovery, if any, would be available to offset costs associated with treatment facilities to remediate the groundwater contamination.

***Semitropic/Metropolitan Groundwater Storage and Exchange Program.*** In 1994, Metropolitan entered into an agreement with the Semitropic Water Storage District (“Semitropic”), located adjacent to the California Aqueduct north of Bakersfield, to store water in the groundwater basin underlying land within Semitropic. The minimum annual yield available to Metropolitan from the program is 38,200 acre-feet of water, and the maximum annual yield is 239,700 acre-feet of water depending on the available unused capacity and the State Water Project allocation. The agreement extends to November 2035. Metropolitan’s estimated storage account balance under the Semitropic program as of January 1, 2023 is shown in the table entitled “Metropolitan’s Water Storage Capacity and Water in Storage” under “–Storage Capacity and Water in Storage” below. TCP has been detected in the groundwater supplies within Semitropic; however, detection levels at the turn-in locations for the Semitropic program have remained below the MCL and, to date, the return of groundwater to Metropolitan under the program has not been impacted.



In October 2021, Semitropic, as well as its several affiliated improvement districts (collectively referred to in this paragraph as “Semitropic”), sued The Dow Chemical Company, Shell Oil Company, and others regarding TCP in Semitropic’s groundwater. According to Semitropic’s complaint, the defendants are the manufacturers and distributors of the TCP that caused the contamination of Semitropic’s groundwater supplies. Metropolitan’s PMQ deposition was taken on February 10, 2023, and mediation is scheduled for the end of May 2023. If Semitropic prevails in its litigation, a monetary recovery, if any, would be available to offset costs associated with any needed treatment facilities to remediate the groundwater contamination.

***Kern Delta Storage Program.*** Metropolitan entered into an agreement with Kern Delta Water District (“Kern Delta”) in May 2003, for a groundwater banking and exchange transfer program to allow Metropolitan to store up to 250,000 acre-feet of State Water Contract water in wet years and to permit Metropolitan, at Metropolitan’s option, a return of up to 50,000 acre-feet of water annually during hydrologic and regulatory droughts. The agreement extends through 2028. Metropolitan’s estimated storage account balance under this program as of January 1, 2023 is shown in the table entitled “Metropolitan’s Water Storage Capacity and Water in Storage” under “–Storage Capacity and Water in Storage” below.

***Mojave Storage Program.*** Metropolitan entered into a groundwater banking and exchange transfer agreement with Mojave in October 2003. The agreement allows for Metropolitan to store water in an exchange account for later return. The agreement allows Metropolitan to annually withdraw Mojave State Water Project contractual amounts, after accounting for local needs. Under a 100 percent allocation, the State Water Contract provides Mojave 82,800 acre-feet of water. This agreement was amended in 2011 to allow for the cumulative storage of up to 390,000 acre-feet. The term of this agreement extends through 2035. Metropolitan’s estimated storage account balance under this program as of January 1, 2023, is shown in the table entitled “Metropolitan’s Water Storage Capacity and Water in Storage” under “–Storage Capacity and Water in Storage” below.

***Antelope Valley-East Kern Storage and Exchange Program.*** In 2016, Metropolitan entered into an agreement with the Antelope Valley-East Kern Water Agency (“AVEK”), the third largest State Water Project contractor, to both exchange supplies and store water in the Antelope Valley groundwater basin. Under the exchange, AVEK would provide at least 30,000 acre-feet over ten years of its unused Table A State Water Project water to Metropolitan. For every two acre-feet provided to Metropolitan as part of the exchange, AVEK would receive back one acre-foot in the future. For the one acre-foot that is retained by Metropolitan, Metropolitan would pay AVEK under a set price schedule based on the State Water Project allocation at the time. Under this agreement, AVEK also provides Metropolitan up to 30,000 acre-feet of storage. Metropolitan’s estimated storage account balance under this program as of January 1, 2023, is shown in the table entitled “Metropolitan’s Water Storage Capacity and Water in Storage” under “–Storage Capacity and Water in Storage” below.

***Antelope Valley-East Kern High Desert Water Bank Program.*** In 2019, Metropolitan entered into an agreement with AVEK for a groundwater banking program referred to as the High Desert Water Bank Program. The original estimated cost of construction of the facilities to be funded by Metropolitan to implement the program was \$131 million, but the estimated cost has increased to \$210 million over the past four years due to inflation, finalization of the off-site power distribution design, the need for additional wells to achieve the recovery target of 70,000 acre-feet per year, and water quality issues. Water quality testing of the deeper recovery wells installed in 2021 revealed that arsenic levels in all four wells were above the MCL of 10 micrograms per liter (“µg/L”), ranging from 11 to 19 µg/L. Arsenic naturally occurs in the Antelope Valley groundwater basin, with levels detected throughout the basin but such levels are generally higher in the deeper aquifer. Based on the current water quality data, it appears that recovered water from the High Desert Water Bank Program requires treatment before delivery to the California Aqueduct. Pursuant to the project agreement, Metropolitan and AVEK will agree in writing to the final design, construction and estimated budget for the program. At its option, Metropolitan may scale down the project to maintain the original estimated budget of \$131 million or fund the additional costs. Metropolitan staff is expected to present additional information and options to the Metropolitan Board for its consideration in April 2023. Following completion

of construction, which is expected by mid-2025, Metropolitan would have the right to store up to 70,000 acre-feet per year of its unused Table A State Water Project water or other supplies in the Antelope Valley groundwater basin for later return. The maximum storage capacity for Metropolitan supplies would be 280,000 acre-feet. At Metropolitan's direction, up to 70,000 acre-feet of stored water annually would be available for return by direct pump back into the East Branch of the California Aqueduct. Upon completion, this program would provide additional flexibility to store and recover water for emergency or water supply needs through 2057.

***San Gabriel Valley Municipal Water District and Other Exchange Programs.*** In 2013, Metropolitan entered into an agreement with the San Gabriel Valley Municipal Water District ("SGVMWD"). Under this agreement, Metropolitan delivers treated water to a SGVMWD subagency in exchange for twice as much untreated water in the groundwater basin. Metropolitan's member agencies can then use the groundwater supplies to meet their needs. Metropolitan can exchange and purchase at least 5,000 acre-feet per year. This program has the potential to increase Metropolitan's reliability by providing 115,000 acre-feet through 2035.

***Irvine Ranch Water District Strand Ranch Banking Program.*** In 2011, Metropolitan entered into an agreement with the Municipal Water District of Orange County ("MWDOC") and the Irvine Ranch Water District ("IRWD") to authorize the delivery of State Water Project supplies from Strand Ranch into Metropolitan's service area. IRWD facilitates Metropolitan entering into unbalanced exchanges with other State Water Project contractors. A portion of the water is returned to the partnering State Water Project contractor with the remaining balance delivered to Metropolitan's service area. MWDOC/IRWD takes delivery of the water through Metropolitan's distribution system and pays the Metropolitan full-service water rate. Metropolitan can call on stored supplies; in return, Metropolitan is obliged to return an equal amount of water to MWDOC in future years for IRWD's benefit. This agreement extends to November 2035 and enhances regional reliability by providing Metropolitan with access to additional supplies.

***San Bernardino Valley Municipal Water District Exchange Program.*** In 2020, Metropolitan signed a coordinated operating and surplus water agreement with SBVMWD. In 2021, in accordance with the terms of such agreement, Metropolitan's Board authorized an agreement with SBVMWD that provides a framework which allows for the exchange of both local and State Water Project supplies. The exchanges are equal if they occur within the same calendar year and up to two-to-one if water is returned in a subsequent calendar year. The agreement, which extends through 2031, provides for improved coordination to respond to outages and emergencies of either party.

In April 2022, Metropolitan and SBVMWD entered into a 2022 exchange agreement that provided for the exchange of both local and State Water Project supplies in 2022. Under the agreement, during calendar year 2022, Metropolitan could request up to 3,000 acre-feet of carryover water stored in San Luis Reservoir and up to 1,000 acre-feet/month of groundwater. The additional supply was to be acquired to assist member agencies within the SWP Dependent Area. Under the agreement, Metropolitan and SBVMWD collaborated to test the feasibility of this exchange. Part of the test required Metropolitan to introduce temporary water at DWR's Devil Canyon Second Afterbay, in Pool 68, and Repayment Reach 26A. The test was completed successfully in August 2022. A similar agreement for 2023 is not currently anticipated.

***San Diego County Water Authority Semitropic Program.*** In 2021, Metropolitan's Board approved an agreement with SDCWA for the purchase by Metropolitan of 4,200 acre-feet and a lease of 5,000 acre-feet of return capacity from SDCWA's Semitropic Program for 2022. Metropolitan and SDCWA are currently negotiating a similar agreement for calendar year 2023. The agreement provides for improved regional reliability and also allows for the exchange of previously stored water with Metropolitan in the future.

***Other Ongoing Activities.*** Metropolitan has been negotiating, and will continue to pursue, water purchase, storage and exchange programs with other agencies in the Sacramento and San Joaquin Valleys. These programs involve the storage of both State Water Project supplies and water purchased from other

sources to enhance Metropolitan's dry-year supplies and the exchange of normal year supplies to enhance Metropolitan's water reliability and water quality, in view of dry conditions and potential impacts from the ESA considerations discussed above under the heading "–Endangered Species Act and Other Environmental Considerations Relating to Water Supply– Endangered Species Act Considerations – State Water Project." In April 2022, in light of the persistent dry hydrological conditions, the Board authorized the General Manager to secure up to 75,000 acre-feet of additional water supplies pursuant to one-year water transfers from water districts located north of the Sacramento-San Joaquin River Delta, at a maximum cost of up to \$60 million. Approximately 28,000 acre-feet of transfers were purchased pursuant to this authority. In January 2023, the Board authorized the General Manager to secure additional one-year transfer supplies from various water districts and private water purveyors throughout the State at a maximum cost of up to \$100 million.

The Sites Reservoir is 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. The water stored in the proposed project would be diverted from the Sacramento River. As currently proposed, the Sites Reservoir project would have dedicated water storage and yield that would be used for fishery enhancement, water quality, and other environmental purposes. The proposed project could also provide an additional water supply that could be used for dry-year benefits. Metropolitan is a member of the Sites Reservoir Committee, a group of 22 agencies that are participating in certain planning activities in connection with the proposed development of the project, including the development of environmental planning documents, a federal feasibility report and project permitting. In April 2022, Metropolitan's Board approved \$20 million in funding for Metropolitan's continued participation in such planning activities through the end of 2024. Metropolitan's agreement to participate in the 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.

### **Colorado River Aqueduct Agreements and Programs**

Metropolitan has taken steps to augment its share of Colorado River water through agreements with other agencies that have rights to use such water, including through cooperative programs with other water agencies to conserve and develop supplies and through programs to exchange water with other agencies. These supplies are conveyed through the CRA. Metropolitan determines the delivery schedule of these supplies throughout the year based on changes in the availability of State Water Project and Colorado River water. Under certain of these programs, water may be delivered to Metropolitan's service area in the year made available or in a subsequent year as ICS water from Lake Mead storage. See "–Colorado River Aqueduct – Colorado River Operations: Surplus and Shortage Guidelines – *Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead.*"

***IID/Metropolitan Conservation Agreement.*** Under a 1988 water conservation agreement, as amended in 2003 and 2007 (the "1988 Conservation Agreement") between Metropolitan and IID, 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 has been provided to Metropolitan. As amended, the agreement's initial term has been extended to at least 2041 or 270 days after the termination of the QSA. In 2019, 105,000 acre-feet of conserved water was made available by IID to Metropolitan. Under the QSA and related agreements, Metropolitan, at the request of CVWD, forgoes up to 20,000 acre-feet of this water each year for diversion by CVWD from the Coachella Canal. In each of 2018 and 2019, CVWD's requests were for 0 acre-feet, leaving 105,000 acre-feet in 2018 and 2019 for Metropolitan. In December 2019, Metropolitan signed a revised agreement with CVWD in which CVWD will limit its annual request of water from this program to 15,000 acre-feet through 2026. See "–Colorado River Aqueduct –Quantification Settlement Agreement."

***Palo Verde Land Management, Crop Rotation and Water Supply Program.*** In August 2004, Metropolitan and Palo Verde Irrigation District ("PVID") signed the program agreement for a Land Management, Crop Rotation and Water Supply Program. Under this program, participating landowners in the PVID service area are compensated for reducing water use by not irrigating a portion of their land. This program provides up to 133,000 acre-feet of water to be available to Metropolitan in certain years. The term

of the program is 35 years. Fallowing began on January 1, 2005. The following table shows annual volumes of water saved and made available to Metropolitan during the 10 calendar years 2013 through 2022 under the Land Management, Crop Rotation and Water Supply Program with PVID:

**WATER AVAILABLE FROM PVID LAND MANAGEMENT,  
CROP ROTATION AND WATER SUPPLY PROGRAM**

Calendar Year	Volume (acre-feet)
2013	32,800
2014	43,000
2015	94,500
2016	125,400
2017	111,800
2018	95,800
2019	44,500
2020	43,900
2021	42,305
2022	29,000 (est.)

*Source: Metropolitan.*

***Bard Water District Seasonal Fallowing Program.*** In 2019, Metropolitan entered into agreements with Bard Water District (“Bard”) and farmers within Bard Unit, to provide incentives for land fallowing under the Bard Seasonal Fallowing Program. The program reduces water consumption in Bard and that helps augment Metropolitan’s Colorado River supplies. It incentivizes farmers to fallow their land for four months at \$452 per irrigable acre, escalated annually. Metropolitan estimates water savings of approximately 2.2 acre-feet per fallowed acre. Bard diverts Colorado River water for crop irrigation grown year-round in the warm dry climate. Farmers typically grow high-value crops in the winter (vegetable crops) followed by a lower-value, water-intensive, field crop (such as Bermuda and Sudan grass, small grains, field grains, or cotton) in the spring and summer. Participating farmers will reduce their water consumption through land fallowing of up to 3,000 acres in aggregate annually between April and July. In calendar year 2023, Metropolitan will provide an incentive payment of \$503.29 per irrigable acre fallowed.

***Quechan Tribe of the Fort Yuma Indian Reservation Seasonal Fallowing Pilot Program.*** In 2021, Metropolitan entered into an agreement with the Quechan Tribe of the Fort Yuma Indian Reservation to launch the voluntary Quechan Seasonal Fallowing Pilot Program. Under the pilot program, Metropolitan provides incentives to farmers on Quechan tribal land for land fallowing that reduces water consumption to help augment Metropolitan’s Colorado River supplies. Desert agriculture realizes a market advantage in the winter for high-value vegetables such as lettuce and broccoli. In the hot summer, farmers typically grow lower-value, water-intensive commodities such as grains and grasses. Farmers participating in the pilot program agree to decrease their water consumption through land fallowing of up to 1,600 acres annually during April through July in 2022 and 2023. In calendar year 2022, 118.3 acres were fallowed. In calendar year 2023, Metropolitan will provide an incentive payment of \$503.29 per irrigable acre fallowed. The payment is escalated annually. Metropolitan estimates water savings between 1.5 and 2.0 acre-feet per irrigable acre fallowed, with actual savings to be determined throughout the pilot program.

***Lake Mead Storage Program.*** As described under “–Colorado River Aqueduct –Colorado River Operations: Surplus and Shortage Guidelines – Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead,” Metropolitan has entered into agreements to set forth the guidelines under which ICS water is developed and stored in and delivered from Lake Mead. The amount of water stored in Lake Mead must be created through extraordinary conservation, system efficiency,

tributary, imported, or binational conservation methods. Metropolitan has participated in projects to create ICS as described below:

**Drop 2 (Warren H. Brock) Reservoir.** In 2008, Metropolitan, CAWCD and SNWA provided funding for 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 (officially named the Warren H. Brock Reservoir). Construction was completed in October 2010. The Warren H. Brock Reservoir conserves about 70,000 acre-feet of water per year by capturing and storing water that would otherwise be lost from the system. In return for its funding, Metropolitan received 100,000 acre-feet of water that was stored in Lake Mead for its future use and has the ability to receive up to 25,000 acre-feet of water in any single year. Besides the additional water supply, the addition of the Warren H. Brock reservoir adds to the flexibility of Colorado River operations by storing underutilized Colorado River water orders caused by unexpected canal outages, changes in weather conditions, and high tributary runoff into the Colorado River. As of January 1, 2023, Metropolitan had taken delivery of 35,000 acre-feet of this water and had 65,000 acre-feet remaining in storage.

**International Water Treaty Minutes 319 and 323.** In November 2012, as part of the implementation of Treaty Minute 319, Metropolitan executed agreements in support of a program to augment Metropolitan's Colorado River supply between 2013 through 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. In December 2013, Metropolitan and IID executed an agreement under which IID has paid half of Metropolitan's program costs, or \$2.5 million, in return for half of the project supplies, or 23,750 acre-feet. As such, 23,750 acre-feet of Intentionally Created Mexican Allocation was converted to Binational ICS and credited to Metropolitan's binational ICS water account in 2017. See “–Colorado River Aqueduct –Colorado River Operations: Surplus and Shortage Guidelines – *Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead.*” In September 2017, as part of the implementation of Treaty Minute 323, Metropolitan agreed to fund additional water conservation projects in Mexico that will yield approximately 27,275 acre-feet of additional supply for Metropolitan by 2026 at a cost of approximately \$3.75 million. In 2020, Metropolitan made the first payment related to Treaty Minute 323 of \$1.25 million, and 9,092 acre-feet of Intentionally Created Mexican Allocation was converted to Binational ICS and credited to Metropolitan's binational ICS water account. The next payment is expected to be made in October 2023.

***Storage and Interstate Release Agreement with Nevada.*** In May 2002, SNWA and Metropolitan entered into an Agreement Relating to Implementation of Interim Colorado River Surplus Guidelines, in which SNWA and Metropolitan agreed to the allocation of unused apportionment as provided in the Interim Surplus Guidelines and on the priority of SNWA for interstate banking of water in Arizona. SNWA and Metropolitan entered into a storage and interstate release agreement on October 21, 2004. Under this agreement, SNWA can request that Metropolitan store unused Nevada apportionment in California. The amount of water stored through 2014 under this agreement was approximately 205,000 acre-feet. In October 2015, SNWA and Metropolitan executed an additional amendment to the agreement under which Metropolitan paid SNWA approximately \$44.4 million and SNWA stored an additional 150,000 acre-feet with Metropolitan during 2015. Of that amount, 125,000 acre-feet have been added to SNWA's storage account with Metropolitan, increasing the total amount of water stored to approximately 330,000 acre-feet. In subsequent years, SNWA may request recovery of the stored water. When SNWA requests the return of any of the stored 125,000 acre-feet, SNWA will reimburse Metropolitan for an equivalent proportion of the \$44.4 million plus inflation based on the amount of water returned. SNWA has not yet requested the return of any of the water stored with Metropolitan and it is not expected that SNWA will request a return of any of the stored water before 2026.

***California ICS Agreement Intrastate Storage Provisions.*** As described under “–Colorado River Aqueduct –Colorado River Operations: Surplus and Shortage Guidelines – *Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead,*” in 2007, IID, Metropolitan and other Colorado River contractors in California executed the California ICS Agreement, which divided California's ICS storage space in Lake Mead between Metropolitan and IID. It also allowed IID to store up to

50,000 acre-feet of conserved water in Metropolitan's system. In 2015, the California ICS Agreement was amended to allow IID to store additional amounts of water in Metropolitan's system during 2015 through 2017. Under the 2015 amendment, IID was permitted to store up to 100,000 acre-feet per year of conserved water within Metropolitan's system with a cumulative limit of 200,000 acre-feet, for the three-year term. When requested by IID, Metropolitan has agreed to return to IID the lesser of either 50,000 acre-feet per year, or in a year in which Metropolitan's member agencies are under a shortage allocation, 50 percent of the cumulative amount of water IID has stored with Metropolitan under the 2015 amendment. IID currently has 158,000 acre-feet of water stored with Metropolitan pursuant to the terms of the California ICS Agreement and its amendment.

In 2018, IID had reached the limit on the amount of water it was able to store in Metropolitan's system under the California ICS Agreement and entered into discussions with Metropolitan to further amend the agreement, but no such agreement was reached. On December 4, 2020, IID filed a complaint against Metropolitan alleging that Metropolitan breached the California ICS Agreement, breached the implied covenant of good faith and fair dealing, and that Metropolitan converted IID's intentionally created surplus for its own use. IID's complaint sought the imposition of a constructive trust over 87,594 acre-feet of water in Lake Mead that was received by Metropolitan in 2018.

In October 2021, Metropolitan and IID agreed to settle the dispute. Under the terms of the settlement agreement, Metropolitan will, after applying storage losses, retain approximately 40 percent of the disputed 87,594 acre-feet that Metropolitan received in 2018 and will have stored the remaining approximately 60 percent for IID to be returned to IID in 2026. If Metropolitan does not have sufficient ICS to make a DCP contribution in 2026, Metropolitan may use the remaining stored water to do so. From 2021 through 2026, IID may store up to an additional 25,000 acre-feet per year (with an accumulation limit of an additional 50,000 acre-feet) of conserved water in Metropolitan's Lake Mead ICS account. While IID will still not be a party to the DCP, if Metropolitan is required to make a DCP contribution, IID will assist Metropolitan in making DCP contributions by contributing the lesser of either: (a) three percent of California's DCP contribution; or (b) the amount of water IID has stored with Metropolitan. On December 6, 2021, the lawsuit was dismissed with prejudice. In 2021, IID elected to store 25,000 acre-feet of conserved water in Metropolitan's Lake Mead ICS account. Although a final determination has not yet been made, IID may elect to store an additional 25,000 acre-feet of conserved water in Metropolitan's Lake Mead ICS account for 2022.

### **State Water Project and Colorado River Aqueduct Arrangements**

***Metropolitan/CVWD/Desert Water Agency Amended and Restated Agreement for the Exchange and Advance Delivery of Water.*** Metropolitan has agreements with CVWD and the Desert Water Agency ("DWA") under which Metropolitan exchanges its Colorado River water for the agencies' State Water Project contractual water and other State Water Project water acquisitions on an annual basis. Because CVWD and DWA do not have a physical connection to the State Water Project, Metropolitan takes delivery of CVWD's and DWA's State Water Project supplies and delivers a like amount of Colorado River water to the agencies. In accordance with these agreements, Metropolitan may deliver Colorado River water in advance of receiving State Water Project supplies to these agencies for storage in the Upper Coachella Valley groundwater basin. In years when it is necessary to augment available supplies to meet local demands, Metropolitan may meet the exchange delivery obligation through drawdowns of the advance delivery account, in lieu of delivering Colorado River water in that year. Metropolitan's estimated storage account under the CVWD/DWA program as of January 1, 2023 is shown in the table entitled "Metropolitan's Water Storage Capacity and Water in Storage" under "–Storage Capacity and Water in Storage" below. In addition to the storage benefits of the CVWD/DWA program, Metropolitan receives water quality benefits with increased deliveries of lower salinity water from the State Water Project in lieu of delivering higher saline 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 agreements, CVWD and DWA pay a portion of Metropolitan's water storage management costs in wet years, up to a combined total of \$4 million per year.

***Operational Shift Cost Offset Program.*** In 2021, Metropolitan’s Board approved the Operational Shift Cost Offset Program (“OSCOP”) to help Metropolitan maximize resources available from Colorado River and State Water Project storage in calendar years 2021 and 2022. In October 2022, Metropolitan’s Board extended the OSCOP through the end of calendar year 2023. Metropolitan has and continues to work with member agencies that have service connections to both State Water Project supplies and Colorado River water to shift their points of delivery to meet demands wherever possible to preserve State Water Project storage. Although member agencies can make some shifts in delivery locations, these shifts may result in additional operational costs. Under the OSCOP, Metropolitan offsets costs member agencies may accrue due to shifting deliveries at Metropolitan’s request. Metropolitan may offset incurred costs of up to \$359 per acre-foot for shifts in calendar year 2023. This allows Metropolitan to fully utilize its diverse portfolio and increases reliability for the entire region by improving the availability of State Water Project storage reserves to supplement supplies during dry years.

### **Storage Capacity and Water in Storage**

Metropolitan’s storage capacity, which includes reservoirs, conjunctive use and other groundwater storage programs within Metropolitan’s service area and groundwater and surface storage accounts delivered through the State Water Project or CRA, is approximately 6.0 million acre-feet. In 2022, approximately 750,000 acre-feet of total stored water in Metropolitan’s reservoirs and other storage resources was emergency storage. Metropolitan’s emergency storage is a regional planning objective established periodically to prevent severe water shortages for the region in the event of supply interruptions from catastrophic earthquakes or similar events (see “METROPOLITAN’S WATER DELIVERY SYSTEM–Seismic Considerations and Emergency Response Measures” in this Appendix A). The current emergency storage objective of 750,000 acre-feet is based on an outage duration of 6 to 12 months, retail water demand reduction of 25 to 35 percent based on achievable conservation actions, and aggregated loss of 10 to 20 percent of local production. Retail demand calculations for purposes of the emergency storage objective were based on a 2015 IRP forecast of demand for the year 2018 under average conditions. Metropolitan replenishes its storage accounts when available imported supplies exceed demands. Metropolitan’s ability to replenish water storage, both in the local groundwater basins and in surface storage and banking programs, has been limited by Bay-Delta pumping restrictions under the biological opinions issued for listed species. See “–Endangered Species Act and Other Environmental Considerations Relating to Water Supply –Endangered Species Act Considerations – State Water Project – *Federal ESA-Biological Opinions.*” Effective storage management is dependent on having sufficient years of excess supplies to store water so that it can be used during times of shortage. See “CONSERVATION AND WATER SHORTAGE MEASURES–Water Supply Allocation Plan” in this Appendix A. Metropolitan’s storage as of January 1, 2023 is estimated to be 2.99 million acre-feet. The following table shows three years of Metropolitan’s water in storage as of January 1, including emergency storage.

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**METROPOLITAN'S WATER STORAGE CAPACITY AND WATER IN STORAGE<sup>(1)</sup>**  
(in Acre-Feet)

<b>Water Storage Resource</b>	<b>Storage Capacity</b>	<b>Water in Storage January 1, 2023</b>	<b>Water in Storage January 1, 2022</b>	<b>Water in Storage January 1, 2021</b>
<b><u>Colorado River Aqueduct</u></b>				
DWA/CVWD Advance Delivery Account	800,000	281,000	293,000	313,000
Lake Mead ICS	<u>1,657,000</u>	<u>1,139,000<sup>(9)</sup></u>	<u>1,251,500<sup>(9)</sup></u>	<u>1,294,000</u>
<b>Subtotal</b>	<b>2,457,000</b>	<b>1,420,000</b>	<b>1,544,500</b>	<b>1,607,000</b>
<b><u>State Water Project</u></b>				
Arvin-Edison Storage Program <sup>(2)</sup>	350,000	119,000	136,000	142,000
Semitropic Storage Program	350,000	158,000	218,000	261,000
Kern Delta Storage Program	250,000	137,000	149,000	183,000
Mojave Storage Program	330,000 <sup>(5)</sup>	19,000 <sup>(5)</sup>	19,000 <sup>(5)</sup>	19,000 <sup>(5)</sup>
AVEK Storage Program	30,000	27,000	27,000	27,000
Castaic Lake and Lake Perris <sup>(3)</sup>	219,000	3,000	49,000	219,000
State Water Project Carryover <sup>(4)</sup>	350,000 <sup>(6)</sup>	31,000	38,000	207,000
Emergency Storage	<u>381,000</u>	<u>381,000</u>	<u>381,000</u>	<u>381,000</u>
<b>Subtotal</b>	<b>2,260,000</b>	<b>875,000</b>	<b>1,017,000</b>	<b>1,433,000</b>
<b><u>Within Metropolitan's Service Area</u></b>				
Diamond Valley Lake	810,000	494,000	600,000	704,000
Lake Mathews	182,000	155,000	140,000	86,000
Lake Skinner	<u>44,000</u>	<u>39,000</u>	<u>39,000</u>	<u>41,000</u>
<b>Subtotal<sup>(7)</sup></b>	<b>1,036,000</b>	<b>688,000</b>	<b>779,000</b>	<b>831,000</b>
<b><u>Member Agency Storage Programs</u></b>				
Conjunctive Use	<u>210,000</u>	<u>10,000</u>	<u>16,000</u>	<u>41,000</u>
<b>Total</b>	<b><u>5,963,000</u></b>	<b><u>2,993,000</u></b>	<b><u>3,356,500</u></b>	<b><u>3,912,000<sup>(8)</sup></u></b>

Source: Metropolitan.

- (1) Water storage capacity and water in storage are measured based on engineering estimates and are subject to change.
- (2) Metropolitan has suspended the return of groundwater from the Arvin-Edison storage program. Stored supplies can still be recovered via surface water exchange. See “–Water Transfer, Storage and Exchange Programs –State Water Project Agreements and Programs – Arvin-Edison/Metropolitan Water Management Program.” See also “METROPOLITAN’S WATER DELIVERY SYSTEM–Water Quality and Treatment” in this Appendix A.
- (3) Flexible storage allocated to Metropolitan under its State Water Contract. Withdrawals must be returned within five years.
- (4) Includes Article 56 Carryover of Metropolitan, Coachella Valley Water District, and Desert Water Agency, prior-year carryover, non-project carryover, and carryover of curtailed deliveries pursuant to Article 14(b) and Article 12(e) of Metropolitan’s State Water Contract. See “–Water Transfer, Storage and Exchange Programs – State Water Project Agreements and Programs – Metropolitan Article 56 Carryover.”
- (5) The Mojave storage agreement was amended in 2011 to allow for cumulative storage of up to 390,000 acre-feet. Since January 1, 2011, Metropolitan has stored 60,000 acre-feet, resulting in a remaining balance of storage capacity of 330,000 acre-feet. 41,000 acre-feet of the 60,000 acre-feet stored have been returned, leaving a remaining balance in storage of 19,000 acre-feet. See “–Water Transfer, Storage and Exchange Programs – State Water Project Agreements and Programs – Mojave Storage Program.”
- (6) A capacity of 350,000 acre-feet is estimated to be the practical operational limit for carryover storage considering Metropolitan’s capacity to take delivery of carryover supplies before San Luis Reservoir fills.
- (7) Includes 369,000 acre-feet of emergency storage in Metropolitan’s reservoirs in 2021, 2022, and 2023.
- (8) Represents Metropolitan’s historical highest level of water in storage.
- (9) This amount does not include water Metropolitan stored for IID in Lake Mead an ICS sub-account.



## CONSERVATION AND WATER SHORTAGE MEASURES

### General

The central objective of Metropolitan's water conservation program is to help ensure adequate, reliable and affordable water supplies for Southern California by actively promoting efficient water use. The importance of conservation to the region has increased in recent years because of drought conditions in the State Water Project watershed and court-ordered restrictions on Bay-Delta pumping, as described under "METROPOLITAN'S WATER SUPPLY-State Water Project –Bay-Delta Proceedings Affecting State Water Project" and "–Endangered Species Act and Other Environmental Considerations Relating to Water Supply – Endangered Species Act Considerations-State Water Project – *Federal ESA-Biological Opinions*" in this Appendix A. Ongoing drought conditions in the Colorado River have further emphasized the need for additional conservation efforts. See "METROPOLITAN'S WATER SUPPLY-Colorado River Aqueduct – Colorado River Operations: Surplus and Shortage Guidelines" and "–Current Water Conditions and Drought Response Actions" in this Appendix A. Conservation reduces the need to import water to deliver to member agencies through Metropolitan's system. Water conservation is an integral component of Metropolitan's IRP, WSDM Plan, and Water Supply Allocation Plan.

Metropolitan's conservation program has largely been developed to assist its member agencies in meeting the conservation goals established by the 2015 IRP Update. See "METROPOLITAN'S WATER SUPPLY-Integrated Water Resources Plan" in this Appendix A. All users of Metropolitan's system benefit from the reduced infrastructure costs and system capacity made available by investments in demand management programs like the Conservation Credits Program. Under the terms of Metropolitan's Conservation Credits Program, Metropolitan administers regional conservation programs and co-funds member agency conservation programs designed to achieve greater water use efficiency in residential, commercial, industrial, institutional and landscape uses. Spending by Metropolitan and its member agencies on active conservation incentives, including rebates for water-saving plumbing fixtures, appliances and equipment totaled about \$24 million in fiscal year 2021-22. During fiscal year 2021-22, water savings achieved through new and prior-year conservation investments under Metropolitan's Conservation Credits Program were approximately 216,000 acre-feet.

Metropolitan has worked proactively with its member agencies to conserve water supplies in its service area, and significantly expanded its water conservation and outreach programs and increased funding for conservation incentive programs. Historically, revenues collected by Metropolitan's Water Stewardship Rate and available grant funds have funded conservation incentives, local resource development incentives, and other water demand management programs. The Water Stewardship Rate was charged on every acre-foot of water conveyed by Metropolitan, except on water delivered to SDCWA pursuant to the Exchange Agreement (see "METROPOLITAN REVENUES-Water Rates" and "–Litigation Challenging Rate Structure" in this Appendix A) in calendar years 2018, 2019, and 2020. The Water Stewardship Rate was not incorporated into Metropolitan's rates and charges for calendar years 2021 and 2022 or 2023 and 2024. See "METROPOLITAN REVENUES-Rate Structure – *Water Stewardship Rate*" in this Appendix A.

In addition to ongoing conservation, Metropolitan has developed a WSDM Plan, which splits resource actions into two major categories: Surplus Actions and Shortage Actions. See "–Water Surplus and Drought Management Plan." Conservation and water efficiency programs are part of Metropolitan's resource management strategy which makes up these surplus and shortage actions.

The Water Supply Allocation Plan allocates Metropolitan's water supplies among its member agencies, based on the principles contained in the WSDM Plan, to reduce water use and drawdowns from water storage reserves. See "–Water Supply Allocation Plan." Metropolitan's member agencies and retail water suppliers in Metropolitan's service area also can implement water conservation and allocation programs, and some of the retail suppliers in Metropolitan's service area have initiated conservation measures. The success of conservation measures in conjunction with the implementation of the Water Supply Allocation Plan in fiscal

years 2009-10, 2010-11, 2011-12 and 2015-16 is evidenced as a contributing factor in the lower than budgeted water transactions during such drought periods.

Legislation approved in November 2009 set a statewide conservation target for urban per capita potable water use of 20 percent reductions (from a baseline per capita use determined utilizing one of four State-approved methodologies) by 2020 (with credits for existing conservation) at the retail level, providing an additional catalyst for conservation by member agencies and retail suppliers. Metropolitan's water transactions projections incorporate an estimate of conservation savings that will reduce retail demands. Current projections include an estimate of additional water use efficiency savings resulting from Metropolitan's 2015 IRP Update goals that included the reduction of overall regional per capita water use by 20 percent by 2020 from a baseline of average per capita water use from 1996-2005 in Metropolitan's service area. As of calendar year 2020, per capita water use in Metropolitan's service area had reached the 20 percent reduction by 2020 target.

### **Water Surplus and Drought Management Plan**

In addition to the long-term planning guidelines and strategy provided by its IRP, Metropolitan has developed its WSDM Plan for the on-going management of its resources and water supplies in response to hydrologic conditions. The WSDM Plan, which was adopted by Metropolitan's Board in April 1999, evolved from Metropolitan's experiences during the droughts of 1976-77 and 1987-92. The WSDM Plan is a planning document that Metropolitan uses to guide inter-year and intra-year storage operations, and splits resource actions into two major categories: surplus actions and shortage actions. The surplus actions emphasize storage of surplus water inside the region, followed by storage of surplus water outside the region. The shortage actions emphasize critical storage programs and facilities and conservation programs that make up part of Metropolitan's response to shortages. Implementation of the plan is directed by a WSDM team, made up of Metropolitan staff, that meets regularly throughout the year and more frequently between November and April as hydrologic conditions develop. The WSDM team develops and recommends storage actions to senior management on a regular basis and provides updates to the Board on hydrological conditions, storage levels and planned storage actions through detailed reports.

### **Water Supply Allocation Plan**

In times of prolonged or severe water shortages, Metropolitan manages its water supplies through the implementation of its Water Supply Allocation Plan. The Water Supply Allocation Plan was originally approved by Metropolitan's Board in February 2008, and has been implemented three times since its adoption, including most recently in April 2015. The Water Supply Allocation Plan provides a formula for equitable distribution of available water supplies in case of extreme water shortages within Metropolitan's service area and if needed is typically approved in April with implementation beginning in July. In December 2014, the Board approved certain adjustments to the formula for calculating member agency supply allocations during subsequent periods of implementation of the Water Supply Allocation Plan. Although the Act gives each of Metropolitan's member agencies a preferential entitlement to purchase a portion of the water served by Metropolitan (see "METROPOLITAN REVENUES-Preferential Rights" in this Appendix A), historically, these rights have not been used in allocating Metropolitan's water. Metropolitan's member agencies and retail water suppliers in Metropolitan's service area also may implement water conservation and allocation programs within their respective service territories in times of shortage. See also "METROPOLITAN'S WATER SUPPLY-Current Water Conditions and Drought Response Actions" in this Appendix A. Based upon Metropolitan's available storage balances, the Water Supply Allocation Plan has not been implemented for fiscal year 2022-23. However, recognizing the need to preserve remaining storage reserves in light of the challenges projecting Metropolitan's State Water Project and Colorado River supplies in 2023, Metropolitan's Board adopted a resolution on December 13, 2022, declaring a Regional Drought Emergency for Metropolitan's entire service area and urged all cities and water suppliers to immediately take actions to reduce use of all imported water supplies. The December 2022 resolution also signaled that if drought conditions persist in the coming months, then the Board may consider action in April 2023 to implement mandatory

regionwide restrictions on imported water use through the Water Supply Allocation Plan during fiscal year 2023-24. However, due to the improved hydrologic conditions in early 2023, staff does not anticipate a need for a regionwide supply allocation during fiscal year 2023-24. Staff continues to evaluate supply and demand conditions as they develop.

### **Emergency Water Conservation Program for the State Water Project Dependent Area**

As a result of record drought in California and extremely limited State Water Project allocations, Metropolitan had insufficient supplies in 2022 to meet normal demands in the SWP Dependent Area. The SWP Dependent Area is defined as the current portion of the service area that can only receive Metropolitan's supplies through the State Water Project system. These supplies include the annual State Water Project allocation, north of Delta water transfers and previously stored State Water Project supplies such as groundwater banking, carryover, and flexible supplies in Castaic Lake and Lake Perris. The boundaries of the SWP Dependent Area are not static. Metropolitan's drought mitigation actions since 2021 have reduced the SWP Dependent Area by increasing the ability to move more Colorado River and Diamond Valley Lake supplies to greater portions of the service area. However, with critical State Water Project supply conditions experienced in 2022 and the persistent drought that depleted supplies accessible to the SWP Dependent Area, Metropolitan determined that it was imperative to further reduce demands within the SWP Dependent Area.

Metropolitan's existing Water Supply Allocation Plan was designed to be used when a regionwide shortage exists. Staff determined that the Water Supply Allocation Plan, with its regional focus, would not effectively or efficiently alleviate the circumstances of the then existing drought emergency. Instead, an Emergency Water Conservation Program was developed in coordination with affected member agencies to preserve remaining supplies available to the SWP Dependent Area in a more expedient manner.

On April 26, 2022, Metropolitan's Board declared that a Water Shortage Emergency Condition existed for the SWP Dependent Area and unanimously adopted the framework of an Emergency Water Conservation Program. Metropolitan's Board also authorized the General Manager to finalize the program within 30 days consistent within the adopted framework. The purpose of the Emergency Water Conservation Program was to adaptively preserve supplies by reducing non-essential uses of water delivered through the State Water Project system.

The Emergency Water Conservation Program began implementation on June 1, 2022, and was authorized through June 30, 2023. The Emergency Water Conservation Program included two paths for affected member agencies to reduce use of Metropolitan's supplies delivered from the State Water Project system. Beginning on June 1, 2022, affected member agencies could either (i) comply with enforced watering restrictions, or (ii) achieve compliance with agency-specific volumetric limits on State Water Project supply, subject to a volumetric penalty surcharge on the excess water deliveries over their limit, to be accrued and billed on a monthly basis. For the seven-month period between June and December 2022, the member agencies under the Emergency Conservation Program were able to achieve compliance and no penalties were issued in 2022. In January 2023, the SWP Dependent Area agencies received new volumetric limits for the second phase of the program from January through June 2023. Due to uncertainties in the available water supplies at the beginning of 2023, the volumetric limits set for the first half of 2023 were subject to fluctuation.

Following DWR's initial State Water Project allocation of five percent of contracted amounts for calendar year 2023 announced in December 2022, and as a result of improved hydrologic conditions, DWR increased the annual allocation estimate to 30 percent of contracted amounts in January 2023, and subsequently announced a further increase in the annual allocation estimate to 35 percent of contracted amounts in February 2023, and a further increase to 75 percent of contracted amounts in March 2023. Due to the improved State Water Project water supply conditions that alleviate the acute water shortage in the SWP Dependent Area, on March 14, 2023, Metropolitan's Board removed the Water Shortage Emergency Condition for the SWP Dependent Area and terminated the Emergency Water Conservation Program.

The Emergency Water Conservation Program was intended as a short-term policy in response to the severe drought conditions that existed and infrastructure constraints that severely limited the delivery of State Water Project supplies. Metropolitan has committed to providing equitable reliability to the SWP Dependent Area by increasing access to existing supplies and storage, and development of new supplies and storage. In addition, Metropolitan was awarded \$50 million in reimbursement grant funding from the State of California in the State's fiscal year 2022-23 budget for a set of drought emergency mitigation projects to move locally stored water into the SWP Dependent Area .

## **REGIONAL WATER RESOURCES**

### **General**

The water supply for Metropolitan's service area is provided in part by Metropolitan and in part by non-Metropolitan sources available to members. Non-Metropolitan sources include water imported by the City of Los Angeles (the "City") from the Owens Valley/Mono Basin east of the Sierra Nevada through the City's Los Angeles Aqueduct to serve customers of the City. See "– Los Angeles Aqueduct." The balance of water within the region is produced locally, from sources that include groundwater and surface water production, recycled water and recovery of contaminated or degraded groundwater, and seawater desalination. Programs to develop these local resources include projects funded by Metropolitan's Local Resources Program (the "LRP"), as well as local agency funded programs. See "–Local Water Supplies."

Based on a ten-year average from calendar years 2012 through 2021 (the most recent full year information available), non-Metropolitan sources met about 54 percent of the region's water needs. These non-Metropolitan sources of supply fluctuate in response to variations in rainfall. During prolonged periods of below normal rainfall, local water supplies decrease. Conversely, prolonged periods of above-normal rainfall increase local supplies. Sources of groundwater basin replenishment include local precipitation, runoff from the coastal ranges, and artificial recharge with imported water supplies. In addition to runoff, recycled water provides an increasingly important source of replenishment water for the region.

Metropolitan's member agencies are not required to purchase or use any of the water available from Metropolitan. Some agencies depend on Metropolitan to supply nearly all of their water needs, regardless of the weather. Other agencies, with local surface reservoirs or aqueducts that capture rain or snowfall, rely on Metropolitan more in dry years than in years with heavy rainfall, while others, with ample groundwater supplies, purchase Metropolitan water only to supplement local supplies and to recharge groundwater basins. Consumer demand and locally supplied water vary from year to year, resulting in variability in the volume of Metropolitan's water transactions.

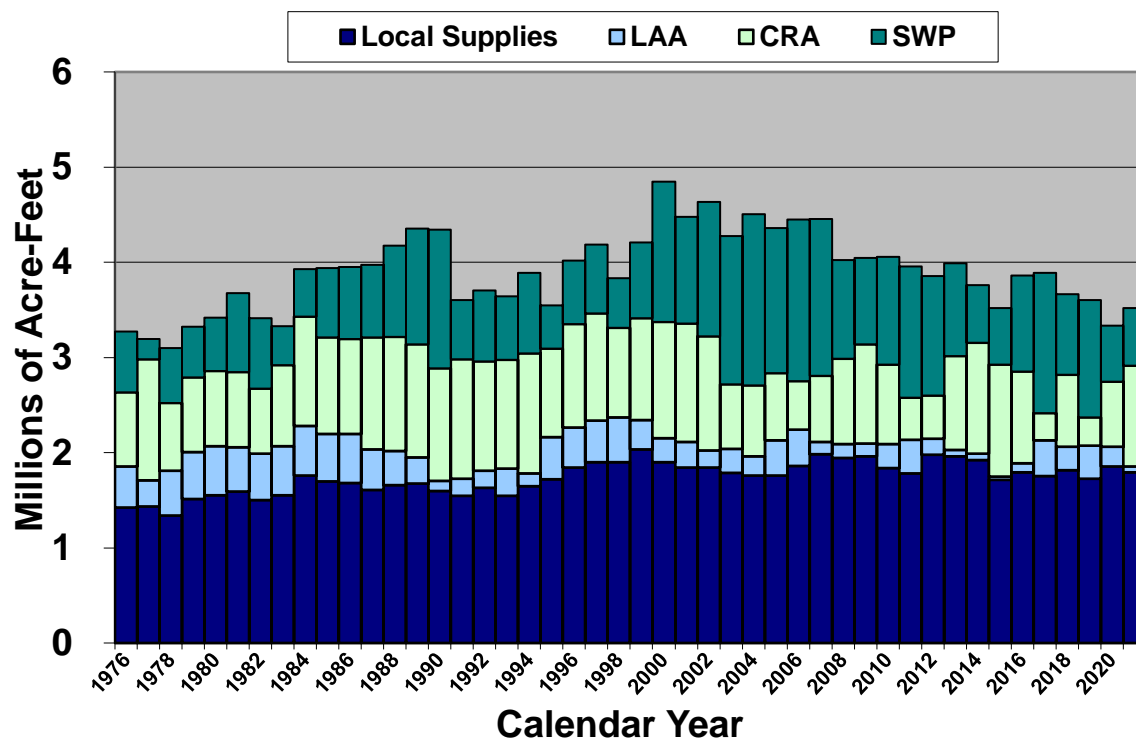
In recent years, supplies and demands have been affected by drought, water use restrictions, economic conditions, weather conditions and environmental laws, regulations and judicial decisions, as described in this Appendix A under "METROPOLITAN'S WATER SUPPLY." The demand for supplemental supplies provided by Metropolitan is dependent on water use at the retail consumer level and the amount of locally supplied and conserved water. See "CONSERVATION AND WATER SHORTAGE MEASURES" in this Appendix A and "–Local Water Supplies" below.

Future reliance on Metropolitan supplies will depend on, among other things, current and future local projects that may be developed and the amount of water that may be derived from sources other than Metropolitan. For information on Metropolitan's water revenues, see "METROPOLITAN REVENUES" and "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A.

The following graph shows a summary of the regional sources of water supply for calendar years 1976 to 2021 (the most recent full year information available). In the graph below, LAA refers to the Los Angeles

Aqueduct. See “–Los Angeles Aqueduct.” The graph below includes updated local supply numbers that include Santa Ana River baseflow below Prado Dam, which was previously not included from 1980 through 2009.

### Sources of Water Supply in the Metropolitan Service Area (1976-2021)



Source: Metropolitan.

The major sources of water available to some or all of Metropolitan’s member agencies in addition to supplies provided by Metropolitan are described below.

#### Los Angeles Aqueduct

The City of Los Angeles, through its Department of Water and Power (“LADWP”), operates its Los Angeles Aqueduct system to import water from the Owens Valley and the Mono Basin on the eastern slopes of the Sierra Nevada in eastern California. Water imported by the City on the Los Angeles Aqueduct system comes primarily from surface water rights of the City in eastern Sierra Nevada watersheds along various streams, creeks and rivers in the Mono Basin, Long Valley and Owens Valley, and groundwater resources in the Owens Valley from the City’s ownership of approximately 330,000 acres of land and associated water rights. This water supply of the City, which serves LADWP’s customers, currently meets about five percent of the region’s water needs based on a ten-year average from calendar years 2012 through 2021 (the most recent full year information available).

Surface runoff (snowmelt) is subject to substantial annual variability, which influences the amount of water delivered by the Los Angeles Aqueduct. In addition, the City is subject to several environmental commitments in the Mono Basin and Owens Valley which impact the availability of water to the City for import on the Los Angeles Aqueduct. These include: (i) the SWRCB’s Mono Lake Basin Water Rights

Decision 1631, which limits the City's water exports from the Mono Basin based on Mono Lake's surface elevation; and (ii) the City's legal obligations under a long-term groundwater management plan relating to the City's groundwater resources in the Owens Valley.

Los Angeles Aqueduct water deliveries to the City vary from one year to the next. Since calendar year 2012, Los Angeles Aqueduct water deliveries to the City have varied from as little as 33,000 acre-feet in calendar year 2015 to as much as 380,000 acre-feet of water in calendar year 2017. Average water deliveries to the City from the Los Angeles Aqueduct were approximately 247,000 acre-feet per calendar year between calendar years 2017 and 2021 (meeting approximately 50 percent of the City's annual water needs). However, during calendar year 2021, water deliveries to the City from the Los Angeles Aqueduct were approximately 62,000 acre-feet (meeting approximately 13 percent of the City's water need for calendar year 2021). Consequently, the amount of water purchased by the City from Metropolitan also varies with the fluctuations of Los Angeles Aqueduct supply. During the past five calendar years 2017 through 2021, the City's water purchases from Metropolitan (billed water transactions) ranged from a low of 102,000 in calendar year 2019 to a high of 346,000 in calendar year 2021.

### **Local Water Supplies**

Local water supplies are made up of groundwater, groundwater recovery, surface runoff, recycled water, and seawater desalination. Metropolitan supports local resources development through its LRP, which provides financial incentives of up to \$340 per acre-foot of water production (based on actual project unit costs that exceed Metropolitan's water rates) from local water recycling, groundwater recovery, and seawater desalination projects. LRP agreement terms are for 25 years and terminate automatically if construction does not commence within two full fiscal years of agreement execution or if water deliveries are not realized within four full fiscal years of agreement execution. Metropolitan utilizes conjunctive use of groundwater to encourage storage in groundwater basins. Member agencies and other local agencies have also independently funded and developed additional local supplies, including groundwater clean-up, recycled water and desalination of brackish or high salt content water. See also "METROPOLITAN'S WATER DELIVERY SYSTEM—Water Quality and Treatment" in this Appendix A for information regarding certain water quality regulations and developments that impact or may impact certain local groundwater supplies.

Metropolitan's water transaction projections are based in part on projections of locally-supplied water. Projections of future local supplies are based on estimated yields of projects that are currently producing water or are under construction at the time a water transaction projection is made. Estimated yields of projects currently producing water are calculated based on the projects' previous four-year production average. Estimated yields of projects that are under construction at the time a water transaction projection is made are based on data provided by the member agencies. See "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES—Water Transactions Projections" and "METROPOLITAN'S WATER SUPPLY—Integrated Water Resources Plan" in this Appendix A.

**Groundwater.** Local groundwater basins are the region's largest source of local supply. Since 2012, approximately 1.15 million acre-feet per year, about one-third of the annual water demands for approximately 19 million residents of Metropolitan's service area, are met through local groundwater production. Local groundwater basins are supported by recycled water and imported water used for replenishing basins and for creating seawater barriers that protect coastal aquifers from seawater intrusion.

**Member Agency Storage Programs.** Metropolitan has developed a number of local programs to work with its member agencies to increase storage in groundwater basins. Metropolitan has encouraged storage through its cyclic and conjunctive use storage programs. These programs allow Metropolitan to deliver water into a groundwater basin in advance of agency demands. Metropolitan has drawn on dry-year supply from nine contractual conjunctive use storage programs to address shortages from the State Water Project and the CRA.

Cyclic storage agreements allow pre-delivery of imported water for recharge into groundwater basins in excess of an agency's planned and budgeted deliveries making best use of available capacity in conveyance pipelines, use of storm channels for delivery to spreading basins, and use of spreading basins. This water is then purchased at a later time when the agency has a need for groundwater replenishment deliveries.

Conjunctive use agreements provide for storage of imported water that can be called for use by Metropolitan during dry, drought, or emergency conditions. During a dry period, Metropolitan has the option to call water stored in the groundwater basins pursuant to its contractual conjunctive use agreements. At the time of the call, the member agency pays Metropolitan the prevailing rate for that water. Nine conjunctive use projects provide about 210,000 acre-feet of groundwater storage and have a combined extraction capacity of about 70,000 acre-feet per year. See the table entitled "Metropolitan's Water Storage Capacity and Water in Storage" under "METROPOLITAN'S WATER SUPPLY-Storage Capacity and Water in Storage" in this Appendix A.

**Reverse Cyclic Program.** In 2022, Metropolitan's Board authorized the General Manager to enter into reverse-cyclic agreements with participating member agencies to preserve the availability of Metropolitan's State Water Project supplies. Metropolitan's General Manager initiated deferrals under the Reverse-Cyclic Program ("RCP") when the General Manager determined that the supply conditions warranted deferring the use of State Water Project supplies due to the risk of shortage of these supplies. Metropolitan executed agreements with Calleguas Municipal Water District, Three Valleys Municipal Water District, and Upper San Gabriel Valley Municipal Water District in 2022. Under these agreements and at Metropolitan's request, participating member agencies agreed to defer Metropolitan deliveries of 25,000 acre-feet of water (in aggregate) purchased in calendar year 2022 to allow Metropolitan to preserve its State Water Project supplies. Metropolitan billed participating member agencies the 2022 full-service rate and applicable treatment charge. In doing so, the participating member agencies avoid paying the projected higher service rate that would be in place when Metropolitan makes the deferred delivery. Metropolitan will deliver water to the participating member agencies no later than December 2027, which is five full calendar years from the date of purchase. This program was not reauthorized for 2023.

**Recovered Groundwater.** Contamination of groundwater supplies is a growing threat to local groundwater production. Metropolitan has been supporting increased groundwater production and improved regional supply reliability by offering financial incentives to agencies for the production and treatment of degraded groundwater since 1989 through the LRP. Metropolitan has executed LRP agreements with local agencies to provide financial incentives to 28 projects that recover contaminated groundwater with total contract yields of about 125,000 acre-feet per year. Total groundwater recovery use under executed agreements with Metropolitan is estimated to be approximately 60,000 acre-feet in calendar year 2021 and 38,000 acre-feet in calendar year 2022. Additionally, 60,000 acre-feet of recovered groundwater were produced by local agencies through other independently funded and developed sources.

**Surface Runoff.** Local surface water resources consist of runoff captured in storage reservoirs and diversions from streams. Since 2012, agencies have used an average of 84,000 acre-feet per calendar year of local surface water. Local surface water supplies are heavily influenced by year to year local weather conditions, varying from a high of 139,000 acre-feet in calendar year 2012 to a low of 37,500 acre-feet in calendar year 2016.

Stormwater is another local water supply and is surface runoff that is captured and contained on-site as opposed to captured in storage reservoirs or diverted from streams. In 2020, Metropolitan launched two pilot programs to better understand the costs and benefits of stormwater capture, yield, and use. One program examines opportunities to capture stormwater for direct use and the other explores stormwater capture for groundwater recharge. The programs accepted applications through December 31, 2021. Together, Metropolitan committed up to \$12.5 million under these programs. The projects funded under these programs are in either the construction or monitoring phase. The pilot programs are expected to last at least five years,

including the construction and monitoring phases. The data collected during the pilot programs will assist Metropolitan in evaluating the water supply benefits of stormwater capture and provide guidance for future funding strategies.

***Recycled Water-Local Agency Projects.*** Metropolitan has supported recycled water use to offset water demands and improve regional supply reliability by offering financial incentives to agencies for production and sales of recycled water since 1982 through the LRP. Since the inception of the LRP, Metropolitan has executed agreements with local agencies to provide financial incentives to 88 recycled water projects with total expected contract yields of about 357,000 acre-feet per year. During fiscal year 2021-22, Metropolitan provided incentives for approximately 56,500 acre-feet of recycled water under these agreements. Additionally, 393,000 acre-feet of recycled water (including wastewater discharged to the Santa Ana River that percolates into downstream groundwater basins) was produced in fiscal year 2021-22 by local agencies through other independently funded and developed sources. Total recycled water use under executed agreements with Metropolitan currently in place is estimated to be approximately 55,000 acre-feet in calendar year 2021 and 54,000 acre-feet in calendar year 2022.

Metropolitan also supports recycled water conversions for property owners through the On-Site Retrofit Program. The On-Site Retrofit Program provides a financial incentive of \$195 per acre-foot of estimated offset water for ten years to property owners who convert an imported water demand to a recycled water system. In January 2022, Metropolitan's Board authorized staff to increase the incentive term from five to ten years (\$195/acre-foot for 10 years) in recognition of the long lifespan of recycled water infrastructure. As of March 1, 2023, the On-Site Retrofit Program has provided \$11.75 million to 474 projects that offset approximately 13,241 acre-feet per year of imported water supplies.

***Recycled Water-Metropolitan Pure Water Southern California Program.*** Since 2010, Metropolitan has been evaluating the potential and feasibility of implementing a regional recycled water program, now referred to as Pure Water Southern California (the "PWSC") (previously identified as the Regional Recycled Water Program or RRWP). Chronic drought conditions have resulted in significant reductions in local surface supplies and groundwater production and have increased the need for recharge supplies to groundwater and surface water reservoirs to improve their sustainable yields and operating integrity. In 2015, Metropolitan executed an agreement with the Los Angeles County Sanitation Districts ("LACSD") to implement a demonstration project and to establish a framework of terms and conditions of the PWSC. The objectives of the PWSC are to enable the potential reuse of up to 150 million gallons per day ("mgd") of cleaned wastewater effluent from LACSD's Joint Water Pollution Control Plant ("JWPCP"). Purified water from a new advanced treatment plant could be delivered through pipelines to the region's groundwater basins, industrial facilities, and two of Metropolitan's treatment plants.

Construction of a 0.5-mgd advanced water treatment demonstration plant was approved in 2017 and was completed in September 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. The tertiary membrane bioreactor ("MBR") first testing phase was completed in 2021 and has been followed by secondary MBR testing which will be completed in 2023. The testing will form the basis for the design, operation, and optimization of the advanced treatment plant and will help inform Metropolitan's Board decision whether to move forward with, a full-scale program.

If implemented, the PWSC will have the flexibility to produce purified water suitable for Direct Potable Reuse ("DPR") through raw water augmentation at two of Metropolitan's treatment plants. The SWRCB Division of Drinking Water ("DDW") is in the process of developing regulations for DPR in California, with the statutorily-mandated deadline of December 31, 2023.

On November 10, 2020, Metropolitan's Board voted to begin environmental planning work on the PWSC. The Notice of Preparation was published on September 2022 with scoping meetings held in October



2022. The draft EIR is scheduled for completion in the first quarter of 2023 with approval anticipated in the fall/winter of 2024.

Metropolitan has been active in pursuing partnerships with other agencies. In November 2020, Metropolitan and LACSD executed an amendment to the existing collaboration agreement to contribute up to approximately \$4.4 million for the environmental planning phase costs. In December 2020, Metropolitan and SNWA executed a funding agreement under which SNWA will contribute up to \$6 million for the environmental planning costs for the PWSC. In the event either SNWA or Metropolitan decides not to proceed or participate in the PWSC in the future, SNWA's financial contribution to the PWSC's environmental planning would be returned by Metropolitan. In 2021, Metropolitan signed an agreement with the Arizona Parties (Central Arizona Project and Arizona DWR) for a \$6 million financial contribution similar to the SNWA agreement. Overall, Metropolitan has ten letters of interest representing 15 different agencies. In addition, Metropolitan was awarded \$80 million in grant funding for the PWSC from the State of California in the State's fiscal year 2022-23 budget.

Environmental planning phase work for the PWSC began in fiscal year 2020-21 and is expected to continue through fiscal year 2023-24 into fiscal year 2024-25. The fiscal year 2022-23 and 2023-24 biennial budget includes \$20 million for planning costs of the PWSC as part of the operations and maintenance budget. Metropolitan's financial projections for the fiscal years ending June 30, 2023 through 2027 include approximately \$273 million in fiscal years 2024-25 through 2026-27 for estimated future capital costs associated with a potential full-scale PWSC. If approved, design and construction would be expected to take approximately eight years, with total construction costs estimated at approximately \$3.7 billion.

***Seawater Desalination.*** Metropolitan supports seawater desalination as a part of the region's supply portfolio as well as a mechanism to increase regional supply resiliency under different climate change and population growth scenarios.

In 2007, the Board approved Metropolitan's role as a regional facilitator for seawater desalination. This includes supporting local projects during permitting and providing technical assistance when requested. Metropolitan's regional facilitation includes active participation in organizations advocating for desalination and salinity management, including CalDesal and the Southern California Salinity Coalition within California, and the Multi-State Salinity Coalition nationally. Metropolitan also participates in the National Alliance for Water Innovation ("NAWI"). NAWI is a Department of Energy-led, \$100 million research effort focused on accelerating the commercialization of early-stage desalination technologies. New technologies developed by NAWI could reduce cost and environmental barriers to seawater desalination in California.

In October 2014, seawater desalination projects became eligible for funding under Metropolitan's LRP. There is currently one local seawater desalination project in the permitting stage that could receive LRP incentives. South Coast Water District ("South Coast") is proposing a 5-mgd Doheny Ocean Desalination project (the "Doheny Project") in south Orange County. South Coast has obtained key State permits for the Doheny Project and will be initiating the 60 percent design phase in 2023. The 50-mgd Huntington Beach Seawater Desalination is no longer under development after failing to obtain a coastal development permit. LRP applications for potential projects would be considered by Metropolitan's Board after they are permitted, free of litigation, and authorized to proceed by their developing agencies.

In 2015, Poseidon Resources LLC ("Poseidon") began operating the 56,000 acre-foot per year (50-mgd) Carlsbad Desalination Project and associated pipeline. SDCWA has a purchase agreement with Poseidon for a minimum of 48,000 acre-feet per year with an option to purchase an additional 8,000 acre-feet per year.

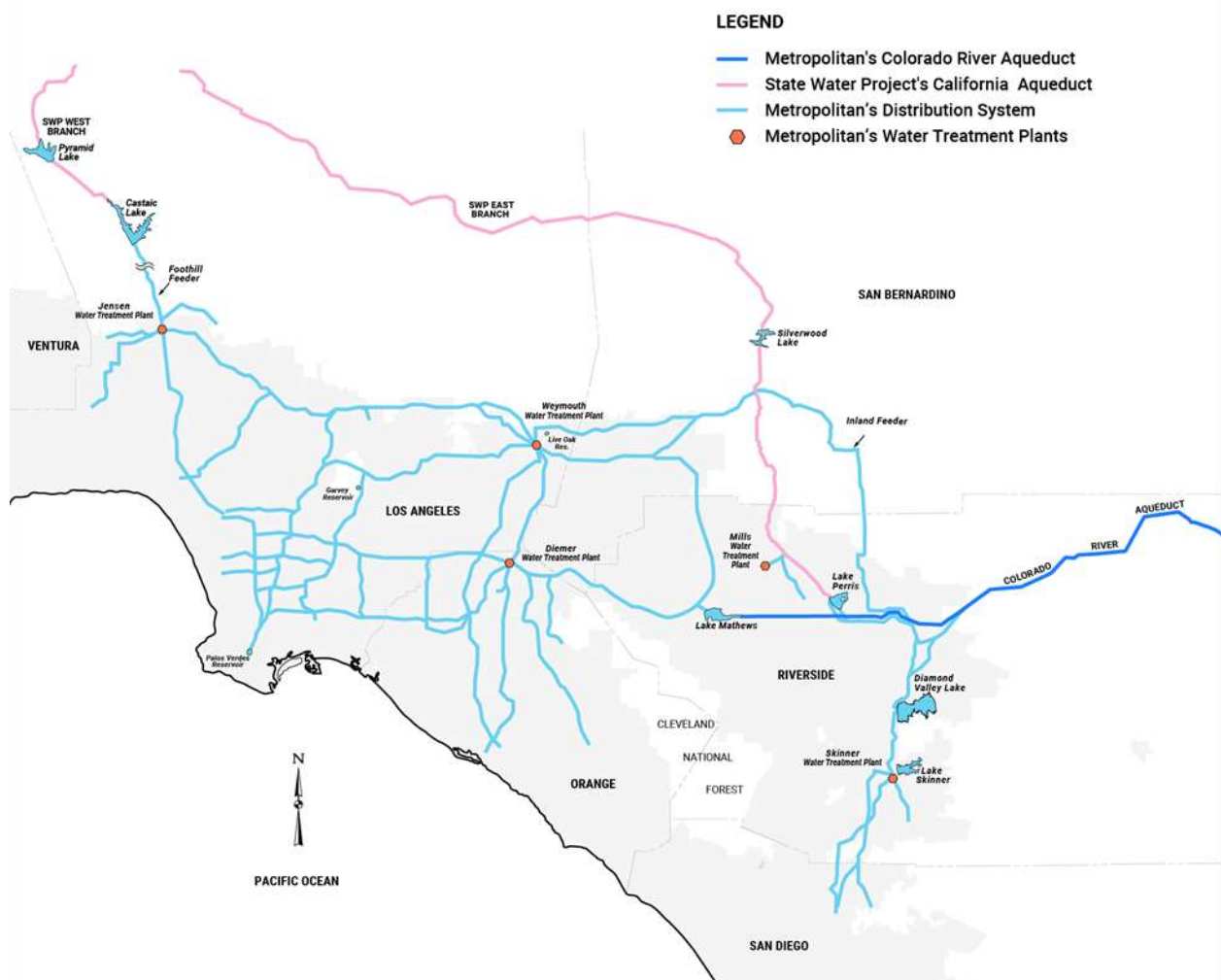
## METROPOLITAN'S WATER DELIVERY SYSTEM

### Primary Facilities and Method of Delivery

Metropolitan's water delivery system is made up of three basic components: the Colorado River Aqueduct (CRA), the California Aqueduct of the State Water Project, and Metropolitan's water distribution system. Metropolitan's delivery system is integrated and designed to meet the differing needs of its member agencies. Metropolitan seeks redundancy in its delivery system to assure reliability in the event of an outage. Improvements are designed to increase the flexibility of the system. Since local sources of water are generally used to their maximum each year, growth in the demand for water is partially met by Metropolitan. The operation of Metropolitan's water system is being made more reliable through the rehabilitation of key facilities as needed, improved preventive maintenance programs and the upgrading of Metropolitan's operational control systems. See "CAPITAL INVESTMENT PLAN" in this Appendix A.

The graphic that follows depicts Metropolitan's water delivery system, which is further described below.

## METROPOLITAN'S WATER DELIVERY SYSTEM



Source: Metropolitan.

**Colorado River Aqueduct.** Work on the CRA commenced in 1933 and water deliveries started in 1941. Additional facilities were completed by 1961 to meet additional requirements of Metropolitan's member agencies. The CRA is 242 miles long, starting at the Lake Havasu intake and ending at the Lake Mathews terminal reservoir. Metropolitan owns all the components of the CRA, which include five pumping plants, 64 miles of canal, 92 miles of tunnels, 55 miles of concrete conduits, four reservoirs, and 144 underground siphons totaling 29 miles in length. The pumping plants lift the water approximately 1,617 feet over several mountain ranges to Metropolitan's service area. See "METROPOLITAN'S WATER SUPPLY-Colorado River Aqueduct" in this Appendix A.

**State Water Project.** The initial portions of the State Water Project serving Metropolitan were completed in 1973. The State Water Project, managed and operated by DWR, is one of the largest water supply projects undertaken in the history of water development. The State Water Project facilities dedicated to water delivery consist of a complex system of dams, reservoirs, power plants, pumping plants, canals and aqueducts to deliver water. Water from rainfall and snowmelt runoff is captured and stored in State Water Project conservation facilities and then delivered through State Water Project 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 State Water Project through the main stem of the aqueduct system, the California Aqueduct, which is 444 miles long and includes 381 miles of canals and siphons, 49 miles of pipelines or tunnels and 13 miles of channels and reservoirs.

As described herein, Metropolitan is the largest (in terms of number of people it serves, share of State Water Project water it has contracted to receive, and percentage of total annual payments made to DWR therefor) of 29 agencies and districts that have entered into contracts with DWR to receive water from the State Water Project. Contractors pay all costs of the facilities in exchange for participation rights in the system. Thus, Contractors also have the right to use the portion of the State Water Project conveyance system necessary to deliver water to them at no additional cost as long as capacity exists. See "METROPOLITAN'S WATER SUPPLY-State Water Project" in this Appendix A.

**Distribution System.** Metropolitan's distribution system is a complex network of facilities which routes water from the CRA and State Water Project to Metropolitan's member agencies. The water distribution system includes components that were built beginning in the 1930s and through the present. Metropolitan owns all of these components, including nine reservoirs, five regional treatment plants, over 800 miles of transmission pipelines, feeders and canals, and 15 hydroelectric plants with an aggregate capacity of 130 megawatts.

In 2022, Metropolitan committed to equivalent water supply reliability for all member agencies. Based on performance during the 2020-2022 drought, improvements to the distribution system are planned or underway to achieve this commitment.

**Diamond Valley Lake.** Diamond Valley Lake, a man-made reservoir, built, owned and operated by Metropolitan, is located southwest of the city of Hemet, California. Excavation at the project site began in May 1995. Diamond Valley Lake was completed in March 2000, at a total cost of \$2 billion, and was in full operation in December 2001. It covers approximately 4,410 acres and has capacity to hold approximately 810,000 acre-feet or 265 billion gallons of water. Imported water is delivered to Diamond Valley Lake during surplus periods. The reservoir provides more reliable delivery of imported water from the State Water Project during summer months, droughts and emergencies. In addition, Diamond Valley Lake can provide more than one-third of Southern California's water needs from storage for approximately six months after a major emergency (assuming that there has been no impairment of Metropolitan's internal distribution network). See the table entitled "Metropolitan's Water Storage Capacity and Water in Storage" under "METROPOLITAN'S WATER SUPPLY-Storage Capacity and Water in Storage" in this Appendix A for the amount of water in storage at Diamond Valley Lake.

***Inland Feeder.*** Metropolitan's Inland Feeder is a 44-mile-long conveyance system that connects the State Water Project to Diamond Valley Lake and the CRA. Construction of the Inland Feeder was completed in September 2009 at a total cost of \$1.14 billion. The Inland Feeder provides greater flexibility in managing Metropolitan's major water supplies and allows greater amounts of State Water Project water to be accepted during wet seasons for storage in Diamond Valley Lake. In addition, the Inland Feeder increases the conveyance capacity from the East Branch of the State Water Project by 1,000 cfs, allowing the East Branch to operate up to its full capacity.

***Operations Control Center.*** Metropolitan's water conveyance and distribution system operations are coordinated from the Eagle Rock Operations Control Center (the "OCC") centrally located in Los Angeles County. The OCC plans, balances and schedules daily water and power operations to meet member agencies' demands, taking into consideration the operational limits of the entire system.

## **Water Quality and Treatment**

***General.*** Metropolitan filters and disinfects water at five water treatment plants: the F.E. Weymouth Treatment Plant in La Verne, the Joseph Jensen Treatment Plant in Granada Hills, the Henry J. Mills Treatment Plant in Riverside, the Robert B. Diemer Treatment Plant in Yorba Linda, and the Robert A. Skinner Treatment Plant in Winchester. In recent years, the plants typically treat between 0.8 billion and 1.0 billion gallons of water per day and have a maximum capacity of approximately 2.4 billion gallons per day. Approximately 50 percent of Metropolitan's water deliveries are treated water.

During 2021, due to the ongoing COVID-19 pandemic, Metropolitan received force majeure notices from certain of its chemical vendors regarding their inability to fulfill orders as a result of competing demand and supply chain issues. Metropolitan's chemical supplies, however, were not impacted. In addition, the COVID-19 pandemic caused labor shortages, resulting in periodic delays in chemical deliveries. This issue continued in 2022. Metropolitan monitors its chemical inventories closely and did not experience interruptions in its supplies. However, limited supplies and inflationary pressures have resulted in cost increases, which are continuing.

Metropolitan is operating in compliance with current State and federal drinking water regulations and permit requirements.

Federal and state regulatory agencies routinely identify potential contaminants and establish new water quality standards. Metropolitan continually monitors new water quality laws and regulations and frequently comments on new legislative proposals and regulatory rules. New water quality standards could affect the availability of water and impose significant compliance costs on Metropolitan. The federal Safe Drinking Water Act ("SDWA") establishes drinking water quality standards, monitoring, and public notification and enforcement requirements for public water systems. To achieve these objectives, the U.S. Environmental Protection Agency (the "USEPA"), as the lead regulatory authority, promulgates national drinking water regulations and develops the mechanism for individual states to assume primary enforcement responsibilities. The SWRCB DDW has primary responsibility for the regulation of public water systems in the State. Drinking water delivered to customers must comply with statutory and regulatory water quality standards designed to protect public health and safety. Metropolitan operates its five water treatment plants under a domestic water supply permit issued by DDW, which is amended, as necessary, such as when significant facility modifications occur. Metropolitan operates and maintains water storage, treatment and conveyance facilities, implements watershed management and protection activities, performs inspections, monitors drinking water quality, and submits monthly and annual compliance reports. In addition, public water system discharges to state and federal waters are regulated under general National Pollutant Discharge Elimination System ("NPDES") permits. These NPDES permits, which the SWRCB issued to Metropolitan, contain numerical effluent limitations, monitoring, reporting, and notification requirements for water discharges from the facilities and pipelines of Metropolitan's water supply and distribution system.

**Groundwater.** As described herein, Metropolitan has established five groundwater storage programs with other water agencies that allow Metropolitan to store available supplies in the Central Valley for return later. These programs help manage supplies by putting into storage surplus water in years when it is available and converting that to dry year supplies to be returned when needed. These programs can also provide emergency supplies. See “METROPOLITAN’S WATER SUPPLY–Water Transfer, Storage and Exchange Programs –State Water Project Agreements and Programs” and “–Storage Capacity and Water in Storage” in this Appendix A. Generally, water returned to Metropolitan under these groundwater storage programs (“return water”) may be made available in one of two ways: by direct pump back from a groundwater well to the California Aqueduct or, when available, by an exchange with a supply already in the aqueduct. Water quality issues can arise in water returned by direct pumping as a result of the presence of a water quality contaminant in the groundwater storage basin and due to the imposition of stricter water quality standards by federal or State regulation.

In 2017, the SWRCB adopted a regulation setting an MCL for TCP of five parts per trillion (“ppt”) based upon a running annual average. TCP is a manufactured chemical used as a cleaning and degreasing solvent and has been found at industrial and hazardous waste sites. It is also associated with pesticide products used in agricultural practices. TCP has been recognized by the State of California as a likely human carcinogen. In January 2018, the new regulation went into effect. Under the new regulation, drinking water agencies are required to perform quarterly monitoring of TCP. There have been no detections of this chemical in Metropolitan’s system. However, TCP has been detected above the MCL in groundwater wells of three of Metropolitan’s groundwater storage program partners through monitoring performed by these agencies. Levels detected in groundwater wells of Arvin-Edison are the highest and impact Metropolitan’s ability to put water into storage and take return water under that program. As noted under “METROPOLITAN’S WATER SUPPLY–Water Transfer, Storage and Exchange Programs –State Water Project Agreements and Programs – Arvin-Edison/Metropolitan Water Management Program” in this Appendix A, Metropolitan has suspended the return of groundwater from this program until the water quality concerns can be further evaluated and managed. When surface water storage is available to Arvin-Edison, it may provide that water to Metropolitan in lieu of groundwater and deduct an equivalent amount from Metropolitan’s groundwater storage account. However, in 2023, Metropolitan will take return of approximately 10,000 to 20,000 acre-feet less of stored water (via surface water exchange) than it would otherwise request due to the elevated levels of TCP present in Arvin-Edison’s groundwater wells. The levels of TCP detected at Metropolitan’s other groundwater storage programs are much lower and impact fewer groundwater wells. Metropolitan is evaluating the effects of TCP on the return capability of those programs.

Possible remediation measures include, for example, return water with other surface water supplies, removal of wells from service, return water by exchange, or treatment. Additional capital and/or operation and maintenance costs could be incurred by Metropolitan in connection with remediation options, but the magnitude of such costs is not known at this time. To the extent return water under one or more groundwater storage programs could not be utilized due to groundwater quality, the available supply of stored water during extended drought or emergency periods would be reduced.

**Perchlorate.** Perchlorate is both a naturally occurring and man-made chemical used in the production of rocket fuel, missiles, fireworks, flares and explosives. It is also sometimes present in bleach and in some fertilizers. Groundwater in the Henderson, Nevada area has been contaminated with perchlorate as a result of two former chemical manufacturing facilities, and there are ongoing remediation programs to mitigate its release into the Las Vegas Wash and the downstream Colorado River. On July 21, 2020, the USEPA withdrew its 2011 determination to regulate perchlorate under the SDWA and issued a new determination that perchlorate does not meet the statutory criteria for regulation, largely because of State MCLs in California, and the reduction of perchlorate entering the Colorado River and reducing the potential exposed population. Thus, there is currently no federal drinking water standard for perchlorate, which could potentially affect remediation efforts at two sites in the Henderson area (described below). Whether the USEPA should issue a national drinking water standard for perchlorate is the subject of ongoing litigation by the Natural Resources Defense

Council (“NRDC”). On January 27, 2023, three judges of the U.S. Court of Appeals for the District of Columbia Circuit heard oral argument in NRDC’s lawsuit. The court has not yet issued its decision.

California is reviewing its MCL for perchlorate in light of a revised Public Health Goal (“PHG”) of 1 µg/L adopted in February 2015. PHGs are established by the California Office of Environmental Health Hazard Assessment (“OEHHA”) and used as the basis for the development of a State regulation setting an MCL. The SWRCB is required to set an MCL for a chemical as close to the PHG as is technologically and economically feasible, placing primary emphasis on the protection of public health. DDW is conducting an in-depth risk management analysis to determine whether to revise the perchlorate MCL of 6 µg/L. The detection limit for purposes of reporting (DLR) for perchlorate was lowered to 2 µg/L in July 2021, and it will further be reduced to 1 µg/L in January 2024. If California’s MCL for perchlorate is revised to a level less than 6 µg/L, it will be important for the oversight agencies, the USEPA and the Nevada Division of Environmental Protection, to ensure that the perchlorate contamination originating at the two former chemical manufacturing facilities in Henderson, Nevada is remediated to a level that minimizes impacts to the Colorado River and that perchlorate concentrations at Metropolitan’s Whitsett Intake at Lake Havasu stay at levels below California’s MCL. Metropolitan was successful in 2022 in convincing the USEPA and the Nevada Division of Environmental Protection to require the Nevada Environmental Response Trust (which is responsible for cleaning up the former site of one of the chemical manufacturers in Henderson, Nevada) to use California’s current MCL of 6 µg/L for perchlorate as an applicable or relevant and appropriate requirement (“ARAR”) and California’s PHG for perchlorate of 1 µg/L as a to-be-considered criterion for remedial action objectives at the California state line. Metropolitan will continue to monitor the cleanup of the two former chemical manufacturing facilities in Henderson, Nevada and to participate in federal and state rulemaking proceedings.

**PFAS.** Per- and poly-fluoroalkyl substances (“PFAS”) are substances widely used in consumer and industrial products such as fabrics, carpets, firefighting foams, food packaging, and nonstick cookware and are known for their nonstick, waterproof, and heat and stain resistant properties. Perfluorooctane sulfonate (“PFOS”) and perfluorooctanoic acid (“PFOA”) are the two most common synthetic organic chemicals in the group of compounds referred to as PFAS. In August 2019, DDW lowered the notification levels (“NLs”) for PFOS from 13 ppt to 6.5 ppt and for PFOA from 14 ppt to 5.1 ppt. NLs are non-regulatory, precautionary health-based measures for concentrations of chemicals in drinking water that warrant notification and further monitoring and assessment. If a chemical concentration is greater than its NL in drinking water that is provided to consumers, DDW recommends that the utility inform its customers and consumers about the presence of the chemical, and about health concerns associated with exposure to it. In February 2020, DDW lowered the response levels (“RLs”) for PFOA and PFOS from 70 ppt for individual or combined concentrations to 10 ppt for PFOA and 40 ppt for PFOS. An RL is set higher than an NL and represents a chemical concentration level at which DDW recommends a water system consider taking a water source out of service or providing treatment if that option is available to them. Legislation which took effect on January 1, 2020 (California Assembly Bill 756) requires that water systems that receive a monitoring order from the SWRCB and detect levels of PFAS that exceed their respective RL must either take a drinking water source out of use or provide specified public notification if they continue to supply water above the RL. In March 2021, DDW issued an NL of 0.5 parts per billion (“ppb”) and an RL of 5 ppb for perfluorobutane sulfonic acid (“PFBS”), another PFAS chemical. In July 2021, OEHHA proposed PHGs for PFOA at 0.007 ppt and PFOS at 1 ppt, the next step in the process of establishing MCLs in drinking water. In October 2022, the SWRCB issued an NL of 3 ppt and an RL of 20 ppt for perfluorohexane sulfonic acid (“PFHxS”). Also in October 2022, the SWRCB issued a general order requiring select public water systems to monitor for PFAS.

There are currently no federal regulations on the level of PFAS allowed in treated drinking water. The USEPA established non-enforceable and non-regulatory health advisories in 2016 for PFOA and PFOS at single or combined concentrations of 70 ppt in treated drinking water. These advisories indicate the level of drinking water contamination below which adverse health effects are not expected to occur. On January 19, 2021, the USEPA announced that it is considering whether to designate PFOA and PFOS as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980

(“CERCLA”) and/or hazardous waste under the Resource Conservation and Recovery Act (“RCRA”). On February 22, 2021, the USEPA announced its proposed revisions to the Fifth Unregulated Contaminant Monitoring Rule (“UCMR 5”) for public water systems which includes monitoring for 29 PFAS in drinking water. On March 3, 2021, the USEPA published its final regulatory determination to regulate PFOA and PFOS in drinking water. Following such determination, the USEPA had 24 months to propose maximum contaminant level goals (“MCLGs”) and MCLs for PFOA and PFOS. On March 14, 2023, the USEPA announced proposed regulations for six PFAS, including PFOA, PFOS, perfluorononanoic acid (“PFNA”), hexafluoropropylene oxide dimer acid (commonly known as “GenX chemicals”), PFHxS, and PFBS. The USEPA is proposing: (1) legally enforceable MCLs of 4 ppt for PFOA and PFOS; (2) non-enforceable health-based MCLGs for PFOS and PFOS at 0; and (3) a hazard index of 1.0 as MCLs and MCLGs for PFNA, PFHxS, PFBS, and/or GenX chemicals and any mixture containing one or more of these four PFAS. The hazard index is a tool used to evaluate health risks from simultaneous exposure to mixtures of certain chemicals. To determine the hazard index for these four PFAS, water systems would monitor and compare the amount of each PFAS in drinking water to its associated Health Based Water Concentration (“HBWC”), which is the level below which no health effects are expected for that PFAS. Water systems would add the comparison values for each PFAS contained within the mixture. If the value is greater than 1.0, it would be an exceedance of the proposed hazard index MCL for PFHxS, GenX chemicals, PFNA, and PFBS. The proposed rule would require public water systems to monitor for these PFAS, notify the public if monitoring detects such PFAS at levels that exceed the proposed regulatory standards, and reduce the levels of such PFAS in drinking water if they exceed the proposed standards. The USEPA is requesting public comment on the proposed regulation. Public comments will be due 60 days after the proposed regulation is published in the Federal Register. The proposed PFAS regulation does not require any action until it is finalized. The USEPA has indicated that it anticipates finalizing the regulation by the end of 2023.

On October 18, 2021, the USEPA published a “PFAS Strategic Roadmap: EPA’s Commitments to Action, 2021-2024” (PFAS Roadmap). The document outlines four main drinking water actions that the USEPA intends to complete from 2021 to 2024: (1) conduct nationwide monitoring for PFAS in drinking water as part of the UCMR 5 process; (2) establish national primary drinking water regulations for PFOA and PFOS by Fall 2023; (3) publish health advisories for GenX chemicals and PFBS by Spring 2022; and (4) publish updates to PFAS analytical methods to monitor drinking water by Fall 2024. On December 27, 2021, the USEPA published the final UCMR 5 for public water systems which includes monitoring for 29 PFAS in drinking water. UCMR 5 requires pre-sampling preparations in 2022, sample collection from 2023-2025, and reporting of final results through 2026. On June 15, 2022, the USEPA established new interim, updated drinking water health advisories for PFOA and PFOS to replace the health advisories established in 2016. The non-enforceable and non-regulatory interim, updated lifetime health advisories for PFOA and PFOS in drinking water are established at concentrations of 0.004 ppt and 0.02 ppt, respectively. In its announcement, the USEPA noted that such concentrations are below the ability to detect under current detection methods. On June 15, 2022, the USEPA also established final health advisories for GenX and PFBS of 10 ppt and 2,000 ppt, respectively. On September 6, 2022, the USEPA issued a proposed rule designating PFOA and PFOS as hazardous substances under CERCLA. Metropolitan provided comments on this proposal and urged USEPA to further evaluate the potentially significant impacts of the proposed CERCLA designation on water and wastewater utilities. Metropolitan will continue to monitor and participate in federal and state rulemaking proceedings.

PFOA and PFBS have not been detected in Metropolitan’s imported or treated water supplies. In 2019, 2020, and 2021, Metropolitan detected in its supplies low levels of PFHxA, which is not acutely toxic or carcinogenic and is not currently regulated in California or at the federal level. In 2021, Metropolitan detected for the first time in its supplies low levels of perfluorobutanoic acid (“PFBA”), perfluoropentanoic acid (“PFPeA”), and PFOS. Metropolitan has not identified any specific sources of these PFAS that have reached its water supplies, and the concentrations detected to date are well below the State’s required reporting values.

Although Metropolitan has not identified any specific sources of these PFAS in its supplies, PFHxA is a common PFAS believed to be an impurity that is inadvertently produced during the manufacture of other PFAS. It is also a breakdown product from lubricants, coatings on food packaging, and household products. PFOS is widely used in surface treatments of carpets, textiles, leather, paper, and cardboard, as a surfactant in extinguishing foams, as a mist suppressant in chrome plating, and as a surfactant in the mining and oil industries. PFBA is a breakdown product of other PFAS that are used in stain-resistant fabrics, paper food packaging, and carpets; it is also used for manufacturing photographic film. It has been used as a substitute for longer chain perfluoroalkyl carboxylic acids in consumer products. PFPeA is a breakdown product of stain- and grease-proof coatings on food packaging, couches, and carpets. PFOA and PFOS have also been detected in groundwater wells in the region, including those of certain member agencies. Metropolitan may experience increased demands for its imported water to help offset the potential loss of any affected local supplies.

### Seismic Considerations and Emergency Response Measures

**General.** Metropolitan's system overlays a region of high seismicity. The conveyance and distribution systems traverse numerous faults capable of generating large magnitude earthquakes and some of Metropolitan's treatment plants, pressure control facilities, and other structures have the potential of experiencing high levels of earthquake-induced shaking. To mitigate this risk, Metropolitan routinely assesses the seismic hazards and potential risks to its facilities. It makes strategic investments through projects to limit overall system damage, improve post-earthquake recovery time, and reduce the impacts felt by the population and businesses. Metropolitan's strategy utilizes a defense-in-depth approach to prepare for and respond to the event adequately. Metropolitan's defense-in-depth approach includes the following priorities: (1) provide a diversified water supply portfolio, increase system flexibility, and maintain adequate levels of emergency storage to be able to withstand the potential disruption of imported supplies; (2) prevent damage to water delivery infrastructure in probable seismic events and limit damage in extreme events through the systematic review and upgrade of facilities for which deficiencies are identified; and (3) minimize the duration of water delivery interruptions through a dedicated emergency response and recovery organization, including in-house design, construction, and fabrication capability.

As part of its goal to increase the diversification of the local water portfolio, Metropolitan has provided monetary assistance to member agencies to develop new local water supplies. Increased and improved diversification of local supplies also improves the region's reliability in the event of a significant seismic event. In addition, Metropolitan is evaluating the feasibility of implementing a regional recycled water program referred to as the PWSC. See "REGIONAL WATER RESOURCES—Local Water Supplies—*Recycled Water—Metropolitan Pure Water Southern California Program*" in this Appendix A. If completed, it is expected that the PWSC would provide up to 150 million gallons per day of advanced treated recycled water for groundwater replenishment. The program, if completed, could provide an additional reliable water source within Metropolitan's service area in the event of an interruption of imported supplies.

In 2000, Metropolitan completed Diamond Valley Lake, an 810,000-acre-foot capacity reservoir located on the coastal side of the San Andreas Fault. With the completion of Diamond Valley Lake, Metropolitan nearly doubled its available in-region surface storage and improved its ability to capture water from Northern California in wet years. Water from Diamond Valley Lake can supply four of Metropolitan's five water treatment plants. Planned system flexibility improvements currently in design and construction will make it possible to transport water from Diamond Valley Lake throughout Metropolitan's distribution system. Diamond Valley Lake, along with the other in-region reservoirs, are used to maintain a six-month emergency storage reserve outside of the operational storage in case of disruption of the imported water supplies. See "—Primary Facilities and Method of Delivery—*Diamond Valley Lake*."

Metropolitan has developed a Seismic Upgrade Program to systematically evaluate its above-ground facilities for seismic risk and prioritize its upgrade effort. Structures undergo an initial rapid evaluation and, if a potential deficiency is identified, will then undergo a detailed structural evaluation to assess the required upgrades. Deficient facilities are upgraded to meet current seismic standards based on criticality to the water



delivery system. Previous projects include seismic upgrades to the pump plant buildings for the CRA and upgrades to various facilities at Metropolitan's treatment plants, such as wash water tanks, filter basins, and administration buildings. For existing pipelines, seismic resilience will be incorporated as a component of pipeline rehabilitation projects. Metropolitan will evaluate each upgrade individually to balance risk, performance, and cost. Metropolitan is currently implementing a 20-year program to replace or reline its prestressed concrete cylinder pipe with a welded steel pipe. Providing a steel liner insert will improve the seismic performance of these pipelines. In addition, Metropolitan is currently installing earthquake-resistant ductile iron pipe at a location where the CRA crosses the Casa Loma Fault.

Metropolitan has an ongoing surveillance program that monitors the safety and structural performance of its dams and reservoirs permitted by DWR's Division of Safety of Dams. Operating personnel perform regular inspections that include monitoring and analyzing seepage flows and pressures. Engineers responsible for dam safety review the inspection data and monitor each dam's horizontal and vertical movements. Major on-site inspections are performed at least twice each year. Instruments that transmit seismic acceleration time histories for analysis are installed at critical sites when a dam is subjected to strong motion during an earthquake.

Metropolitan has developed an emergency plan that calls for specific response levels appropriate to an earthquake's magnitude and location. Included in this plan are various communication tools, as well as a structured plan of management that varies with the severity of the event. Pre-designated personnel follow detailed steps for field facility inspection and distribution system patrol. Approximately 200 employees are designated to respond immediately if seismic events exceed a certain magnitude. An Emergency Operations Center ("EOC") is maintained at the OCC. The OCC/EOC, specifically designed to be earthquake resistant, contains communication equipment, including a radio transmitter, microwave capability, and a response line linking Metropolitan with its member agencies, and DWR. The OCC/EOC also has the capability of communicating with other utilities, County EOCs, and the State's Office of Emergency Services. Metropolitan also maintains in-house capability to address two major pipeline breaks simultaneously as part of its emergency response plan to restore operation shortly after a significant seismic event.

In conjunction with DWR and LADWP, Metropolitan has formed the Seismic Resilience Water Supply Task Force to collaborate on studies and mitigation measures aimed at improving the reliability of imported water supplies to Southern California. Specific task force goals include revisiting historical assumptions regarding potential aqueduct outages after a seismic event; establishing a common understanding about individual agency aqueduct vulnerability assessments, projected damage scenarios, and planning assumptions; and discussing ideas for improving the resiliency of Southern California's imported water supplies through multi-agency cooperation. The task force has established multi-year goals and will continue to meet on these issues and develop firm plans for mitigating seismic vulnerabilities.

Metropolitan's resiliency efforts include manufacturing, pipe fabrication, and coating capabilities in La Verne, California. Over \$47 million has been invested and an additional \$25 million is planned over the next three years to enhance and expand Metropolitan's capacity to provide fabrication, manufacturing, and coating services for rehabilitation work, maintenance activities, and capital projects. Metropolitan can also provide manufacturing, coating, and fabrication services upon request through reimbursable agreements to member agencies and DWR. These agreements have enhanced timely and cost-effective emergency response capabilities. Materials to fabricate pipe and other appurtenant fittings are kept on site. In the event of earthquake damage, Metropolitan has taken measures to provide the capacity to design and fabricate pipe and manufacture fittings. Metropolitan is also staffed to perform emergency repairs.

DWR has in place a seismic assessment program that evaluates the State Water Project's vulnerability to seismic events and makes recommendations for improvements. An example of a recently completed project under this program is the Perris Dam Retrofit. The assessment is important because the California Aqueduct crosses many major faults. The State Water Project delivers water supplies from Northern California that must

traverse the Bay-Delta through hundreds of miles of varying levels of engineered levees that are potentially susceptible to significant damage due to flood and seismic risk. In the event of a failure of the Bay-Delta levees, the quality of the Bay-Delta's water could be severely compromised as saltwater comes in from the San Francisco Bay. Metropolitan's supply of State Water Project water would be adversely impacted if pumps that move Bay-Delta water southward to the Central Valley and Southern California are shut down to contain the saltwater intrusion. Metropolitan estimates that stored water supplies, CRA supplies and local water resources that would be available in case of a levee breach or other interruption in State Water Project supplies would meet demands in Metropolitan's service area for approximately six months. See "METROPOLITAN'S WATER SUPPLY—Storage Capacity and Water in Storage" in this Appendix A.

Metropolitan, in cooperation with the other State Water Project contractors, developed recommendations to DWR for emergency preparedness measures to maintain continuity in export water supplies and water quality during seismic and other emergency events. These measures include improvements to emergency construction materials stockpiles in the Bay-Delta, improved emergency contracting capabilities, strategic levee improvements and other structural measures of importance to Bay-Delta water export interests, including development of an emergency freshwater pathway to export facilities in a severe earthquake.

### **Wildfires Risk Management Response**

Wildfires are an ever-present reality in Southern California. Metropolitan continues to actively prepare for wildfires by collaborating with partner agencies such as the California Department of Forestry and Fire Protection (Cal Fire), DWR, and counties to implement preparedness measures to protect watersheds. Examples of these efforts include removing brush from fire prone areas, as well as removing by-products of large fires such as ash, fire retardant, and other debris that could negatively affect water quality. Metropolitan also collaborates frequently with its member agencies and first-responders from other public agencies. This collaboration includes coordination with local fire departments during and after nearby wildfire events, as well as participating in joint training and exercises throughout the year. Additionally, Metropolitan has a five-year exercise plan that provides member agencies the opportunity to exercise together before a disaster happens. Metropolitan tests its emergency communications processes through regular tests of emergency radio networks, satellite phones, mass-communication alerting systems, and online information sharing systems.

Metropolitan has also implemented measures to protect employees from the impacts of wildfires such as upgrading HVAC systems in control centers to improve the filtration of smoke and other pollutants; and sending emergency notifications to employees to warn them of unhealthy air quality due to nearby fires.

### **Security Measures**

Metropolitan's water and energy facilities are federally-determined critical infrastructure. Metropolitan deploys multiple layers of physical security and collaborates with federal and state partners to mitigate malevolent threats. It manages a physical security system consisting of electronic access controls, a surveillance and intrusion warning system, and a round-the-clock security watch center. Metropolitan maintains professional, in-house security specialists and retains a 200+ contract security guard force. It directs a capital improvement program to harden physical infrastructure. Metropolitan collaborates with key federal and state security partners, which entails on-site consultations, inter-agency mock exercises, real-time monitoring, and first response coordination. It follows the chain-of-custody protocols of the FERC and the North American Electric Reliability Corporation. Finally, Metropolitan complies with regulations authorized under the Bioterrorism Response Act of 2002, the Aviation and Transportation Security Act of 2001, and the America's Water Infrastructure Act of 2018.

## CAPITAL INVESTMENT PLAN

### General Description

Metropolitan's current Capital Investment Plan (the "Capital Investment Plan" or "CIP") describes Metropolitan's infrastructure and system reliability projects, either as new assets, upgrades to existing capital assets or replacements and refurbishments of existing facilities. The CIP is Metropolitan's planning document to ensure asset reliability, enhance operational efficiency and flexibility, and ensure compliance with water quality regulations.

Metropolitan's CIP is regularly reviewed and updated. Metropolitan's biennial budget process includes a review of the projected long-term capital needs and the development of a capital expenditure forecast for the ten-year financial forecast, as well as the identification of the capital priorities of Metropolitan over the biennial budget term. The award of major contracts and professional services agreements are subject to approval by Metropolitan's Board. Pursuant to the Administrative Code, following the adoption of the biennial budget, a Board action is presented to (1) appropriate the total amount of approved biennial CIP expenditures and (2) authorize the General Manager to initiate or proceed with work on capital projects identified in the CIP for such biennial period. The amount and timing of borrowings to fund capital expenditures will depend upon the status of construction activity and water demands within Metropolitan's service area, among other factors. From time to time, projects that have been undertaken are delayed, redesigned, or deferred by Metropolitan for various reasons, and no assurance can be given that a project in the CIP will be completed in accordance with its original schedule or that any project will be completed as currently planned. In addition, from time to time, when circumstances warrant, Metropolitan's Board may approve capital expenditures other than or in addition to those contemplated by the CIP at the time of the then current biennial budget.

### Projection of Capital Investment Plan Expenditures

The table below sets forth the projected CIP expenditures by project type for the fiscal years ending June 30, 2023 through 2028, as reflected in the biennial budget for fiscal years 2022-23 and 2023-24. The projection for the current biennium, which covers fiscal years 2022-23 and 2023-24, is updated quarterly. As shown in the table below, planned capital expenditures of \$300 million per year were appropriated for fiscal years 2022-23 and 2023-24. Based upon the last quarterly update, projected capital expenditures for fiscal years 2022-23 and 2023-24 are approximately \$247.2 million and \$319.8 million, respectively. The actual expenditures are subject to change as projects progress or are advanced. The biennial budget is updated every two years as a result of the periodic review and adoption of the capital budget by Metropolitan's Board. See "HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A.

### CAPITAL INVESTMENT PLAN PROJECTION OF EXPENDITURES<sup>(1)</sup> (Fiscal Years Ending June 30 - Dollars in Thousands)

	2023	2024	2025	2026	2027	2028	Total
Infrastructure R&R	\$ 86,978	\$ 69,899	\$ 93,869	\$ 90,736	\$ 82,979	\$ 141,007	\$ 565,468
Infrastructure Upgrade	161,080	162,713	158,939	166,068	181,000	135,296	965,096
Regulatory Compliance	561	0	0	0	0	0	561
Stewardship	11,907	6,830	8,568	12,514	21,230	17,300	78,349
Supply Reliability <sup>(2)</sup>	4,967	2,697	68,945	63,402	147,995	510,217	798,223
System Flexibility	30,531	41,582	40,566	48,262	42,131	33,920	236,992
Water Quality	3,976	16,279	935	110	0	83	21,383
<b>Total</b>	<b>\$300,000</b>	<b>\$300,000</b>	<b>\$371,822</b>	<b>\$381,092</b>	<b>\$475,335</b>	<b>\$837,823</b>	<b>\$2,666,072</b>

Source: Metropolitan.

<sup>(1)</sup> Based on the ten-year financial forecast provided in the biennial budget for fiscal years 2022-23 and 2023-24.

<sup>(2)</sup> Projected capital expenditures starting in fiscal year 2024-25 include expenditures on the PWSC.

In developing the CIP, projects are reviewed, scored, and prioritized towards the objectives of ensuring the sustainable delivery of reliable, high-quality water, while meeting all regulatory requirements and maintaining affordability. Additional capital costs may arise in the future as a result of, among other things, federal and state water quality regulations, project changes and mitigation measures necessary to satisfy environmental and regulatory requirements, and additional facilities' needs. See "METROPOLITAN'S WATER DELIVERY SYSTEM–Water Quality and Treatment" in this Appendix A.

Construction projects included in the CIP are subject to ordinary construction risks and delays, including but not limited to: inclement weather or natural hazards affecting work and timeliness of completion; contractor claims or nonperformance; work stoppages or slowdowns; unanticipated project site conditions encountered during construction; errors or omissions in contract documents requiring change orders; and/or higher than anticipated construction bids or costs (including as a result of steeper inflationary increases), any of which could affect the costs and availability of, or delivery schedule for, equipment, components, materials, labor or subcontractors, and result in increased CIP costs. The majority of Metropolitan's construction projects over the next five years will be covered by a project labor agreement with labor unions and construction contracts, which will reduce the risk of work stoppages or slowdowns. While the construction schedules for certain Metropolitan projects were initially delayed as a result of the COVID-19 outbreak, such activity has generally resumed. However, some projects continue to be impacted by supply chain issues. Although not currently anticipated, additional delays in the future are possible. See "GOVERNANCE AND MANAGEMENT–COVID-19 Pandemic" in this Appendix A.

### **Capital Investment Plan Financing**

The CIP requires debt financing (see "HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A) as well as pay-as-you-go funding. In connection with the biennial budget process and the development of the ten-year financial forecast provided therein, an internal funding objective is established for the funding of capital program expenditures from current revenues. An internal funding objective to fund 45 percent of capital program expenditures from current revenues was established in connection with the adoption of the biennial budget for fiscal years 2022-23 and 2023-24. This objective is updated every two years as a result of the periodic review and adoption of the capital budget by Metropolitan's Board. The remainder of capital program expenditures are expected to be funded through the issuance from time to time of water revenue bonds, which are payable from Net Operating Revenues. However, as in prior years, pay-as-you-go funding or debt financing may be reduced or increased by the Board at any time.

Projections for fiscal years 2022-23 through 2027-28 assume the issuance of approximately \$1,710 million of additional water revenue bonds over such period to finance the CIP. These revenue bonds may be issued either as Senior Revenue Bonds under the Senior Debt Resolutions or as Subordinate Revenue Bonds under the Subordinate Debt Resolutions (each as defined under "METROPOLITAN EXPENSES–Limitations on Additional Revenue Bonds" in this Appendix A). The cost of these projected bond issues is reflected in the financial projections under "HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A.

### **Major Projects of Metropolitan's Capital Investment Plan**

***Colorado River Aqueduct Facilities.*** As previously noted, deliveries through the CRA began in 1941. Through annual inspections and maintenance activities, the performance and reliability of the various components of the CRA are regularly evaluated. Projects under the CRA facilities program are designed to replace or refurbish facilities and components on the CRA system in order to reliably convey water from the Colorado River to Southern California. The current projected cost estimate for all prior and planned refurbishment or replacement projects under the CRA facilities program from fiscal year 1998-99 through fiscal year 2032-33 is \$865.6 million. Costs through December 2022 were \$441.5 million. Budgeted aggregate capital expenditures for improvements on the CRA for fiscal years 2022-23 and 2023-24 are \$76.2 million.

***Distribution System – Prestressed Concrete Cylinder Pipe.*** Metropolitan’s distribution system is comprised of approximately 830 miles of pipelines ranging in diameter from 30 inches to over 200 inches. (See “METROPOLITAN’S WATER DELIVERY SYSTEM” in this Appendix A.) There are 163 miles of the distribution system that is made up of prestressed concrete cylinder pipe (“PCCP”). In response to PCCP failures experienced by several water agencies, Metropolitan initiated the PCCP Assessment Program in December 1996 to evaluate the condition of Metropolitan’s PCCP lines and investigate inspection and refurbishment methods. As part of this program, Metropolitan made improvements to several sections of PCCP. Rather than continue to make spot repairs to the pipe segments, Metropolitan initiated a long-term capital program to rehabilitate approximately 100 miles of PCCP in five pipelines by relining with a welded steel liner. Significant projects over the next several years include relining of portions of Second Lower and Sepulveda Feeders. Pipeline rehabilitation is prioritized based on the condition of the pipe segment and the criticality of the pipeline. The estimated cost to reline all 100 miles of PCCP is approximately \$4.3 billion. Through December 2022, approximately 11.5 miles have been re-lined and it is expected to take approximately 30 years to complete the remainder of the pipelines. Costs through December 2022 for all PCCP work (including the prior repairs) were \$322.8 million. Budgeted aggregate capital expenditures for PCCP rehabilitation for fiscal years 2022-23 and 2023-24 are \$104.4 million.

***Distribution System – Refurbishments and Improvements.*** In addition to the long-term program to rehabilitate Metropolitan’s PCCP lines, several other components of the distribution system, including dams and reservoirs, are being refurbished and/or improved. Significant projects over the next several years include retrofitting of the distribution system to improve resiliency against earthquake; rehabilitation of reservoirs, relining of pipelines; and refurbishment of pump stations, pressure control structures, hydroelectric plants, and service connections. The projected cost estimate for refurbishment or replacement projects, other than the PCCP relining, from fiscal year 2004-05 through fiscal year 2032-33 is \$1.1 billion. Costs through December 2022 totaled approximately \$496.5 million. For fiscal years 2022-23 and 2023-24, budgeted aggregate capital expenditures for refurbishing and improvements on the distribution system, other than PCCP rehabilitation, are \$114.0 million.

***Drought Response and System Flexibility.*** In response to the ongoing historic statewide drought, several drought response projects that address decreasing water supplies both in specific parts of Metropolitan’s service area and across the entire district have been added to the CIP. This is in addition to the ongoing projects to increase the system flexibility of Metropolitan’s water supply and delivery infrastructure to meet service demands. Metropolitan continues investigating capital improvements that mitigate drought impacts and more projects are expected to be developed in the coming years. Some of the projects commenced in fiscal year 2021-22. Significant projects in this category include Inland Feeder-Rialto Pipeline Intertie, Wadsworth Pump Discharge to Eastside Pipeline Bypass, Badlands Tunnel Surge Tank Facility, Sepulveda Feeder Pump Stations, Sepulveda Feeder West Area Water Supply Reliability Pipeline Improvements, Sepulveda Canyon PCS to Venice PCS Valve Replacements and Perris Valley Pipeline Tunnels. The current projected cost estimate for the prior and planned drought response and system flexibility projects from fiscal year 2004-05 through fiscal year 2032-33 is \$670.2 million, with \$208.0 million spent through December 2022 for improving system flexibility. Budgeted aggregate capital expenditures for drought response and system flexibility projects for fiscal years 2022-23 and 2023-24 are \$75.0 million.

***System Reliability.*** System Reliability projects are implemented at facilities throughout Metropolitan’s system to utilize new processes or technologies, to improve safety, or to increase overall reliability. Significant projects in this category include seismic strengthening of Metropolitan’s headquarters building, construction or improvement of operations support facilities, security system enhancements, control system upgrades, and information technology infrastructure projects. The total estimated cost for all prior and projected system reliability improvements under this program from fiscal year 2004-05 to fiscal year 2031-32 is approximately \$797.1 million, with \$332.7 million spent through December 2022. Budgeted aggregate capital expenditures for improvements on system reliability projects for fiscal years 2022-23 and 2023-24 are \$86.2 million.

**Water Treatment Plant Improvements.** The F. E. Weymouth Water Treatment Plant, which was placed into service in 1941, is Metropolitan's oldest water treatment facility. Four more water treatment plants were constructed throughout Metropolitan's service area with the Henry J. Mills Water Treatment Plant being the newest water treatment facility, which was placed into service in 1978. These plants treat water from the CRA and/or the State Water Project. These plants have been subsequently expanded since their original construction. Metropolitan has completed numerous upgrades and refurbishment/replacement projects to maintain the plants' reliability and improve efficiency. Significant projects over the next several years include refurbishment of settling basins and strengthening of inlet channels at the Weymouth plant, rehabilitation of filtration system at the Robert B. Diemer Water Treatment Plant, second stage of electrical upgrades at the Mills plant, ozonation system upgrade at the Joseph Jensen Water Treatment Plant, and chemical system rehabilitation at the Robert A. Skinner Plant. The cost estimate for all prior and projected improvements at all five plants, not including the ozone facilities and water treatment capacity expansions, from fiscal year 2004-05 through fiscal year 2032-33 is approximately \$1.4 billion, with \$1.1 billion spent through December 2022. Budgeted aggregate capital expenditures for improvements at all five plants for fiscal years 2022-23 and 2023-24 are \$42.1 million.

## METROPOLITAN REVENUES

### General

Until water deliveries began in 1941, Metropolitan's activities were, by necessity, supported entirely through the collection of *ad valorem* property taxes. Since the mid-1980s, water revenues, which includes revenues from water sales, wheeling and exchanges, have provided approximately 80 percent of total revenues annually. Over that period, *ad valorem* property taxes have accounted for about 9 percent of total revenues, and in the fiscal year 2021-22, *ad valorem* property taxes accounted for approximately 9 percent of total revenues. See "–Revenue Allocation Policy and Tax Revenues." The remaining revenues have been derived principally from the sale of hydroelectric power, interest on investments, and additional revenue sources (water standby charges and availability of service charges) beginning in 1992. *Ad valorem* taxes do not constitute a part of Operating Revenues and are not available to make payments with respect to the water revenue bonds issued by Metropolitan.

The basic rate for untreated water service for domestic and municipal uses is \$855 per acre-foot at the Tier 1 level, which became effective January 1, 2023. See "–Rate Structure" and "–Water Rates." The *ad valorem* tax rate for Metropolitan purposes has gradually been reduced from a peak equivalent rate of 0.1250 percent of full assessed valuation in fiscal year 1945-46 to 0.0035 percent of full assessed valuation for fiscal year 2022-23. The rates charged by Metropolitan represent the cost of Metropolitan's wholesale water service to its member agencies, and not the cost of water to the ultimate consumer. Metropolitan does not exercise control over the rates charged by its member agencies or their subagencies to their customers.

### Summary of Revenues by Source

The following table sets forth Metropolitan's sources of revenues for the five fiscal years ended June 30, 2022, on a modified accrual basis. All information is unaudited. Audited financial statements for the fiscal years ended June 30, 2022, and June 30, 2021, are included in APPENDIX B—"THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITORS' REPORT AND BASIC FINANCIAL STATEMENTS FOR FISCAL YEARS ENDED JUNE 30, 2022 AND JUNE 30, 2021 AND BASIC FINANCIAL STATEMENTS FOR THE SIX MONTHS ENDED DECEMBER 31, 2022 AND 2021 (UNAUDITED)."

**SUMMARY OF REVENUES BY SOURCE<sup>(1)</sup>**  
**Fiscal Years Ended June 30**  
**(Dollars in Millions)**

	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Water Revenues <sup>(2)</sup>	\$ 1,285	\$ 1,149	\$ 1,188	\$ 1,405	\$ 1,515
Taxes, Net <sup>(3)</sup>	131	145	147	161	147
Additional Revenue Sources <sup>(4)</sup>	172	170	165	165	172
Interest on Investments	8	34	20	10	7
Hydroelectric Power Sales	24	18	16	19	8
Other Revenues <sup>(5)</sup>	28	22	14	14	39
Total Revenues	<u>\$1,648</u>	<u>\$1,538</u>	<u>\$1,550</u>	<u>\$1,774</u>	<u>\$1,888</u>

*Source: Metropolitan.*

- (1) Does not include any proceeds from the sale of bonded indebtedness.
- (2) Water revenues include revenues from water sales, exchanges, and wheeling.
- (3) *Ad valorem* taxes levied by Metropolitan are applied solely to the payment of outstanding general obligation bonds of Metropolitan and to State Water Contract obligations.
- (4) Includes revenues derived from water standby charges, readiness-to-serve, and capacity charges.
- (5) Includes miscellaneous revenues and Build America Bonds (BABs) subsidy payments of \$15.0 million, \$12.5 million, \$2.9 million and \$2.9 million in fiscal years 2017-18 through 2020-21, respectively. All of Metropolitan's BABs were retired as of July 1, 2020. Fiscal year 2017-18 includes \$1 million of water conservation and supply program expenses, funded from a like amount of funds transferred from the Water Management Fund. Fiscal year 2021-22 includes \$21.0 million of property taxes applied to SWC O&M Costs.

### **Revenue Allocation Policy and Tax Revenues**

The Board determines the water revenue requirement for each fiscal year after first projecting the *ad valorem* tax levy for that year. The tax levy for any year is subject to limits imposed by the State Constitution, the Act and Board policy and to the requirement under the State Water Contract that in the event that Metropolitan fails or is unable to raise sufficient funds by other means, Metropolitan must levy upon all property within its boundaries not exempt from taxation a tax or assessment sufficient to provide for all payments under the State Water Contract. See "HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A. Beginning with fiscal year 1990-91, the Act limits Metropolitan's tax levy to the amount needed to pay debt service on Metropolitan's general obligation bonds and to satisfy a portion of Metropolitan's State Water Contract obligation. However, Metropolitan has the authority to impose a greater tax levy if, following a public hearing, the Board finds that such revenue is essential to Metropolitan's fiscal integrity. For each fiscal year since 2013-14, the Board has exercised that authority and voted to suspend the tax limit clause in the Act, maintaining the fiscal year 2012-13 *ad valorem* tax rate to pay for a greater portion of Metropolitan's State Water Contract obligations. Any deficiency between tax levy receipts and Metropolitan's State Water Contract obligations is expected to be paid from Operating Revenues, as defined in the Senior Debt Resolutions (defined in this Appendix A under "METROPOLITAN EXPENSES—Limitations on Additional Revenue Bonds").

### **Water Revenues**

**General; Authority.** Water rates are established by the Board and are not subject to regulation or approval by the California Public Utilities Commission or by any other local, State, or federal agency. In accordance with the Act, water rates must be uniform for like classes of service. Metropolitan, a wholesaler, provides one type of service: full-service water service (treated or untreated). See "—Classes of Water Service."

No member agency of Metropolitan is obligated to purchase water from Metropolitan. However, 21 of Metropolitan's 26 member agencies have entered into 10-year voluntary water supply purchase orders ("Purchase Orders") effective through December 31, 2024. See "—Member Agency Purchase Orders."

Consumer demand and locally supplied water vary from year to year, resulting in variability in water revenues. See “REGIONAL WATER RESOURCES” in this Appendix A. Metropolitan uses its financial reserves and budgetary tools to manage the financial impact of the variability in revenues due to fluctuations in annual water transactions. See “MANAGEMENT’S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES” in this Appendix A.

**Payment Procedure.** Water is delivered to the member agencies on demand and is metered at the point of delivery. Member agencies are billed monthly and a late charge of one percent of the delinquent payment is assessed for a payment that is delinquent for no more than five business days. A late charge of two percent of the amount of the delinquent payment is charged for a payment that is delinquent for more than five business days for each month or portion of a month that the payment remains delinquent. Metropolitan has the authority to suspend service to any member agency delinquent for more than 30 days. Delinquencies have been rare; in such instances late charges have been collected. No service has been suspended because of delinquencies.

**Water Revenues.** The following table sets forth water transactions (which includes water sales, exchanges, and wheeling) in acre-feet and water revenues (which includes revenues from water sales, exchanges, and wheeling) for the five fiscal years ended June 30, 2022, on a modified accrual basis. As reflected in the table below, water revenues for the fiscal year ended June 30, 2022, aggregated \$1,515.1 million, of which \$1,350.1 million was generated from water sales and \$165.0 million was generated from exchanges and wheeling. Water revenues of Metropolitan for the fiscal years ended June 30, 2022, and June 30, 2021, on an accrual basis, are shown in Metropolitan’s audited financial statements included in Appendix B.

**SUMMARY OF WATER TRANSACTIONS AND REVENUES**  
**Fiscal Years Ended June 30**

<b>Fiscal Year</b>	<b>Water Transactions in Acre-Feet<sup>(1)</sup></b>	<b>Water Revenues<sup>(2)</sup> (in millions)</b>	<b>Dollars Per Acre-Foot</b>	<b>Average Dollars Per 1,000 Gallons</b>
2018	1,610,969	1,285.2	798	2.45
2019	1,418,324	1,148.7	810	2.49
2020	1,419,156	1,188.0	837	2.57
2021	1,573,965	1,404.7	892	2.74
2022	1,645,805	1,515.1	921	2.83

*Source: Metropolitan.*

- <sup>(1)</sup> Water Transactions include water sales, exchanges, and wheeling with member agencies and third parties. Starting in fiscal year ended June 30, 2021, Water Transactions do not include third parties.
- <sup>(2)</sup> Water Revenues include revenues from water sales, exchanges, and wheeling. Water Revenues from wheeling and exchange transactions were \$96.1 million, \$102.2 million, \$140.1 million, \$167.0 million, and \$165.0 in the fiscal years ended June 30, 2018 through 2022, respectively.

**Principal Customers**

Total water transactions accrued for the fiscal year ended June 30, 2022, were 1.65 million acre-feet, generating \$1.52 billion in water revenues for such period. Metropolitan’s ten largest water customers for the year ended June 30, 2022 are shown in the following table, on an accrual basis. SDCWA has filed litigation challenging Metropolitan’s rates. See “–Litigation Challenging Rate Structure.”



**TEN LARGEST WATER CUSTOMERS**  
**Year Ended June 30, 2022**  
**Accrual Basis**

<b>Agency</b>	<b>Water Revenues <sup>(1)</sup> (in Millions)</b>	<b>Percent of Total</b>	<b>Water Transactions in Acre Feet<sup>(2)</sup></b>	<b>Percent of Total</b>
City of Los Angeles <sup>(3)</sup>	\$ 326.5	21.5%	366,627	22.3%
San Diego CWA	212.9	14.1	335,476	20.4
MWD of Orange County	187.6	12.4	184,167	11.2
West Basin MWD	131.6	8.7	117,253	7.1
Calleguas MWD	99.5	6.6	88,731	5.4
Eastern MWD	95.4	6.3	95,078	5.8
Western MWD of Riverside County	70.6	4.7	71,182	4.3
Three Valleys MWD	64.4	4.2	65,790	4.0
Inland Empire Utilities Agency	51.9	3.4	66,187	4.0
Upper San Gabriel Valley MWD	42.2	2.8	42,110	2.5
<b>Total</b>	<b>\$ 1,282.6</b>	<b>84.7%</b>	<b>1,432,601</b>	<b>87.0%</b>
<b>Total Water Revenues <sup>(1)</sup></b>	<b>\$1,515.1</b>	<b>Total Acre-Feet <sup>(2)</sup></b>	<b>1,645,805</b>	

*Source: Metropolitan.*

<sup>(1)</sup> Water Revenues include revenues from water sales, exchanges, and wheeling.

<sup>(2)</sup> Water Transactions include water sales, exchanges, and wheeling with member agencies.

<sup>(3)</sup> Water sales to the City of Los Angeles from Metropolitan can vary substantially from year-to-year. See “REGIONAL WATER RESOURCES – Los Angeles Aqueduct” in this Appendix A.

### **Rate Structure**

The following rates and charges are elements of Metropolitan’s unbundled rate structure. See also “–Water Rates.”

**Tier 1 and Tier 2 Water Supply Rates.** The rate structure recovers supply costs through a two-tiered price structure. The Tier 1 Supply Rate supports a regional approach through the uniform, postage stamp rate. The Tier 1 Supply Rate is calculated as the amount of the total supply revenue requirement that is not covered by the Tier 2 Supply Rate divided by the estimated amount of Tier 1 water sales. The Tier 2 Supply Rate is a volumetric rate that reflects Metropolitan’s costs of Tier 1 and Metropolitan’s cost of purchasing water transfers north of the Delta. 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. Pursuant to Board direction in November 2021, all demand management costs comprise a portion of the costs of supply and are collected on the Tier 1 and Tier 2 supply rates. Member agencies are charged the Tier 1 or Tier 2 Water Supply Rate for water purchases, as described under “–Member Agency Purchase Orders” below.

**System Access Rate.** The System Access Rate recovers the cost of the conveyance, distribution, and storage of water on an average annual basis through a uniform, volumetric rate. The System Access Rate is charged for each acre-foot of water transported by Metropolitan, regardless of the ownership of the water being transported. The System Access Rate is charged for each acre-foot of water transported by Metropolitan to its member agencies and delivered as a full-service water transaction.

**Water Stewardship Rate.** The Water Stewardship Rate was designed to provide a dedicated source of funding for conservation and local resources development through a uniform, volumetric rate. The Water Stewardship Rate was charged on each acre-foot of water delivered by Metropolitan through December 31, 2020, except on SDCWA Exchange Agreement deliveries as explained below, and allocated to Metropolitan's transportation rates. All users (including member agencies and third-party wheelers) benefitted from avoided system infrastructure costs through conservation and local resources development, and from the system capacity made available by investments in demand management programs like Metropolitan's Conservation Credits Program and LRP. Therefore, all users paid the Water Stewardship Rate, except on water delivered to SDCWA pursuant to the Exchange Agreement (see "–Water Rates" and "–Litigation Challenging Rate Structure" below) in calendar years 2018, 2019, and 2020. The Water Stewardship Rate was not incorporated into Metropolitan's rates and charges for calendar years 2021 and 2022 or 2023 and 2024 and therefore has not been collected on any water transactions after December 31, 2020. In November 2021, the Board directed staff to allocate all demand management costs as an element of Metropolitan's supply costs. See also "CONSERVATION AND WATER SHORTAGE MEASURES–General" in this Appendix A.

In 2017, in *San Diego County Water Authority v. Metropolitan Water District of Southern California, et al.* (see "–Litigation Challenging Rate Structure" below), the Court of Appeal held that the administrative record before it for the rates in calendar years 2011 through 2014 did not support Metropolitan's Water Stewardship Rate full allocation to transportation rates, but the court did not address the allocation in subsequent years based on a different record. On April 10, 2018, the Board suspended the billing and collection of the Water Stewardship Rate on Exchange Agreement deliveries to SDCWA in calendar years 2018, 2019, and 2020, pending Metropolitan's completion of a cost allocation study of its demand management costs recovered through the Water Stewardship Rate. For calendar year 2018, the suspension was retroactive to January 1, 2018.

Having completed a demand management cost allocation process, on December 10, 2019, Metropolitan's Board directed staff to incorporate the use of the 2019-20 fiscal year-end balance of the Water Stewardship Fund to fund demand management costs in the proposed biennial budget for fiscal years 2020-21 and 2021-22 and to not incorporate the Water Stewardship Rate (or any other rates or charges to recover demand management costs), with the proposed rates and charges for calendar years 2021 and 2022, to allow the Board to consider demand management funding in relation to the 2020 IRP and to undergo a rate structure refinement process.

In 2021, in *San Diego County Water Authority v. Metropolitan Water District of Southern California, et al.*, the Court of Appeal clarified that its Water Stewardship Rate ruling applied to years after 2014 as well. In November 2021, the Board voted to allocate demand management costs to supply rate elements in calendar year 2023 forward. The balance of the Water Stewardship Fund was \$60.6 million as of June 30, 2022, which will be used to partially offset demand management expenditures in the fiscal year 2022-23 and 2023-24 budget.

**System Power Rate.** The System Power Rate recovers the cost of energy required to pump water to Southern California through the State Water Project and CRA. The cost of power is recovered through a uniform, volumetric rate. The System Power Rate is applied to all deliveries of Metropolitan water to member agencies.

**Treatment Surcharge.** 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. The Treatment Surcharge is charged for all treated water transactions.

The amount of each of these rates since January 1, 2018, is shown in the table entitled "SUMMARY OF WATER RATES" under "–Water Rates" below.

## Member Agency Purchase Orders

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. Under the Purchase Orders, member agencies have the option to purchase a greater amount of water (based on past purchase levels) over the term of the Purchase Order. 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 Metropolitan’s 26 member agencies have Purchase Orders, which commit the member agencies to purchase a minimum amount of supply from Metropolitan (the “Purchase Order Commitment”).

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 Order Commitment by the member agency based on the demand base period chosen, times 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 appeal 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.

## Other Charges

The following paragraphs summarize the additional charges for the use of Metropolitan’s distribution system:

***Readiness-to-Serve Charge.*** The Readiness-to-Serve Charge (“RTS”) recovers the cost of the portion of the system that is available to provide emergency service and available capacity during outages and hydrologic variability. 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, except SDCWA Exchange Agreement transactions, are included for purposes of calculating the ten-fiscal year rolling average. The Standby Charge, described below, will continue to be collected at the request of a member agency and applied as a direct offset to the member agency’s RTS obligation. The RTS (including RTS charge amounts collected

through the Standby Charge described below) generated \$134.5 million in fiscal year 2019-20, \$133.0 million in fiscal year 2020-21 and \$135.0 million in fiscal year 2021-22. Based on the adopted rates and charges, the RTS (including RTS charge amounts expected to be collected through the Standby Charge described below) is projected to generate \$147.0 million in fiscal year 2022-23.

**Water Standby Charges.** The Standby Charge is authorized by the State Legislature and has been levied by Metropolitan since fiscal year 1992-93. Metropolitan will continue to levy the Standby Charge only within the service areas of the member agencies that request that the Standby Charge be utilized to help fund a member agency's RTS obligation. See "– Readiness-to-Serve Charge" above. The Standby Charge for each acre or parcel of less than an acre will vary from member agency to member agency, reflecting current rates, which have not exceeded the rates set in fiscal year 1993-94, and range from \$5 to \$15 for each acre or parcel less than an acre within Metropolitan's service area, subject to specified exempt categories. Standby charges are assessments under the terms of Proposition 218, a State constitutional ballot initiative approved by the voters on November 5, 1996, but Metropolitan's current standby charges are exempt from Proposition 218's procedural requirements. See "–California Ballot Initiatives."

Twenty-two of Metropolitan's member agencies collect their RTS charges through Standby Charges. RTS charges collected by means of such Standby Charges were \$41.7 million in fiscal year 2019-20, \$41.9 million in fiscal year 2020-21, and \$42.0 million in fiscal year 2021-22.

**Capacity Charge.** The Capacity Charge recovers costs incurred to provide peak capacity within Metropolitan's distribution system. The Capacity Charge 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. This results in more efficient utilization of Metropolitan's existing infrastructure and deferring capacity expansion costs. Each member agency will pay the Capacity Charge per 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. The Capacity Charge was \$10,700 per cfs effective as of January 1, 2021, \$12,200 per cfs effective as of January 1, 2022 and \$10,600 per cfs effective as of January 1, 2023. The Capacity Charge will be \$11,200 per cfs effective as of January 1, 2024. The Capacity Charge generated \$30.5 million in fiscal year 2019-20, \$31.7 million in fiscal year 2020-21, and \$37.0 million in fiscal year 2021-22. Based on the adopted rates and charges, the Capacity Charge is projected to generate \$38.7 million in fiscal year 2022-23.

## **Classes of Water Service**

Metropolitan, a wholesaler, provides one type of service: full-service water service (treated or untreated). Metropolitan has one class of customers: its member agencies. On August 18, 2020, the Board of Directors repealed the Administrative Code sections that established the wheeling service it previously made available to its member agencies (short-term wheeling service under one year) and the pre-set wheeling rate for that wheeling service. As a result of the Board's action, short-term wheeling to member agencies is now determined on a case-by-case basis by contract, as has been done for wheeling service for member agencies lasting more than one year and wheeling for third parties. The level of rate unbundling in Metropolitan's rate structure provides transparency to show that rates and charges recover only those functions involved in the applicable service, and that no cross-subsidy of costs exists. Metropolitan's cost of service process and resulting unbundled rate structure ensures that its wholesale customers pay for only those services they elect to receive.

The applicable rate components and fixed charges for each class of water service are shown in the chart below.

### **Current Services and Rate Components**

<b>Service</b>	<b>Rates &amp; Charges That Apply</b>						
	<b>System Access</b>	<b>Water Stewardship<sup>(1)</sup></b>	<b>System Power</b>	<b>Tier 1/ Tier 2</b>	<b>Readiness to Serve</b>	<b>Capacity Charge</b>	<b>Treatment Surcharge</b>
Full Service Untreated	Yes	No	Yes	Yes	Yes	Yes	No
Full Service Treated	Yes	No	Yes	Yes	Yes	Yes	Yes

<sup>(1)</sup> As described under “–Rate Structure –Water Stewardship Rate,” the Water Stewardship Rate has not been collected on water transactions after December 31, 2020. In November 2021, the Board directed staff to allocate all demand management costs as an element of Metropolitan’s supply costs.

Metropolitan offers five programs that encourage the member agencies to increase groundwater and emergency storage and for which certain Metropolitan charges are inapplicable.

*(1) Conjunctive Use Program.* The Conjunctive Use Program is operated through individual agreements with member and retail agencies for groundwater storage within Metropolitan’s service area. Wet year imported supplies are stored to enhance reliability during dry, drought, and emergency conditions. Metropolitan has the option to call water stored in the groundwater basins for the participating member agency pursuant to its contractual conjunctive use agreement. At the time of the call, the member agency pays the prevailing rate for that water, but the deliveries are excluded from the calculation of the Capacity Charge because Conjunctive Use Program deliveries are made at Metropolitan’s discretion. Conjunctive use programs may also contain cost-sharing terms related to operational costs. See “REGIONAL WATER RESOURCES–Local Water Supplies” in this Appendix A.

*(2) Cyclic Storage Program.* The Cyclic Storage Program refers collectively to the existing Cyclic Storage Program agreements and the Pre-Deliveries Program approved in 2019. The Program is operated through individual agreements with member agencies for groundwater or surface water storage or pre-deliveries within Metropolitan’s service area. Wet-year imported supplies are stored to enhance reliability during dry, drought, and emergency conditions. Deliveries to the cyclic storage accounts are at Metropolitan’s discretion while member agencies have discretion on whether they want to accept the water. At the time the water is delivered from the cyclic storage account, the prevailing full service rate applies, but deliveries are excluded from the calculation of the Capacity Charge because Cyclic Storage Program deliveries are made at Metropolitan’s discretion. Cyclic agreements may also contain a credit payable to the member agencies under terms approved by the Board in April 2019. See “REGIONAL WATER RESOURCES–Local Water Supplies” in this Appendix A.

*(3) Reverse-Cyclic Program.* The Reverse-Cyclic Program is operated through individual agreements with member agencies. These agreements allowed member agencies to purchase water in calendar year 2022 for delivery in a future wet year. Metropolitan will deliver the water within five years at its sole discretion. Under the Program, billing occurs before delivery is made at the full-service water rate, plus the treatment surcharge, if applicable, and the purchases are counted towards the member agency’s Readiness-to-Serve Charge. However, deliveries are excluded from the calculation of the Capacity Charge because Reverse-Cycle Program deliveries are made at Metropolitan’s discretion.

*(4) Emergency Storage Program.* The Emergency Storage Program is used for delivering water for emergency storage in surface water reservoirs and storage tanks. Emergency Storage Program purposes include initially filling a newly constructed reservoir or storage tank and replacing water used during an emergency. Because Metropolitan could interrupt delivery of this water, Emergency Storage Program Deliveries are excluded from the calculation of the RTS Charge, the Capacity Charge, and the Tier 1 maximum.

(5) *Operational Shift Cost Offset Program.* The OSCOP is operated through individual agreements with member agencies. Through these agreements, cost-offset credits are offered to member agencies to offset the estimated additional costs and risks incurred by an agency as a result of voluntary operational changes requested by Metropolitan for the purpose of maximizing Metropolitan's water resources. All water delivered under the OSCOP is billed at Metropolitan's applicable full-service rate. Credits are reported as supply program costs.

The applicable rate components and fixed charges applicable for each such program are shown in the following chart.

**Current Programs and Rate Components**

Program	Supply	Rates & Charges That Apply				
		System Access	System Power	Readiness to Serve	Capacity Charge	Tier 1 Maximum
Full Service	Yes	Yes	Yes	Yes	Yes	Yes
Conjunctive Use	Yes	Yes	Yes	Yes	No	Yes
Cyclic	Yes	Yes	Yes	Yes	No	Yes
Reverse-Cyclic	Yes	Yes	Yes	Yes	No	Yes
Emergency Storage	Yes	Yes	No	Yes	No	No <sup>(1)</sup>
Operational Shift Cost Offset	Yes	Yes	Yes	Yes	Yes	Yes

<sup>(1)</sup> Emergency Storage Program pays the Tier 1 Supply Rate; purchases under Emergency Storage program do not count towards a member agency's Tier 1 Maximum.

**Water Rates**

The following table sets forth Metropolitan's water rates by category beginning January 1, 2018. See also "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES—Water Revenues" in this Appendix A. In addition to the base rates for untreated water sold in the different classes of service, the columns labeled "Treated" include the surcharge that Metropolitan charges for water treated at its water treatment plants. See "—Rate Structure" and "—Classes of Water Service" for descriptions of current rates. See also "—Litigation Challenging Rate Structure" for a description of litigation challenging Metropolitan's water rates.

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**SUMMARY OF WATER RATES  
(Dollars Per Acre-Foot)**

	<b>SUPPLY RATE</b>		<b>SYSTEM ACCESS RATE</b>	<b>WATER STEWARDSHIP RATE<sup>(1)</sup></b>	<b>SYSTEM POWER RATE</b>	<b>TREATMENT SURCHARGE</b>
	<b>Tier 1</b>	<b>Tier 2</b>				
January 1, 2018	\$209	\$295	\$299	\$55	\$132	\$320
January 1, 2019	\$209	\$295	\$326	\$69	\$127	\$319
January 1, 2020	\$208	\$295	\$346	\$65	\$136	\$323
January 1, 2021	\$243	\$285	\$373	\$--	\$161	\$327
January 1, 2022	\$243	\$285	\$389	\$--	\$167	\$344
January 1, 2023*	\$321	\$530	\$368	\$--	\$166	\$354
January 1, 2024*	\$332	\$531	\$389	\$--	\$182	\$353

	<b>FULL SERVICE TREATED<sup>(2)</sup></b>		<b>FULL SERVICE UNTREATED<sup>(3)</sup></b>	
	<b>Tier 1</b>	<b>Tier 2</b>	<b>Tier 1</b>	<b>Tier 2</b>
January 1, 2018	\$1,015	\$1,101	\$695	\$781
January 1, 2019	\$1,050	\$1,136	\$731	\$817
January 1, 2020	\$1,078	\$1,165	\$755	\$842
January 1, 2021	\$1,104	\$1,146	\$777	\$819
January 1, 2022	\$1,143	\$1,185	\$799	\$841
January 1, 2023*	\$1,209	\$1,418	\$855	\$1,064
January 1, 2024*	\$1,256	\$1,455	\$903	\$1,102

*Source: Metropolitan.*

\* Rates effective January 1, 2023 and January 1, 2024 were adopted by Metropolitan's Board on April 12, 2022.

(1) As described under "–Rate Structure –Water Stewardship Rate," the Water Stewardship Rate has not been collected on water transactions after December 31, 2020. In November 2021, the Board directed staff to allocate all demand management costs to Metropolitan's supply elements.

(2) Full service treated water rates are the sum of the applicable Supply Rate, System Access Rate, Water Stewardship Rate, System Power Rate and Treatment Surcharge.

(3) Full service untreated water rates are the sum of the applicable Supply Rate, System Access Rate, Water Stewardship Rate and System Power Rate.

### **Financial Reserve Policy**

Metropolitan's reserve policy provides for a minimum reserve requirement and target amount of unrestricted reserves at June 30 of each year. The minimum reserve requirement at June 30 of each year is equal to the portion of fixed costs estimated to be recovered by water revenues for the 18 months beginning with the immediately succeeding July. Funds representing the minimum reserve requirement are held in the Revenue Remainder Fund. Any funds in excess of the minimum reserve requirement are held in the Water Rate Stabilization Fund. The target amount of unrestricted reserves is equal to the portion of the fixed costs estimated to be recovered by water revenues during the two years immediately following the 18-month period used to calculate the minimum reserve requirement. Funds in excess of the target amount are to be utilized for capital expenditures in lieu of the issuance of additional debt, or for the redemption, defeasance or purchase of outstanding bonds or commercial paper as determined by the Board. Provided that the fixed charge coverage ratio is at or above 1.2, amounts in the Water Rate Stabilization Fund may be expended for any lawful purpose

of Metropolitan, as determined by the Board. See “CAPITAL INVESTMENT PLAN–Capital Investment Plan Financing” in this Appendix A.

At June 30, 2022, unrestricted reserves, which consist of the Water Rate Stabilization Fund and the Revenue Remainder Fund, totaled \$694.9 million on a modified accrual basis or \$646.8 on a cash basis. As of June 30, 2022, the minimum reserve requirement was \$276.0 million, and the target reserve level was \$673.8 million.

Due to SDCWA’s litigation challenging Metropolitan’s rates and pursuant to the Exchange Agreement between Metropolitan and SDCWA, Metropolitan is required to set aside funds based on the quantities of exchange water that Metropolitan provides to SDCWA and the amount of charges disputed by SDCWA. In April 2016, Metropolitan transferred these funds from unrestricted financial reserves to a new designated fund, the Exchange Agreement Set-Aside Fund. In 2021, Metropolitan paid to SDCWA the final judgment contract damages amount in the 2010 and 2012 SDCWA v. Metropolitan cases for Water Stewardship Rate payments under the Exchange Agreement in 2011 through 2014, plus interest. Following the 2021 Court of Appeal opinion clarifying that its Water Stewardship Rate ruling applies to later years, Metropolitan paid to SDCWA Water Stewardship Rate payments from 2015 to 2017, plus pre-judgment interest. These payments include all amounts sought related to breach of the Exchange Agreement resulting from the inclusion of the Water Stewardship Rate in the contract price for Exchange Agreement transactions occurring from 2010 until the Water Stewardship Rate was no longer charged in the contract price for Exchange Agreement transactions, beginning in 2018. Accordingly, there are no amounts held in the Exchange Agreement Set-Aside Fund. See “–Litigation Challenging Rate Structure.”

Metropolitan projects that its unrestricted reserves as of June 30, 2023 will be approximately \$686 million on a cash basis. This projection is based on the assumptions set forth in the table entitled “HISTORICAL AND PROJECTED REVENUES AND EXPENSES” under “HISTORICAL AND PROJECTED REVENUES AND EXPENSES” in this Appendix A. In addition, this projection assumes that Metropolitan’s Board will not authorize the use of any additional amounts in the unrestricted reserves.

### **California Ballot Initiatives**

Proposition 218, a State ballot initiative known as the “Right to Vote on Taxes Act,” was approved by the voters on November 5, 1996 adding Articles XIIC and XIID to the California Constitution. Article XIID provides substantive and procedural requirements on the imposition, extension or increase of any “fee” or “charge” levied by a local government upon a parcel of real property or upon a person as an incident of property ownership. As a wholesaler, Metropolitan serves water to its member agencies, not to persons or properties as an incident of property ownership. Thus, water rates charged by Metropolitan to its member agencies are not property related fees and charges and therefore are exempt from the requirements of Article XIID. Fees for retail water service by Metropolitan’s member agencies or their agencies are subject to the requirements of Article XIID.

Article XIID also imposes certain procedures with respect to assessments. Under Article XIID, “standby charges” are considered “assessments” and must follow the procedures required for “assessments,” unless they were in existence on the effective date of Article XIID. Metropolitan has imposed its water standby charges since 1992 and therefore its current standby charges are exempt from the Article XIID procedures. Changes to Metropolitan’s current standby charges could require notice to property owners and approval by a majority of such owners returning mail-in ballots approving or rejecting any imposition or increase of such standby charge. Twenty-two of Metropolitan’s member agencies have elected to collect all or a portion of their readiness-to-serve charges through standby charges. See “–Other Charges – *Readiness-to-Serve Charge*” and “– *Water Standby Charges*” above. Even if Article XIID is construed to limit the ability of Metropolitan and its member agencies to impose or collect standby charges, the member agencies will continue to be obligated to pay the readiness-to-serve charges.



Article XIIC makes all taxes either general or special taxes and imposes voting requirements for each kind of tax. It also extends the people's initiative power to reduce or repeal previously authorized local taxes, assessments, fees and charges. This extension of the initiative power is not limited by the terms of Article XIIC to fees imposed after November 6, 1996 or to property-related fees and charges and absent other authority could result in retroactive reduction in existing taxes, assessments or fees and charges.

Proposition 26, a State ballot initiative aimed at restricting regulatory fees and charges, was approved by a majority of California voters on November 2, 2010. Proposition 26 broadens the definition of "tax" in Article XIIC of the California Constitution to include: levies, charges and exactions imposed by local governments, except for charges imposed for benefits or privileges or for services or products granted to the payor (and not provided to those not charged) that do not exceed their reasonable cost; regulatory fees that do not exceed the cost of regulation and are allocated in a fair or reasonable manner; fees for the use of local governmental property; fines and penalties imposed for violations of law; real property development fees; and assessments and property-related fees imposed under Article XIID of the California Constitution. Special taxes imposed by local governments including special districts are subject to approval by two-thirds of the electorate. Proposition 26 applies to charges imposed or increased by local governments after the date of its approval. Metropolitan believes its water rates and charges are not taxes under Proposition 26. SDCWA's lawsuit challenging the rates adopted by Metropolitan in April 2012 (part of which became effective January 1, 2013 and part of which became effective January 1, 2014) alleged that such rates violate Proposition 26. On June 21, 2017, the California Court of Appeal ruled that whether or not Proposition 26 applies to Metropolitan's rates, the System Access Rate and System Power Rate challenged by SDCWA in such lawsuit comply with Proposition 26. SDCWA's lawsuits challenging the rates adopted by Metropolitan in April 2014, April 2016, and April 2018 also alleged that such rates violate Proposition 26. On May 11, 2022, the San Francisco Superior Court ruled that Proposition 26 applies to Metropolitan's rates and charges. See "–Litigation Challenging Rate Structure." The trial court decision is subject to appeal. Under Proposition 26, the agency holds the burden of proof in a rate or charge challenge. Otherwise, due to the uncertainties of evolving case law and potential future judicial interpretations of Proposition 26, Metropolitan is unable to predict at this time the extent to which Proposition 26, if ultimately determined to apply to Metropolitan's rates and charges, would impose stricter standards on Metropolitan's setting of rates and charges.

Propositions 218 and 26 were adopted as measures that qualified for the ballot pursuant to the State's initiative process. Other initiative measures have been proposed from time to time, or could be proposed in the future, which if qualified for the ballot, could be adopted, or legislative measures could be approved by the Legislature, which may place limitations on the ability of Metropolitan or its member agencies to increase revenues or to increase appropriations. Such measures may further affect Metropolitan's ability to collect taxes, assessments or fees and charges, which could have an adverse effect on Metropolitan's revenues.

### **Preferential Rights**

Section 135 of the Act gives each of Metropolitan's member agencies a preferential right to purchase for domestic and municipal uses within the agency a portion of the water served by Metropolitan, based upon a ratio of all payments on tax assessments and otherwise, except purchases of water, made to Metropolitan by the member agency compared to total payments made by all member agencies on tax assessments and otherwise since Metropolitan was formed, except purchases of water. Historically, these rights have not been used in allocating Metropolitan's water. In 2004, the California Court of Appeal upheld Metropolitan's methodology for calculation of the respective member agencies' preferential rights under Section 135 of the Act. SDCWA's litigation challenging Metropolitan's rate structure also challenged Metropolitan's exclusion of payments for Exchange Agreement deliveries from the calculation of SDCWA's preferential right. On June 21, 2017, the California Court of Appeal held that SDCWA's payments under the Exchange Agreement must be included in the preferential rights calculation. See "–Litigation Challenging Rate Structure."

## Litigation Challenging Rate Structure

Through several lawsuits filed by SDCWA since 2010, SDCWA has challenged the rates adopted by Metropolitan's Board in 2010, 2012, 2014, 2016 and 2018. Each of these lawsuits and the status thereof are briefly described below.

**The 2010 and 2012 Cases.** SDCWA filed *San Diego County Water Authority v. Metropolitan Water District of Southern California, et al.* on June 11, 2010 challenging the rates adopted by the Board on April 13, 2010, which became effective January 1, 2011 and January 1, 2012 (the "2010 Case"). The complaint requested a court order invalidating the rates adopted April 13, 2010, and that Metropolitan be mandated to allocate certain costs associated with the State Water Contract and the Water Stewardship Rate to water supply rates and not to transportation rates.

As described under "METROPOLITAN'S WATER SUPPLY–Colorado River Aqueduct – Metropolitan and San Diego County Water Authority Exchange Agreement" in this Appendix A, the contract price payable by SDCWA under the Exchange Agreement between Metropolitan and SDCWA is Metropolitan's transportation rates. Therefore, SDCWA also alleged that Metropolitan breached the Exchange Agreement by allocating certain costs related to the State Water Contract and the Water Stewardship Rate to its transportation rates because it resulted in an overcharge to SDCWA for water delivered pursuant to the Exchange Agreement.

On June 8, 2012, SDCWA filed a new lawsuit challenging the rates adopted by Metropolitan on April 10, 2012 and effective on January 1, 2013 and January 1, 2014 (the "2012 Case") based on similar claims, and further alleging that Metropolitan's rates adopted in 2012 violated Proposition 26.

Following a trial of both lawsuits in two phases and subsequent trial court ruling, the parties appealed. On June 21, 2017, the California Court of Appeal ruled that Metropolitan may lawfully include its State Water Project transportation costs in the System Access Rate and System Power Rate that are part of the Exchange Agreement's price term, and that Metropolitan may also lawfully include the System Access Rate in its wheeling rate, reversing the trial court decision on this issue. The court held Metropolitan's allocation of the State Water Project transportation costs as its own transportation costs is proper and does not violate the wheeling statutes (Water Code, §1810, *et seq.*), Proposition 26 (Cal. Const., Article XIII C, §1, subd. (e)), whether or not that Proposition applies to Metropolitan's rates, California Government Code section 54999.7, the common law, or the terms of the parties' Exchange Agreement.

The Court of Appeal also ruled that the record did not support Metropolitan's inclusion of its Water Stewardship Rate as a transportation cost in the Exchange Agreement price or the wheeling rate, under the common law and the wheeling statutes. The court noted that its holding does not preclude Metropolitan from including the Water Stewardship Rate in Metropolitan's full-service rate. See also "–Rate Structure – *Water Stewardship Rate*" above.

The Court of Appeal held that because the Water Stewardship Rate was included in the Exchange Agreement price, there was a breach by Metropolitan of the Exchange Agreement in 2011 through 2014 and remanded the case to the trial court for a redetermination of damages in light of its ruling concerning the Water Stewardship Rate. The Court of Appeal also found that the Exchange Agreement may entitle the prevailing party to attorneys' fees for both phases of the case, and directed the trial court on remand to make a new determination of the prevailing party, if any.

On September 27, 2017, the California Supreme Court denied SDCWA's petition for review, declining to consider the Court of Appeal's decision. The Court of Appeal's decision is therefore final.

After tendering payment in 2019 which SDCWA rejected, in February 2021 Metropolitan paid to SDCWA the same amount previously tendered of \$44.4 million for contract damages for SDCWA's Water

Stewardship Rate payments from 2011 to 2014 and pre-judgment and post-judgment interest. In September 2021, following a 2021 Court of Appeal opinion clarifying that its Water Stewardship Rate ruling applies to later years, Metropolitan paid to SDCWA the amount of \$35.9 million for SDCWA's Water Stewardship Rate payments from 2015 to 2017 and pre-judgment interest. These payments include all amounts sought related to breach of the Exchange Agreement resulting from the inclusion of the Water Stewardship Rate in the contract price for Exchange Agreement transactions occurring from 2010 until the Water Stewardship Rate was no longer charged in the contract price for Exchange Agreement transactions, beginning in 2018 (See "Rate Structure" above). The payment included \$58.1 million withdrawn from the Exchange Agreement Set-Aside Fund (See "Financial Reserve Policy" above) and \$22.1 million withdrawn from reserves (the remainder of the statutory interest).

The Superior Court also issued an order finding SDCWA is the prevailing party on the contract in the 2010 and 2012 cases and is therefore entitled to its attorneys' fees and costs under the contract, and to statutory costs. On February 25, 2021, Metropolitan appealed both prevailing party determinations. The parties stipulated to \$13,397,575.66 as the amount of SDCWA's attorneys' fees that may be awarded under the Exchange Agreement, in the event Metropolitan's appeal is unsuccessful. On March 17, 2022, the Court of Appeal held that SDCWA is the prevailing party in the 2010 and 2012 cases and is therefore entitled to attorney's fees under the parties' Exchange Agreement and litigation costs. On March 21, 2022, Metropolitan paid to SDCWA \$14,296,864.99 (\$13,397,575.66 fees award, plus statutory interest) and \$352,247.79 for costs (\$326,918.34 costs award, plus statutory interest).

On July 27, 2022, Metropolitan paid SDCWA \$411,888.36 for attorneys' fees on appeals of post-remand orders.

***The 2014, 2016 and 2018 Cases.*** SDCWA has also filed lawsuits challenging the rates adopted in 2014, 2016 and 2018 and asserting breach of the Exchange Agreement. Metropolitan filed cross-complaints in the three cases, asserting claims relating to rates and the Exchange Agreement, including reformation.

The operative Petitions for Writ of Mandate and Complaints allege the same Water Stewardship Rate claim and breach of the Exchange Agreement as in the 2010 and 2012 cases, but because Metropolitan paid the amounts sought to SDCWA, and the writ in the 2010 and 2012 cases encompasses these claims, these claims and cross-claims are moot. They also claim Metropolitan's wheeling rate fails to provide wheelers a reasonable credit for "offsetting benefits" pursuant to Water Code Section 1810, *et seq.*, and that Metropolitan has breached the Exchange Agreement by failing to reduce the price for an "offsetting benefits" credit. The cases also alleged that in 2020 and 2021, Metropolitan misallocated its California WaterFix costs as transportation costs and breached the Exchange Agreement by including those costs in the transportation rates charged. In April 2022, the parties requested the court's dismissal with prejudice of the claims and cross-claims relating to California WaterFix. The cases also request a judicial declaration that Proposition 26 applies to Metropolitan's rates and charges, and a judicial declaration that SDCWA is not required to pay any portion of a judgment in the litigation. Metropolitan filed cross-complaints in each of these cases, asserting claims relating to rates and the Exchange Agreement.

The cases were stayed pending resolution of the 2010 and 2012 cases, but the stays have been lifted and the cases have been consolidated in the San Francisco Superior Court.

Metropolitan and SDCWA each filed motions for summary adjudication of certain issues in the 2014, 2016 and 2018 cases with the court. Summary adjudication is a procedure by which a court may determine the merits of a particular claim or affirmative defense, a claim for damages, and/or an issue of duty before trial.

On May 4, 2022, the San Francisco Superior Court issued an order granting Metropolitan's motion for summary adjudication on its cross-claim for declaratory relief that the conveyance facility owner,

Metropolitan, determines fair compensation, including any offsetting benefits; and denying its motion on certain other cross-claims and an affirmative defense.

On May 11, 2022, the San Francisco Superior Court issued an order granting SDCWA's motion for summary adjudication on: Metropolitan's cross-claim in the 2018 case for a declaration with respect to the lawfulness of the Water Stewardship Rate's inclusion in the wheeling rate and transportation rates in 2019 and 2020; certain Metropolitan cross-claims and affirmative defenses on the ground that Metropolitan has a duty to charge no more than fair compensation, which includes reasonable credit for any offsetting benefits pursuant to Water Code section 1811(c), with the court also stating that whether that duty arose and whether Metropolitan breached that duty are issues to be resolved at trial; Metropolitan's affirmative defenses that SDCWA's claims are untimely and SDCWA has not satisfied claims presentation requirements; Metropolitan's affirmative defense in the 2018 case that SDCWA has not satisfied dispute resolution requirements under the Exchange Agreement; SDCWA's claim, Metropolitan's cross-claims, and Metropolitan's affirmative defenses regarding the applicability of Proposition 26, finding that Proposition 26 applies to Metropolitan's rates and charges, with the court also stating that whether Metropolitan violated Proposition 26 is a separate issue; and Metropolitan's cross-claims and affirmative defenses regarding the applicability of Government Code section 54999.7, finding that section 54999.7 applies to Metropolitan's rates. The court denied SDCWA's motion on certain other Metropolitan cross-claims and affirmative defenses.

Damages sought by SDCWA in connection with its claims for offsetting benefits credit under the Exchange Agreement exceed \$334 million for the six years (2015 through 2020) at issue in these cases. In the event that SDCWA were to prevail in a final adjudication of this issue, a determination of offsetting benefits credit due to SDCWA, if any, could impact the Exchange Agreement price in future years.

Trial of the 2014, 2016 and 2018 cases occurred May 16 to July 1, 2022. Subsequent to the July 1, 2022 trial closing date of the 2014, 2016 and 2018 cases, the parties filed post-trial briefs on August 19, 2022. On September 14, 2022, the court granted in part and denied in part SDCWA's motion for partial judgment; the rulings did not resolve any claims or cross-claims. Trial closing arguments were held on September 27, 2022. As directed by the court, the parties filed proposed statements of decision on December 16, 2022.

On December 27, 2022, the court entered the parties' stipulation memorializing the earlier resolution of the Water Stewardship Rate claims in SDCWA's favor, except a cross-claim that Metropolitan withdrew via the stipulation.

On March 14, 2023, the court issued its tentative statement of decision concerning the trial in the 2014, 2016, and 2018 cases. For each claim litigated at trial, the court ruled in favor of Metropolitan or found the claim to be moot based on the rulings in Metropolitan's favor. The court concluded: (1) the duty to charge fair compensation did not arise and Metropolitan did not breach the Exchange Agreement by failing to calculate a reasonable credit for any offsetting benefits; (2) because Metropolitan did not breach the Exchange Agreement, the court need not address damages; (3) Metropolitan's conditional claim for a declaration of its rights and duties under the Wheeling Statutes, if SDCWA prevailed on its claim that the Wheeling Statutes apply to the Exchange Agreement, are moot; (4) SDCWA's rate challenges are rejected; and (5) SDCWA's request for a declaration that it could not be required to contribute to a damages, fees, or costs award in the cases is moot. The decision is tentative, pending SDCWA's statutory right to file an objection.

Also on March 14, 2023, the court issued an amended order on SDCWA's motion for partial judgment to address Metropolitan's request for a declaration on Metropolitan's cost causation obligations when setting rates. The court ruled that Metropolitan cannot demonstrate that a declaration regarding cost causation is the proper subject for declaratory relief.

Metropolitan is unable to assess at this time the likelihood of success of the pending cases, any possible appeals, settlements or any future claims.

## Other Revenue Sources

**Hydroelectric Power Recovery Revenues.** Metropolitan has constructed 15 small hydroelectric plants on its distribution system. The combined generating capacity of these plants is approximately 130 megawatts, and is dependent on available water sources. The plants are located in Los Angeles, Orange, Riverside, and San Diego Counties at existing pressure control structures and other locations. Since 2000, annual energy generation sales revenues have ranged between \$7.3 million and nearly \$29.6 million, fluctuating with available water supplies. Hydroelectric power sales revenues from the hydroelectric power plants were \$7.7 million in fiscal year 2021-22.

**CRA Power Sale Revenues.** The power requirements for the CRA are offset, in part, by Metropolitan's hydroelectric power generation entitlements from Hoover and Parker dams. A net revenue stream, referred to as CRA power sales, results when the CRA power needs are less than Metropolitan's Hoover and Parker power entitlements, and in which the excess energy is imported and sold into the California Independent System Operator ("CAISO") market. The total Hoover and Parker dam excess energy sales revenues were \$11.4 million in fiscal year 2020-21 and \$3.25 million in fiscal year 2021-22.

**Investment Income.** In fiscal years 2019-20, 2020-21, and 2021-2022 Metropolitan's earnings on investments, including adjustments for gains and losses and premiums and discounts, including construction account and trust fund earnings, excluding gains and losses on swap terminations, on a cash basis (unaudited) were \$18.1 million, \$12.7 million, and \$11.3 million respectively.

## Investment of Moneys in Funds and Accounts

The Board has delegated to the Treasurer the authority to invest funds. All moneys in any of the funds and accounts established pursuant to Metropolitan's water revenue or general obligation bond resolutions are managed by the Treasurer in accordance with Metropolitan's Statement of Investment Policy. All Metropolitan funds available for investment are currently invested in United States Treasury and agency securities, supranationals, commercial paper, negotiable certificates of deposit, banker's acceptances, corporate notes, municipal bonds, government-sponsored enterprise, money market funds, California Asset Management Program ("CAMP") and the California Local Agency Investment Fund ("LAIF"). CAMP is a program created through a joint powers agency as a pooled short-term portfolio and cash management vehicle for California public agencies. CAMP is a permitted investment for all local agencies under California Government Code Section 53601(p). LAIF is a voluntary program created by statute as an investment alternative for California's local governments and special districts. LAIF permits such local agencies to participate in an investment portfolio, which invests billions of dollars, managed by the State Treasurer's Office.

The Statement of Investment Policy provides that in managing Metropolitan's investments, the primary objective shall be to safeguard the principal of the invested funds. The secondary objective shall be to meet all liquidity requirements and the third objective shall be to achieve a return on the invested funds. Although the Statement of Investment Policy permits investments in some government-sponsored enterprise, the portfolio does not include any of the special investment vehicles related to sub-prime mortgages. Metropolitan's current investments comply with the Statement of Investment Policy.

As of February 28, 2023, the total market value (cash-basis) of all Metropolitan invested funds was \$1.3 billion. The market value of Metropolitan's investment portfolio is subject to market fluctuation and volatility and general economic conditions. Over the three years ended February 28, 2023, the market value of the month-end balance of Metropolitan's investment portfolio (excluding bond reserve funds) averaged approximately \$1.3 billion. The minimum month-end balance of Metropolitan's investment portfolio (excluding bond reserve funds) during such period was approximately \$887.3 million on July 31, 2020. See Note 3 to Metropolitan's audited financial statements in Appendix B for additional information on the investment portfolio.

Metropolitan's Administrative Code requires that (1) the Treasurer provide an annual Statement of Investment Policy for approval by Metropolitan's Board, (2) the Treasurer provide a monthly investment report to the Board and the General Manager showing by fund the description, maturity date, yield, par, cost and current market value of each security, and (3) the General Counsel review as to eligibility the securities invested in by the Treasurer for that month and report his or her determinations to the Board. The Board approved the Statement of Investment Policy for fiscal year 2022-23 on June 14, 2022.

Subject to the provisions of Metropolitan's water revenue or general obligation bond resolutions, obligations purchased by the investment of bond proceeds in the various funds and accounts established pursuant to a bond resolution are deemed at all times to be a part of such funds and accounts and any income realized from investment of amounts on deposit in any fund or account therein will be credited to such fund or account. The Treasurer is required to sell or present for redemption any investments whenever it may be necessary to do so in order to provide moneys to meet required payments or transfers from such funds and accounts. For the purpose of determining at any given time the balance in any such funds, any such investments constituting a part of such funds and accounts will be valued at the then estimated or appraised market value of such investments.

All investments, including those authorized by law from time to time for investments by public agencies, contain certain risks. Such risks include, but are not limited to, a lower rate of return than expected and loss or delayed receipt of principal. The occurrence of these events with respect to amounts held under Metropolitan's water revenue or general obligation revenue bond resolutions, or other amounts held by Metropolitan, could have a material adverse effect on Metropolitan's finances. These risks may be mitigated, but are not eliminated, by limitations imposed on the portfolio management process by Metropolitan's Statement of Investment Policy.

The Statement of Investment Policy requires that investments have a minimum credit rating of "A-1/P-1/F1" for short-term securities and "A" for longer-term securities, without regard to modifiers, at the time of purchase. If a security is downgraded below the minimum rating criteria specified in the Statement of Investment Policy, the Treasurer shall determine a course of action to be taken on a case-by-case basis considering such factors as the reason for the downgrade, prognosis for recovery, or further rating downgrades, and the market price of the security. The Treasurer is required to note in the Treasurer's monthly report any securities which have been downgraded below Policy requirements and the recommended course of action.

The Statement of Investment Policy also limits the amount of securities that can be purchased by category, as well as by issuer, and prohibits investments that can result in zero interest income. Metropolitan's securities are settled on a delivery versus payment basis and are held by an independent third-party custodian. See Metropolitan's financial statements included in APPENDIX B- "THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITORS' REPORT AND BASIC FINANCIAL STATEMENTS FOR FISCAL YEARS ENDED JUNE 30, 2022 AND JUNE 30, 2021 AND BASIC FINANCIAL STATEMENTS FOR THE SIX MONTHS ENDED DECEMBER 31, 2022 AND 2021 (UNAUDITED)" for a description of Metropolitan's investments at June 30, 2022, and December 31, 2022.

Metropolitan retains an outside investment firm to manage its core portfolio, a portion of the liquidity portfolio, and the Lake Matthews trust fund. This firm manages approximately \$990.2 million in total investments on behalf of Metropolitan as of February 28, 2023. All outside managers are required to adhere to Metropolitan's Statement of Investment Policy.

Metropolitan's Statement of Investment Policy may be changed at any time by the Board (subject to State law provisions relating to authorized investments). There can be no assurance that the State law and/or the Statement of Investment Policy will not be amended in the future to allow for investments that are currently not permitted under State law or the Statement of Investment Policy, or that the objectives of Metropolitan with respect to investments or its investment holdings at any point in time will not change.

## METROPOLITAN EXPENSES

### General

The following table sets forth a summary of Metropolitan's expenses, by major function, for the five years ended June 30, 2022, on a modified accrual basis. All information is unaudited. Expenses of Metropolitan for the fiscal years ended June 30, 2022 and June 30, 2021, on an accrual basis, are shown in Metropolitan's audited financial statements included in Appendix B.

### SUMMARY OF EXPENSES Fiscal Years Ended June 30 (Dollars in Millions)

	2018	2019	2020	2021	2022
Operation and Maintenance Costs <sup>(1)</sup>	\$ 568	\$ 569	\$ 641	\$ 636	\$ 797
Total State Water Project <sup>(2)</sup>	527	482	519	547	547
Total Debt Service	360	347	285	286	283
Construction Expenses from Revenues <sup>(3)</sup>	98	128	39	110	135
Other <sup>(4)</sup>	<u>5</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>55</u>
Total Expenses (net of reimbursements)	<u>\$1,558</u>	<u>\$1,532</u>	<u>\$1,490</u>	<u>\$1,585</u>	<u>\$1,817</u>

Source: Metropolitan.

- (1) Includes operation and maintenance, debt administration, conservation and local resource programs, CRA power, and water supply expenses. Fiscal year 2017-18 includes \$1 million of conservation and supply program expenses funded from transfers from the Water Management Fund.
- (2) Includes operating and capital expense portions and Delta Conveyance.
- (3) At the discretion of the Board, in any given year, Metropolitan may increase or decrease funding available for construction disbursements to be paid from revenues. Does not include expenditures of bond proceeds.
- (4) Includes operating equipment. Fiscal year 2021-22 includes \$51 million for SDCWA litigation payments.

### Revenue Bond Indebtedness and Other Obligations

As of April 1, 2023, Metropolitan had total outstanding indebtedness secured by a lien on Net Operating Revenues of \$3.66 billion. This indebtedness was comprised of (a) \$2.45 billion of Senior Revenue Bonds issued under the Senior Debt Resolutions (each as defined below), which includes \$2.12 billion of fixed rate Senior Revenue Bonds, and \$331.9 million of variable rate Senior Revenue Bonds; and (b) \$1.21 billion of Subordinate Revenue Bonds issued under the Subordinate Debt Resolutions (each as defined below), which includes \$712.8 million of fixed rate Subordinate Revenue Bonds, and \$493.4 million of variable rate Subordinate Revenue Bonds. In addition, Metropolitan has \$372.7 million of fixed-payor interest rate swaps which provides a fixed interest rate hedge to an equivalent amount of variable rate debt. Metropolitan's revenue bonds and other revenue obligations are more fully described below.

### REVENUE BOND INDEBTEDNESS AND OTHER OBLIGATIONS (as of April 1, 2023)

	Variable Rate	Fixed Rate	Total
Senior Lien Revenue Bonds	\$ 331,875,000	\$2,120,335,000	\$2,452,210,000
Subordinate Lien Revenue Bonds	493,415,000	712,770,000	1,206,185,000
<b>Total</b>	<b>\$ 825,290,000</b>	<b>\$2,833,105,000</b>	<b>\$3,658,395,000</b>
Fixed-Payor Interest Rate Swaps	(372,690,000)	372,690,000	--
<b>Net Amount (after giving effect to Swaps)</b>	<b>\$ 452,600,000</b>	<b>\$3,205,795,000</b>	<b>\$3,658,395,000</b>

Source: Metropolitan.

As described under “–Outstanding Senior Revenue Bonds and Senior Parity Obligations –Senior Parity Obligations,” in June 2022, Metropolitan entered into a revolving credit facility pursuant to which Metropolitan may issue senior lien short-term notes from time-to-time, bearing interest at a variable rate, and payable on parity with Metropolitan’s Senior Revenue Bonds.

### **Limitations on Additional Revenue Bonds**

Resolution 8329, adopted by Metropolitan’s Board on July 9, 1991, as amended and supplemented (the “Master Senior Resolution,” and collectively with all such supplemental resolutions, the “Senior Debt Resolutions”), provides for the issuance of Metropolitan’s senior lien water revenue bonds. The Senior Debt Resolutions establish limitations on the issuance of additional obligations payable from Net Operating Revenues. Under the Senior Debt Resolutions, no additional bonds, notes or other evidences of indebtedness payable out of Operating Revenues may be issued having any priority in payment of principal, redemption premium, if any, or interest over any water revenue bonds authorized by the Senior Debt Resolutions (“Senior Revenue Bonds”) or other obligations of Metropolitan having a lien and charge upon, or being payable from, the Net Operating Revenues on parity with such Senior Revenue Bonds (“Senior Parity Obligations”). No additional Senior Revenue Bonds or Senior Parity Obligations may be issued or incurred unless the conditions of the Senior Debt Resolutions have been satisfied.

Resolution 9199, adopted by Metropolitan’s Board on March 8, 2016, as amended and supplemented (the “Master Subordinate Resolution,” and collectively with all such supplemental resolutions, the “Subordinate Debt Resolutions,” and together with the Senior Debt Resolutions, the “Revenue Bond Resolutions”), provides for the issuance of Metropolitan’s subordinate lien water revenue bonds and other obligations secured by a pledge of Net Operating Revenues that is subordinate to the pledge securing Senior Revenue Bonds and Senior Parity Obligations. The Subordinate Debt Resolutions establish limitations on the issuance of additional obligations payable from Net Operating Revenues. Under the Subordinate Debt Resolutions, with the exception of Senior Revenue Bonds and Senior Parity Obligations, no additional bonds, notes or other evidences of indebtedness payable out of Operating Revenues may be issued having any priority in payment of principal, redemption premium, if any, or interest over any subordinate water revenue bonds authorized by the Subordinate Debt Resolutions (“Subordinate Revenue Bonds” and, together with Senior Revenue Bonds, “Revenue Bonds”) or other obligations of Metropolitan having a lien and charge upon, or being payable from, the Net Operating Revenues on parity with the Subordinate Revenue Bonds (“Subordinate Parity Obligations”). No additional Subordinate Revenue Bonds or Subordinate Parity Obligations may be issued or incurred unless the conditions of the Subordinate Debt Resolutions have been satisfied.

The laws governing Metropolitan’s ability to issue water revenue bonds currently provide two additional limitations on indebtedness that may be incurred by Metropolitan. The Act provides for a limit on general obligation bonds, water revenue bonds and other evidences of indebtedness of 15 percent of the assessed value of all taxable property within Metropolitan’s service area. As of April 1, 2023, outstanding general obligation bonds, water revenue bonds and other evidences of indebtedness in the amount of \$3.68 billion represented approximately 0.10 percent of the fiscal year 2022-23 taxable assessed valuation of \$3,624.8 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 such bonds, equals at least 100 percent of the aggregate amount of revenue bonds outstanding following the issuance of such bonds. The net assets of Metropolitan at June 30, 2022 were \$7.46 billion. The aggregate amount of revenue bonds outstanding as of April 1, 2023 was \$3.66 billion. The limitation does not apply to other forms of financing available to Metropolitan. Audited financial statements including the net assets of Metropolitan as of June 30, 2022 and June 30, 2021 are shown in Metropolitan’s audited financial statements included in APPENDIX B–“THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITORS’ REPORT AND BASIC FINANCIAL STATEMENTS FOR FISCAL YEARS ENDED JUNE 30, 2022 AND JUNE 30, 2021 AND BASIC FINANCIAL STATEMENTS FOR THE SIX MONTHS ENDED DECEMBER 31, 2022 AND 2021 (UNAUDITED).”



Metropolitan provides no assurance that the Act's limitations on indebtedness will not be revised or removed by future legislation. Limitations under the Revenue Bond Resolutions respecting the issuance of additional obligations payable from Net Operating Revenues on parity with the Senior Revenue Bonds and Subordinate Revenue Bonds of Metropolitan will remain in effect so long as any Senior Revenue Bonds and Subordinate Revenue Bonds authorized pursuant to the applicable Revenue Bond Resolutions are outstanding, provided however, that the Revenue Bond Resolutions are subject to amendment and supplement in accordance with their terms.

### **Variable Rate Exposure Policy**

As of April 1, 2023, Metropolitan had outstanding \$331.9 million of variable rate obligations issued as Senior Revenue Bonds under the Senior Debt Resolutions (described under “–Outstanding Senior Revenue Bonds and Senior Parity Obligations – Variable Rate and Swap Obligations” below). In addition, as of April 1, 2023, \$493.4 million of Metropolitan's \$1.21 billion of outstanding Subordinate Revenue Bonds issued under the Subordinate Debt Resolutions and other Subordinate Parity Obligations were variable rate obligations (described under “–Outstanding Subordinate Revenue Bonds and Subordinate Parity Obligations” below).

As of April 1, 2023, of Metropolitan's \$825.3 million of variable rate obligations, \$372.7 million of such variable rate demand obligations are treated by Metropolitan as fixed rate debt, by virtue of interest rate swap agreements (described under “–Outstanding Senior Revenue Bonds and Senior Parity Obligations – Variable Rate and Swap Obligations – *Interest Rate Swap Transactions*” below), for the purpose of calculating debt service requirements. The remaining \$452.6 million of variable rate obligations represent approximately 12.4 percent of total outstanding water revenue secured indebtedness (including Senior Revenue Bonds and Senior Parity Obligations and Subordinate Revenue Bonds and Subordinate Parity Obligations), as of April 1, 2023.

Metropolitan's variable rate exposure policy requires that variable rate debt be managed to limit net interest cost increases within a fiscal year as a result of interest rate changes to no more than \$5 million. In addition, the maximum amount of variable interest rate exposure (excluding variable rate bonds associated with interest rate swap agreements) is limited to 40 percent of total outstanding water revenue bond debt. Variable rate debt capacity will be reevaluated as interest rates change and managed within these parameters.

The periodic payments due to Metropolitan from counterparties under its outstanding interest rate swap agreements are calculated by reference to the London interbank offering rate (“LIBOR”). On July 27, 2017, the Financial Conduct Authority (the “FCA”), the U.K. regulatory body responsible for the regulation and supervision of LIBOR, announced that it would no longer persuade or compel banks to submit rates for the calculation of the LIBOR rates after 2021 (the “FCA Announcement”). Following a consultation announced in November 2020 by the Intercontinental Exchange Benchmark Administration (“IBA”), the administrator of LIBOR authorized and regulated by the FCA, with the support of the Federal Reserve Board and the FCA, made a formal announcement on March 5, 2021 that the date for the cessation of the publication of various tenors of USD LIBOR (or date on which any published USD LIBOR rate for such tenors would cease to be representative) would be: (1) December 31, 2021, for the one-week and two-month USD LIBOR, and (2) June 30, 2023, for all other tenors of USD LIBOR, including the one-month LIBOR and three-month LIBOR, the most widely used tenors of USD LIBOR and which are used to determine the periodic payments due to Metropolitan from swap counterparties. Metropolitan currently expects to adopt the terms of the ISDA 2020 IBOR Fallbacks Protocol for its existing swap agreements by June 30, 2023. Under the terms of the ISDA 2020 IBOR Fallbacks Protocol, the floating rate calculations based on a USD LIBOR rate will switch to a term-adjusted Secured Overnight Financing Rate (“SOFR”) rate plus a spread adjustment. Metropolitan does not expect a material change in its swap payments as a result of the transition to the new SOFR-based alternate benchmark rate.

## Outstanding Senior Revenue Bonds and Senior Parity Obligations

### Senior Revenue Bonds

The water revenue bonds issued under the Senior Debt Resolutions outstanding as of April 1, 2023 are set forth below:

### Outstanding Senior Revenue Bonds

<u>Name of Issue</u>	<u>Principal Outstanding</u>
Water Revenue Refunding Bonds, 2011 Series C	\$ 29,315,000
Water Revenue Refunding Bonds, 2014 Series E	33,910,000
Water Revenue Bonds, 2015 Authorization, Series A	54,880,000
Water Revenue Refunding Bonds, 2016 Series A	112,415,000
Special Variable Rate Water Revenue Refunding Bonds, 2016 Series B-2 <sup>(1)</sup>	25,325,000
Water Revenue Bonds, 2017 Authorization, Series A <sup>(1)</sup>	24,275,000
Water Revenue Refunding Bonds, 2018 Series B	119,690,000
Water Revenue Refunding Bonds, 2019 Series A	218,090,000
Water Revenue Bonds, 2020 Series A	207,355,000
Special Variable Rate Water Revenue Refunding Bonds, 2020 Series B <sup>(2)</sup>	271,815,000
Water Revenue Refunding Bonds, 2020 Series C	263,230,000
Water Revenue Bonds, 2021 Series A	188,890,000
Water Revenue Refunding Bonds, 2021 Series B	87,810,000
Water Revenue Refunding Bonds, 2022 Series A	279,570,000
Water Revenue Refunding Bonds, 2022 Series B	253,365,000
Special Variable Rate Water Revenue Refunding Bonds, 2022 Series C-1 and C-2 <sup>(1)</sup>	282,275,000
<b>Total</b>	<b>\$2,452,210,000</b>

Source: Metropolitan.

<sup>(1)</sup> Outstanding variable rate obligation.

<sup>(2)</sup> Currently in a long mode at a fixed interest rate to April 2, 2024.

### Variable Rate and Swap Obligations

As of April 1, 2023, Metropolitan had outstanding \$331.9 million of senior lien variable rate obligations. The outstanding variable rate obligations consist of Senior Revenue Bonds issued under the Senior Debt Resolutions (described under this caption “–Variable Rate and Swap Obligations”) as variable rate demand obligations in either a daily mode or a weekly mode and supported by standby bond purchase agreements between Metropolitan and various liquidity providers (the “Liquidity Supported Bonds”).

**Liquidity Supported Senior Revenue Bonds.** Metropolitan’s outstanding variable rate demand obligations issued under the Senior Debt Resolutions, totaling \$331.9 million as of April 1, 2023, consisted of \$49.6 million principal amount of variable rate Senior Revenue Bonds, the interest rates on which are currently reset on a daily basis, and \$282.3 million principal amount of variable rate Senior Revenue Bonds, the interest rates on which are reset on a weekly basis. The variable rate demand obligations bearing interest at a daily rate are subject to optional tender on any business day with same day notice by the owners thereof and mandatory tender upon specified events. The variable rate demand obligations bearing interest at a weekly rate are subject to optional tender on any business day upon seven days’ notice by the owners thereof and mandatory tender upon specified events. Such variable rate demand obligations are supported by standby bond purchase agreements between Metropolitan and liquidity providers that provide for purchase of variable rate bonds by the applicable liquidity provider upon tender of such variable rate bonds and a failed remarketing. Metropolitan has secured its obligation to repay principal and interest advanced under the standby bond purchase agreements as Senior Parity Obligations. A decline in the creditworthiness of a liquidity provider will likely result in an

increase in the interest rate of the applicable variable rate bonds, as well as an increase in the risk of a failed remarketing of such tendered variable rate bonds. Variable rate bonds purchased by a liquidity provider (“bank bonds”) would initially bear interest at a per annum interest rate equal to, depending on the liquidity facility, either: (a) the highest of (i) the Prime Rate, (ii) the Federal Funds Rate plus one-half of a percent, or (iii) seven and one-half percent (with the spread or rate increasing in the case of each of (i), (ii) and (iii) of this clause (a) by one percent after 60 days); or (b) the highest of (i) the Prime Rate plus one percent, (ii) Federal Funds Rate plus two percent, and (iii) seven percent (with the spread or rate increasing in the case of each of (i), (ii) and (iii) of this clause (b) by one percent after 90 days). To the extent such bank bonds have not been remarketed or otherwise retired as of the earlier of the 60<sup>th</sup> day following the date such bonds were purchased by the liquidity provider or the stated expiration date of the related liquidity facility, Metropolitan’s obligation to reimburse the liquidity provider may convert the term of the variable rate bonds purchased by the liquidity provider into a term loan payable under the terms of the current liquidity facilities in semi-annual installments over a period ending on either the third anniversary of the date on which the variable rate bonds were purchased by the liquidity provider. In addition, upon an event of default under any such liquidity facility, including a failure by Metropolitan to perform or observe its covenants under the applicable standby bond purchase agreement, a default in other specified indebtedness of Metropolitan, or other specified events of default (including a reduction in the credit rating assigned to Senior Revenue Bonds issued under the Senior Debt Resolutions by any of Fitch, S&P or Moody’s below “A–” or “A3”), the liquidity provider could require all bank bonds to be subject to immediate mandatory redemption by Metropolitan.

The following table lists the current liquidity providers, the current expiration date of each facility, and the principal amount of outstanding variable rate demand obligations covered under each facility as of April 1, 2023.

#### **Liquidity Facilities and Expiration Dates**

<b>Liquidity Provider</b>	<b>Bond Issue</b>	<b>Principal Outstanding</b>	<b>Facility Expiration</b>
TD Bank, N.A.	2016 Series B-2	\$ 25,325,000	January 2026
TD Bank, N.A.	2022 Series C-1	147,650,000	January 2026
PNC Bank, N.A.	2017 Authorization Series A	24,275,000	January 2026
PNC Bank, N.A.	2022 Series C-2	<u>134,625,000</u>	January 2026
<b>Total</b>		<b>\$331,875,000</b>	

*Source: Metropolitan.*

**Interest Rate Swap Transactions.** By resolution adopted on September 11, 2001, Metropolitan’s Board authorized the execution of interest rate swap transactions and related agreements in accordance with a master swap policy, which was subsequently amended by resolutions adopted on July 14, 2009 and May 11, 2010. Metropolitan may execute interest rate swaps if the transaction can be expected to reduce exposure to changes in interest rates on a particular financial transaction or in the management of interest rate risk derived from Metropolitan’s overall asset/liability balance, result in a lower net cost of borrowing or achieve a higher net rate of return on investments made in connection with or incidental to the issuance, incurring or carrying of Metropolitan’s obligations or investments, or manage variable interest rate exposure consistent with prudent debt practices and Board-approved guidelines. The Assistant General Manager, Finance & Administration reports to the Finance, Audit, Insurance and Real Estate Committee of Metropolitan’s Board each quarter on outstanding swap transactions, including notional amounts outstanding, counterparty exposures and termination values based on then-existing market conditions.

Metropolitan currently has one type of interest rate swap, referred to in the table below as “Fixed Payor Swaps.” Under this type of swap, Metropolitan receives payments that are calculated by reference to a floating interest rate and makes payments that are calculated by reference to a fixed interest rate.

Metropolitan’s obligations to make regularly scheduled net payments under the terms of the interest rate swap agreements are payable on a parity with the Senior Parity Obligations. Termination payments under the 2002A and 2002B interest rate swap agreements would be payable on a parity with the Senior Parity Obligations. Termination payments under all other interest rate swap agreements would be on parity with the Subordinate Parity Obligations.

The following swap transactions were outstanding as of April 1, 2023:

**FIXED PAYOR SWAPS:**

<b>Designation</b>	<b>Notional Amount Outstanding</b>	<b>Swap Counterparty</b>	<b>Fixed Payor Rate</b>	<b>Metropolitan Receives</b>	<b>Maturity Date</b>
2002 A	\$ 34,553,750	Morgan Stanley Capital Services, Inc.	3.300%	57.74% of one-month LIBOR	7/1/2025
2002 B	12,926,250	JPMorgan Chase Bank	3.300	57.74% of one-month LIBOR	7/1/2025
2003	131,912,500	Wells Fargo Bank	3.257	61.20% of one-month LIBOR	7/1/2030
2003	131,912,500	JPMorgan Chase Bank	3.257	61.20% of one-month LIBOR	7/1/2030
2004 C	4,672,250	Morgan Stanley Capital Services, Inc.	2.980	61.55% of one-month LIBOR	10/1/2029
2004 C	3,822,750	Citigroup Financial Products, Inc.	2.980	61.55% of one-month LIBOR	10/1/2029
2005	26,445,000	JPMorgan Chase Bank	3.360	70% of 3-month LIBOR	7/1/2030
2005	<u>26,445,000</u>	Citigroup Financial Products, Inc.	3.360	70% of 3-month LIBOR	7/1/2030
<b>Total</b>	<b>\$372,690,000</b>				

*Source: Metropolitan.*

These interest rate swap agreements entail risk to Metropolitan. One or more counterparties may fail or be unable to perform, interest rates may vary from assumptions, Metropolitan may be required to post collateral in favor of its counterparties and Metropolitan may be required to make significant payments in the event of an early termination of an interest rate swap. Metropolitan seeks to manage counterparty risk by diversifying its swap counterparties, limiting exposure to any one counterparty, requiring collateralization or other credit enhancement to secure swap payment obligations, and by requiring minimum credit rating levels. Initially, swap counterparties must be rated at least “Aa3” or “AA-”, or equivalent by any two of the nationally recognized credit rating agencies; or use a “AAA” subsidiary as rated by at least one nationally recognized credit rating agency. Should the credit rating of an existing swap counterparty drop below the required levels, Metropolitan may enter into additional swaps if those swaps are “offsetting” and risk-reducing swaps. Each counterparty is initially required to have minimum capitalization of at least \$150 million. See Note 5(e) in Metropolitan’s audited financial statements in Appendix B.

Early termination of an interest rate swap agreement could occur due to a default by either party or the occurrence of a termination event (including defaults under other specified swaps and indebtedness, certain

acts of insolvency, if a party may not legally perform its swap obligations, or, with respect to Metropolitan, if its credit rating is reduced below “BBB–” by Moody’s or “Baa3” by S&P (under most of the interest rate swap agreements) or below “BBB” by Moody’s or “Baa2” by S&P (under one of the interest rate swap agreements)). As of December 31, 2022, Metropolitan would have been required to pay to its counterparties termination payments if its swaps were terminated on that date. Metropolitan’s net exposure to its counterparties for all such termination payments on that date was approximately \$9.7 million. Metropolitan does not presently anticipate early termination of any of its interest rate swap agreements due to default by either party or the occurrence of a termination event. However, Metropolitan has previously exercised, and may in the future exercise, from time to time, optional early termination provisions to terminate all or a portion of certain interest rate swap agreements.

Metropolitan is required to post collateral in favor of a counterparty to the extent that Metropolitan’s total exposure for termination payments to that counterparty exceeds the threshold specified in the applicable swap agreement. Conversely, the counterparties are required to release collateral to Metropolitan or post collateral for the benefit of Metropolitan as market conditions become favorable to Metropolitan. As of December 31, 2022, Metropolitan had no collateral posted with any counterparty. The highest, month-end, amount of collateral posted was \$36.8 million, on June 30, 2012, which was based on an outstanding swap notional amount of \$1.4 billion at that time. The amount of required collateral varies from time to time due primarily to interest rate movements and can change significantly over a short period of time. See “METROPOLITAN REVENUES–Financial Reserve Policy” in this Appendix A. In the future, Metropolitan may be required to post additional collateral, or may be entitled to a reduction or return of the required collateral amount. Collateral deposited by Metropolitan is held by the counterparties; a bankruptcy of any counterparty holding collateral posted by Metropolitan could adversely affect the return of the collateral to Metropolitan. Moreover, posting collateral limits Metropolitan’s liquidity. If collateral requirements increase significantly, Metropolitan’s liquidity may be materially adversely affected. See “METROPOLITAN REVENUES–Financial Reserve Policy” in this Appendix A.

#### **Direct Purchase Long Mode Bonds**

In April 2020, Metropolitan entered into a Bond Purchase Agreement, dated as of April 1, 2020 (the “2020 Direct Purchase Agreement”) with Wells Fargo Municipal Capital Strategies, LLC (“WFMCS”), for the purchase by WFMCS and sale by Metropolitan of Metropolitan’s \$271.8 million Special Variable Rate Water Revenue Refunding Bonds 2020 Series B (the “2020B Senior Revenue Bonds”). The 2020B Senior Revenue Bonds were issued for the purpose of refunding all of Metropolitan’s then outstanding variable rate Senior Revenue Bonds that were designated as self-liquidity bonds as part of Metropolitan’s self-liquidity program (“Self-Liquidity Bonds”).

The 2020B Senior Revenue Bonds were issued under the Senior Debt Resolutions and are further described in a related paying agent agreement, dated as of April 1, 2020, as amended by the Paying Agent Agreement Amendment No. 1, dated as of April 1, 2021 (together, the “2020B Paying Agent Agreement”), by and between Metropolitan and Wells Fargo Bank, National Association, as paying agent. Pursuant to the 2020B Paying Agent Agreement, the 2020B Senior Revenue Bonds may bear interest from time to time in any one of several interest rate modes at the election of Metropolitan. The 2020B Senior Revenue Bonds currently bear interest in a Long Mode under the 2020B Paying Agent Agreement at a Long Rate equal to 0.46 percent per annum for the Long Period ending on April 2, 2024. If not earlier prepaid or redeemed pursuant to the terms of the 2020 Direct Purchase Agreement and the 2020B Paying Agent Agreement, the 2020B Senior Revenue Bonds are subject to mandatory tender for purchase on April 2, 2024 (the “Mandatory Tender Date”), the last day of the new Long Period. The 2020B Senior Revenue Bonds were initially designated as Self-Liquidity Bonds pursuant to the 2020B Paying Agent Agreement and no standby bond purchase agreement or other liquidity facility is in effect for the purchase of such bonds.

On or before the date 120 days prior to the end of the Long Period, Metropolitan may request WFMCS to purchase the 2020B Senior Revenue Bonds for another Long Period, or Metropolitan may seek to remarket

the 2020B Senior Revenue Bonds to another bank or in the public debt markets in a new interest rate mode or at a fixed interest rate. In the event the 2020B Bonds are not purchased by WFMCS for a subsequent Long Period, Metropolitan is obligated under the 2020 Direct Purchase Agreement to cause 2020B Senior Revenue Bonds that have not been converted to another interest rate mode or remarketed to a purchaser or purchasers other than WFMCS (“Unremarketed 2020B Bonds”) to be redeemed on the Mandatory Tender Date; provided, that if no default or event of default under the 2020 Direct Purchase Agreement shall have occurred and be continuing and the representations and warranties of Metropolitan shall be true and correct on the Mandatory Tender Date, then the principal amount of the Unremarketed 2020B Senior Revenue Bonds shall be due and payable on the date that is 30 days following the Mandatory Tender Date and shall accrue interest at the Purchaser Rate, a fluctuating interest per annum equal to, the greatest of the (i) the Prime Rate, (ii) Federal Funds Rate plus one-half of one percent, and (iii) five percent, as specified in the 2020 Direct Purchase Agreement. If no default or event of default under the 2020 Direct Purchase Agreement shall have occurred and be continuing and the representations and warranties of Metropolitan shall be true and correct at the end of such 30-day period, the Unremarketed 2020B Senior Revenue Bonds will continue to bear interest at the Purchaser Rate plus, after 180 days from the Mandatory Tender Date, a spread of one percent, and the principal amount of such Unremarketed 2020B Senior Revenue Bonds may, at Metropolitan’s request, instead be subject to mandatory redemption in substantially equal installments payable every six months over an amortization period commencing six months after the Mandatory Tender Date and ending on the third anniversary of the Mandatory Tender Date.

Under the 2020 Direct Purchase Agreement, upon a failure by Metropolitan to pay principal or interest of any 2020B Senior Revenue Bonds, a failure by Metropolitan to perform or observe its covenants, a default in other specified indebtedness of Metropolitan, certain acts of bankruptcy or insolvency, or other specified events of default (including if S&P shall have assigned a credit rating below “BBB–,” or if any of Fitch, S&P or Moody’s shall have assigned a credit rating below “A–” or “A3,” to Senior Revenue Bonds issued under the Senior Debt Resolutions), WFMCS has the right to cause a mandatory tender of the 2020B Senior Revenue Bonds and accelerate (depending on the event, seven days after the occurrence, or for certain events, only after 180 days’ notice) Metropolitan’s obligation to repay the 2020B Senior Revenue Bonds.

In connection with the execution of the 2020 Direct Purchase Agreement, Metropolitan designated the principal payable on the 2020B Senior Revenue Bonds on the Mandatory Tender Date as Excluded Principal Payments under the Senior Debt Resolutions and thus, for purposes of calculating Maximum Annual Debt Service, included the amount of principal and interest due and payable in connection therewith on a schedule of Assumed Debt Service. This schedule of Assumed Debt Service assumes that Metropolitan will pay the principal of the 2020B Senior Revenue Bonds over a period of 30 years at a fixed interest rate of approximately 5.00 percent.

Metropolitan has previously, and may in the future, enter into one or more self-liquidity revolving credit agreements which may be drawn upon for the purpose of paying the purchase price of any Self-Liquidity Bonds issued by Metropolitan, the repayment obligations of Metropolitan under which may be secured as either Senior Parity Obligations or Subordinate Parity Obligations.

### **Senior Parity Obligations**

***Wells Fargo Revolving Credit Facility.*** In June 2022, Metropolitan entered into a note purchase and continuing covenant agreement with Wells Fargo Bank, National Association (“Wells Fargo”), for the purchase by Wells Fargo and sale by Metropolitan from time-to-time of short-term flexible rate revolving notes (the “Wells Fargo Revolving Credit Facility”). Pursuant to the Wells Fargo Revolving Credit Facility, Metropolitan may borrow, pay down and re-borrow amounts, through the issuance and sale from time to time of short-term notes (with maturity dates not exceeding one year from their delivery date), in an aggregate principal amount not to exceed \$225 million (including, subject to certain terms and conditions, notes to refund maturing notes) to be purchased by Wells Fargo during the term of Wells Fargo’s commitment to purchase notes thereunder, which commitment currently extends to May 31, 2024. As of April 1, 2023, Metropolitan

had no short-term notes outstanding under the Wells Fargo Revolving Credit Facility. Metropolitan expects to make a draw on the Wells Fargo Revolving Credit Facility on or about April 27, 2023 and issue \$35,645,000 principal amount of short-term notes thereunder to fund an escrow for the purpose of defeasing and redeeming the portion of its outstanding Subordinate Water Revenue Refunding Bonds, 2017 Series B maturing on August 1, 2023. A portion of the proceeds of Metropolitan's 2023A Bonds will be applied on the date of delivery of such bonds to repay and redeem all of the then outstanding notes under the Wells Fargo Revolving Credit Facility. Accrued interest on the notes due on the date of their repayment and redemption will be paid from other funds provided by Metropolitan.

Notes under the Wells Fargo Revolving Credit Facility bear interest at a fluctuating rate of interest per annum equal to: (a) for taxable borrowings, the secured overnight financing rate as administered by the Federal Reserve Bank of New York (or a successor administrator) ("SOFR") as determined in accordance with the Wells Fargo Revolving Credit Facility for each day ("Daily Simple SOFR") plus a spread of 0.28 percent (so long as the current credit ratings on Metropolitan's Senior Revenue Bonds issued under the Senior Debt Resolutions are maintained); and (b) for tax-exempt borrowings, 80 percent of Daily Simple SOFR plus a spread of 0.26 percent (so long as the current credit ratings on Metropolitan's Senior Revenue Bonds issued under the Senior Debt Resolutions are maintained), subject, in each case to an applicable maximum interest rate, which shall not, in any case, exceed 18 percent. Subject to the satisfaction of certain terms and conditions, any future unpaid principal borrowed under the Wells Fargo Revolving Credit Facility remaining outstanding at the May 31, 2024 stated commitment expiration date of the Wells Fargo Revolving Credit Facility may be refunded by and exchanged for term notes payable by Metropolitan in approximately equal semi-annual principal installments over a period of approximately three years. Any such term notes will bear interest at a fluctuating rate of interest per annum equal to, for each day, the highest of: (i) the Prime Rate in effect at such time plus one percent; (ii) the Federal Funds Rate in effect at such time plus two percent; or (iii) in the case of taxable term notes, ten percent, and in the case of tax-exempt term notes, seven percent; plus, for each of (i), (ii) or (iii), a spread of two percent.

Under the Wells Fargo Revolving Credit Facility, upon a failure by Metropolitan to pay principal or interest of any note thereunder, a failure by Metropolitan to perform or observe its covenants, a default in other specified indebtedness of Metropolitan, certain acts of bankruptcy or insolvency, or other specified events of default (including if any of Fitch, S&P or Moody's shall have assigned a credit rating below "A-" or "A3," or if each of Fitch, S&P and Moody's shall have assigned a credit rating below "BBB-" or "Baa3," to Senior Revenue Bonds issued under the Senior Debt Resolutions), Wells Fargo has the right to terminate its commitments and may accelerate (depending on the event, seven days after the occurrence, or for certain events, only after 180 days' notice, or, in connection with certain acts of bankruptcy or insolvency or in the event of an acceleration of Metropolitan debt by another lender, credit enhancer or swap counterparty, immediately) Metropolitan's obligation to repay its borrowings.

Metropolitan has secured its obligation to pay principal and interest on notes evidencing borrowings under the Wells Fargo Revolving Credit Facility as Senior Parity Obligations.

In connection with the execution of the Wells Fargo Revolving Credit Facility, Metropolitan designated the principal and interest payable on the notes thereunder as Excluded Principal Payments under the Senior Debt Resolutions and thus, for purposes of calculating Maximum Annual Debt Service, included the amount of principal and interest due and payable under the Wells Fargo Revolving Credit Facility on a schedule of Assumed Debt Service for any outstanding draws.

Metropolitan has previously, and may in the future, enter into one or more other or alternative short-term revolving credit facilities, the repayment obligations of Metropolitan under which may be secured as either Senior Parity Obligations or Subordinate Parity Obligations.

## Outstanding Subordinate Revenue Bonds and Subordinate Parity Obligations

### Subordinate Revenue Bonds

The water revenue bonds issued under the Subordinate Debt Resolutions outstanding as of April 1, 2023, are set forth below:

#### Outstanding Subordinate Revenue Bonds

Name of Issue	Principal Outstanding
Subordinate Water Revenue Refunding Bonds, 2017 Series A	\$ 204,760,000
Subordinate Water Revenue Refunding Bonds, 2017 Series B <sup>(2)</sup>	71,285,000
Subordinate Water Revenue Bonds, 2017 Series C <sup>(1)</sup>	80,000,000
Subordinate Water Revenue Refunding Bonds, 2017 Series D <sup>(1)</sup>	95,630,000
Subordinate Water Revenue Refunding Bonds, 2017 Series E <sup>(1)</sup>	95,625,000
Subordinate Water Revenue Refunding Bonds, 2018 Series A	10,865,000
Subordinate Water Revenue Bonds, 2018 Series B	64,345,000
Subordinate Water Revenue Refunding Bonds, 2019 Series A	209,060,000
Subordinate Water Revenue Refunding Bonds, 2020 Series A	152,455,000
Subordinate Water Revenue Refunding Bonds, 2021 Series A <sup>(1)</sup>	<u>222,160,000</u>
<b>Total</b>	<b>\$1,206,185,000</b>

Source: Metropolitan.

<sup>(1)</sup> Outstanding variable rate obligation.

<sup>(2)</sup> Metropolitan expects to refund the \$35,645,000 principal amount of these bonds maturing on August 1, 2023 on their July 1, 2023 optional call date with proceeds of a draw made under its Wells Fargo Revolving Credit Facility. See “– Outstanding Senior Revenue Bonds and Senior Parity Obligations– Senior Parity Obligations – Wells Fargo Revolving Credit Facility.”

### Variable Rate Bonds

As of April 1, 2023, of the \$1.21 billion outstanding Subordinate Revenue Bonds, \$493.4 million were variable rate obligations. The outstanding variable rate obligations include Subordinate Revenue Bonds that are variable rate demand obligations supported by a standby bond purchase agreement between Metropolitan and a liquidity provider (“Liquidity Supported Subordinate Revenue Bonds”) and Subordinate Revenue Bonds that are bonds bearing interest in a SIFMA Index Mode and subject to mandatory tender for purchase by Metropolitan under certain circumstances, including on certain scheduled mandatory tender dates (unless earlier remarketed or otherwise retired) (“Index Tender Bonds”).

**Liquidity Supported Subordinate Revenue Bonds.** As of April 1, 2023, Metropolitan had \$222.16 million of outstanding Liquidity Supported Subordinate Revenue Bonds issued under the Subordinate Debt Resolutions, consisting of Metropolitan’s Variable Rate Subordinate Water Revenue Refunding Bonds, 2021 Series A (Federally Taxable) (the “Subordinate 2021A Bonds”).

The interest rate on Metropolitan’s variable rate Subordinate 2021A Bonds is reset on a weekly basis. While bearing interest at a weekly rate, such variable rate demand obligations are subject to optional tender on any business day upon seven days’ notice by the owners thereof and mandatory tender upon specified events. Such variable rate demand obligations are supported by a standby bond purchase agreement by and between Metropolitan and Bank of America, N.A., as liquidity provider, that provide for the purchase of the variable rate Subordinate 2021A Bonds by the liquidity provider upon tender of such variable rate Subordinate 2021A Bonds and a failed remarketing. The current expiration date of such liquidity facility is in June 2025. Metropolitan has secured its obligation to repay principal and interest advanced under the standby bond purchase agreement as a Subordinate Parity Obligation. A decline in the creditworthiness of the liquidity provider will likely result in an increase in the interest rate of the variable rate Subordinate 2021A Bonds, as



well as an increase in the risk of a failed remarketing of such tendered variable rate Subordinate 2021A Bonds. Variable rate Subordinate 2021A Bonds purchased by the liquidity provider (“bank bonds”) would initially bear interest at a per annum interest rate equal to, the highest of (i) the Prime Rate plus one percent, (ii) Federal Funds Rate plus two percent, and (iii) seven percent (with the spread or rate increasing in the case of each of (i), (ii) and (iii) of this clause (b) by one percent after 90 days). To the extent such bank bonds have not been remarketed or otherwise retired as of the earlier of the 90th day following the date such bonds were purchased by the liquidity provider or the stated expiration date of the related liquidity facility, Metropolitan’s obligation to reimburse the liquidity provider may convert the term of the variable rate bonds purchased by the liquidity provider into a term loan payable under the terms of the liquidity facility in ten equal semi-annual installments over a period ending on the fifth anniversary of the date on which the variable rate Subordinate 2021A Bonds were purchased by the liquidity provider. In addition, upon an event of default under any such liquidity facility, including a failure by Metropolitan to pay principal or interest due to the liquidity provider, failure by Metropolitan to perform or observe its covenants under the standby bond purchase agreement, a default in other specified indebtedness of Metropolitan, or other specified events of default (including a reduction in the credit rating assigned to Senior Revenue Bonds issued under the Senior Debt Resolutions by any of Fitch, S&P or Moody’s below “A–” or “A3,” as applicable), the liquidity provider could require all bank bonds to be subject to immediate mandatory redemption by Metropolitan.

**SIFMA Mode Index Tender Bonds.** Metropolitan’s Subordinate Water Revenue Bonds, 2017 Series C, Subordinate Water Revenue Refunding Bonds, 2017 Series D and Subordinate Water Revenue Refunding Bonds, 2017 Series E (collectively, the “Subordinate 2017 Series C, D and E Bonds”) bear interest at a rate that fluctuates weekly based on the SIFMA Municipal Swap Index plus a spread. The Subordinate 2017 Series C, D and E Bonds are Index Tender Bonds and are subject to mandatory tender under certain circumstances, including on certain scheduled mandatory tender dates (unless earlier remarketed or otherwise retired). Metropolitan anticipates that it will pay the purchase price of tendered Subordinate 2017 Series C, D and E Bonds from the proceeds of remarketing such Index Tender Bonds or from other available funds. Metropolitan’s obligation to pay the purchase price of any such tendered Subordinate 2017 Series C, D and E Bonds is a special limited obligation of Metropolitan payable solely from Net Operating Revenues subordinate to the Senior Revenue Bonds and Senior Parity Obligations and on parity with the other outstanding Subordinate Revenue Bonds and Subordinate Parity Obligations. Metropolitan has not secured any liquidity facility or letter of credit to support the payment of the purchase price of Subordinate 2017 Series C, D and E Bonds in connection with a scheduled mandatory tender. Failure to pay the purchase price of any Subordinate 2017 Series C, D and E Bonds on a scheduled mandatory tender date for such Index Tender Bonds for a period of five business days following written notice by any Owner of such Subordinate 2017 Series C, D and E Bonds will constitute an event of default under the Subordinate Debt Resolutions, upon the occurrence and continuance of which the owners of 25 percent in aggregate principal amount of the Subordinate Revenue Bonds then outstanding may elect a bondholders’ committee to exercise rights and powers of such owners under the Subordinate Debt Resolutions, including the right to declare the entire unpaid principal of the Subordinate Revenue Bonds then outstanding to be immediately due and payable.

The current mandatory tender dates and related tender periods for the Index Tender Bonds outstanding as of April 1, 2023, are summarized in the following table:

<b>Index Tender Bonds</b>				
<b>Series</b>	<b>Date of Issuance</b>	<b>Original Principal Amount Issued</b>	<b>Next Scheduled Mandatory Tender Date</b>	<b>Maturity Date</b>
Subordinate 2017 Series C	July 3, 2017	\$ 80,000,000	May 21, 2024	July 1, 2047
Subordinate 2017 Refunding Series D	July 3, 2017	95,630,000	May 21, 2024	July 1, 2037
Subordinate 2017 Refunding Series E	July 3, 2017	<u>95,625,000</u>	May 21, 2024	July 1, 2037
<b>Total</b>		<b>\$271,255,000</b>		

Source: Metropolitan.

## Other Junior Obligations

Metropolitan currently is authorized to issue up to \$400,000,000 of Commercial Paper Notes payable from Net Operating Revenues on a basis subordinate to both the Senior Revenue Bonds and Senior Parity Obligations and to the Subordinate Revenue Bonds and Subordinate Parity Obligations. Although no Commercial Paper Notes are currently outstanding, the authorization remains in full force and effect and Metropolitan may issue Commercial Paper Notes from time to time.

## General Obligation Bonds

As of April 1, 2023, \$19,215,000 aggregate principal amount of general obligation bonds payable from *ad valorem* property taxes were outstanding. See “METROPOLITAN REVENUES–General” and “–Revenue Allocation Policy and Tax Revenues” in this Appendix A. Metropolitan’s revenue bonds are not payable from the levy of *ad valorem* property taxes.

<b>General Obligation Bonds</b>	<b>Amount Issued<sup>(1)</sup></b>	<b>Principal Outstanding</b>
Waterworks General Obligation Refunding Bonds, 2019 Series A	\$16,755,000	\$ 5,550,000
Waterworks General Obligation Refunding Bonds, 2020 Series A	<u>13,665,000</u>	<u>13,665,000</u>
<b>Total</b>	<b>\$30,420,000</b>	<b>\$19,215,000</b>

Source: Metropolitan.

- <sup>(1)</sup> Voters authorized Metropolitan to issue \$850,000,000 of Waterworks General Obligation Bonds, Election 1966, in multiple series, in a special election held on June 7, 1966. This authorization has been fully utilized. This table lists bonds that refunded such Waterworks General Obligation Bonds, Election 1966.

## State Water Contract Obligations

**General.** As described herein, in 1960, Metropolitan entered into its State Water Contract with DWR to receive water from the State Water Project. All expenditures for capital and operations, maintenance, power and replacement costs associated with the State Water Project facilities used for water delivery are paid for by the 29 Contractors that have executed State water supply contracts with DWR, including Metropolitan. Contractors are obligated to pay allocable portions of the cost of construction of the system and ongoing operating and maintenance costs through at least 2035 (which term has been extended to 2085 as referenced below), regardless of quantities of water available from the project. Other payments are based on deliveries requested and actual deliveries received, costs of power required for actual deliveries of water, and offsets for credits received. In exchange, Contractors have the right to participate in the system, with an entitlement to water service from the State Water Project and the right to use the portion of the State Water Project conveyance system necessary to deliver water to them at no additional cost as long as capacity exists. Metropolitan’s State Water Contract accounts for nearly one-half of the total entitlement for State Water Project water contracted for by all Contractors.

DWR and other State Water Project contractors, including Metropolitan, have executed an amendment to extend their State water supply contracts to 2085 and to make certain changes related to the financial management of the State Water Project in the future. See “METROPOLITAN’S WATER SUPPLY–State Water Project – State Water Contract” in this Appendix A.

Metropolitan’s payment obligation for the State Water Project for the fiscal year ended June 30, 2022 was \$546.5 million, which amount reflects prior year’s credits of \$54.4 million. For the fiscal year ended June 30, 2022, Metropolitan’s payment obligations under the State Water Contract were approximately 30.1 percent of Metropolitan’s total annual expenses. A portion of Metropolitan’s annual property tax levy is for payment of State Water Contract obligations, as described above under “METROPOLITAN REVENUES–Revenue Allocation Policy and Tax Revenues” in this Appendix A. Any deficiency between tax levy receipts

and Metropolitan's State Water Contract obligations is expected to be paid from Operating Revenues, as defined in the Senior Debt Resolutions. See Note 10(a) to Metropolitan's audited financial statements in Appendix B for an estimate of Metropolitan's payment obligations under the State Water Contract. See also "Power Sources and Costs; Related Long-Term Commitments" for a description of current and future costs for electric power required to operate State Water Project pumping systems and a description of litigation involving the federal relicensing of the Hyatt-Thermalito hydroelectric generating facilities at Lake Oroville.

Metropolitan capitalizes its share of the State Water Project capital costs as participation rights in State Water Project facilities as such costs are billed by DWR. Unamortized participation rights essentially represent a prepayment for future water deliveries through the State Water Project system. Metropolitan's share of system operating and maintenance costs are annually expensed.

DWR and various subsets of the State Water Project contractors have entered into amendments to the State water supply contracts related to the financing of certain State Water Project facilities. The amendments establish procedures to provide for the payment of construction costs financed by DWR bonds by establishing separate subcategories of charges to produce the revenues required to pay all of the annual financing costs (including coverage on the allocable bonds) relating to the financed project. If any affected Contractor defaults on payment under certain of such amendments, the shortfall may be collected from the non-defaulting affected Contractors, subject to certain limitations.

These amendments represent additional long-term obligations of Metropolitan, as described below.

***Devil Canyon-Castaic Contract.*** On June 23, 1972, Metropolitan and five other Southern California public agencies entered into a contract (the "Devil Canyon-Castaic Contract") with DWR for the financing and construction of the Devil Canyon and Castaic power recovery facilities, located on the aqueduct system of the State Water Project. Under this contract, DWR agreed to build the Devil Canyon and Castaic facilities, using the proceeds of revenue bonds issued by DWR under the State Central Valley Project Act. DWR also agreed to use and apply the power made available by the construction and operation of such facilities to deliver water to Metropolitan and the other contracting agencies. Metropolitan, in turn, agreed to pay to DWR 88 percent of the debt service on the revenue bonds issued by DWR. For calendar year 2022, this represented a payment of \$8.0 million. Metropolitan's obligations for debt service under the Devil Canyon-Castaic Contract continued until July 1, 2022 when the bonds were fully retired. In addition, Metropolitan agreed to pay 78.5 percent of the operation and maintenance expenses of the Devil Canyon facilities and 96 percent of the operation and maintenance expenses of the Castaic facilities.

***Off-Aqueduct Power Facilities.*** In addition to system "on-aqueduct" power facilities costs, DWR has, either on its own or by joint venture, financed certain off-aqueduct power facilities. The power generated is utilized by the system for water transportation and other State Water Project purposes. Power generated in excess of system needs is marketed to various utilities and the CAISO. Metropolitan is entitled to a proportionate share of the revenues resulting from sales of excess power. By virtue of a 1982 amendment to the State Water Contract and the other water supply contracts, Metropolitan and the other water Contractors are responsible for paying the capital and operating costs of the off-aqueduct power facilities regardless of the amount of power generated.

***East Branch Enlargement Amendment.*** In 1986, Metropolitan's State Water Contract and the water supply contracts of certain other State Water Project contractors were amended for the purpose, among others, of financing the enlargement of the East Branch of the California Aqueduct. Under the amendment, enlargement of the East Branch can be initiated either at Metropolitan's request or by DWR finding that enlargement is needed to meet demands. In March 2022, DWR prepared a draft report for East Branch Enlargement cost reallocation methods. The report describes the methods used to determine the East Branch Enlargement cost allocation with the distinction between enlargement and improvement categories and the associated cost recovery methodology.

The amendment establishes a separate subcategory of the Transportation Charge under the State water supply contracts for the East Branch Enlargement and provides for the payment of costs associated with financing and operating the East Branch Enlargement. Under the amendment, the annual financing costs for such facilities financed by bonds issued by DWR are allocated among the participating Contractors based upon the delivery capacity increase allocable to each participating Contractor. Such costs include, but are not limited to, debt service, including coverage requirements, deposits to reserves, and certain operation and maintenance expenses, less any credits, interest earnings or other moneys received by DWR in connection with this facility.

If any participating Contractor defaults on payment of its allocable charges under the amendment, among other things, the non-defaulting participating Contractors may assume responsibility for such charges and receive delivery capability that would otherwise be available to the defaulting participating Contractor in proportion to the non-defaulting Contractor's participation in the East Branch Enlargement. If participating Contractors fail to cure the default, Metropolitan will, in exchange for the delivery capability that would otherwise be available to the defaulting participating Contractor, assume responsibility for the capital charges of the defaulting participating Contractor.

**Water System Revenue Bond Amendment.** In 1987, Metropolitan's State Water Contract and other water supply contracts were amended for the purpose of financing State Water Project facilities through revenue bonds. This amendment establishes a separate subcategory of the Delta Water Charge and the Transportation Charge under the State water supply contracts for projects financed with DWR water system revenue bonds. This subcategory of charge provides the revenues required to pay the annual financing costs of the bonds and consists of two elements. The first element is an annual charge for repayment of capital costs of certain revenue bond financed water system facilities under the existing water supply contract procedures. The second element is a water system revenue bond surcharge to pay the difference between the total annual charges under the first element and the annual financing costs, including coverage and reserves, of DWR's water system revenue bonds.

If any Contractor defaults on payment of its allocable charges under this amendment, DWR is required to allocate a portion of the default to each of the non-defaulting Contractors, subject to certain limitations, including a provision that no non-defaulting Contractor may be charged more than 125 percent of the amount of its annual payment in the absence of any such default. Under certain circumstances, the non-defaulting Contractors would be entitled to receive an allocation of the water supply of the defaulting Contractor.

The following table sets forth Metropolitan's projected costs of State Water Project water based upon DWR's Appendix B to Bulletin 132-20 (an annual report (for this purpose, the 2020 report) produced by DWR setting forth data and computations used by the State in determining State Water Project contractors' Statements of Charges), Metropolitan's share of the forecasted costs associated with the planning of a single tunnel Bay-Delta conveyance project (see "METROPOLITAN'S WATER SUPPLY-State Water Project - Bay-Delta Proceedings Affecting State Water Project - *Bay-Delta Planning Activities*" and " - *Delta Conveyance*" in this Appendix A), and power costs forecasted by Metropolitan.

The projections for fiscal years 2022-23 through 2027-28 reflect Metropolitan's biennial budget for fiscal years 2022-23 and 2023-24, which includes a ten-year financial forecast, and are on a cash basis. See also "HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A. The projections reflect certain assumptions concerning future events and circumstances which may not occur or materialize. Actual costs may vary from these projections if such events and circumstances do not occur as expected or materialize, and such variances may be material.

**PROJECTED COSTS OF METROPOLITAN  
FOR STATE WATER CONTRACT AND DELTA CONVEYANCE  
(Dollars in Millions)**

<b>Year Ending June 30</b>	<b>Capital Costs<sup>(1)</sup></b>	<b>Minimum OMP&amp;R<sup>(1)</sup></b>	<b>Power Costs<sup>(2)</sup></b>	<b>Refunds &amp; Credits<sup>(1)</sup></b>	<b>Delta Conveyance<sup>(3)</sup></b>	<b>Total<sup>(4)</sup></b>
2023	\$203.7	\$304.2	\$211.6	\$(67.8)	\$30.0	\$681.7
2024	218.8	305.7	258.6	(56.3)	34.5	761.2
2025	184.6	322.1	289.1	(59.5)	11.6	747.9
2026	191.9	336.7	295.7	(51.2)	--	773.1
2027	201.1	352.0	298.8	(48.5)	--	803.4
2028	238.0	368.1	304.0	(51.2)	--	858.9

*Source: Metropolitan.*

- <sup>(1)</sup> Capital Costs, Minimum Operations, Maintenance, Power and Replacement ("OMP&R") and Refunds and Credits projections are based on DWR's Appendix B to Bulletin 132-20.
- <sup>(2)</sup> Power costs are forecasted by Metropolitan based on a 40 percent State Water Project allocation in calendar 2023, and a 50 percent State Water Project allocation thereafter. Availability of State Water Project supplies vary, and deliveries may include transfers and storage. All deliveries are based upon availability, as determined by hydrology, water quality and wildlife conditions. See "METROPOLITAN'S WATER SUPPLY-State Water Project" and "Endangered Species Act and Other Environmental Considerations Relating to Water Supply" in this Appendix A.
- <sup>(3)</sup> Based on Metropolitan's share of the forecasted planning costs for a single tunnel project. Does not include any capital costs associated with any future proposed Bay-Delta conveyance project.
- <sup>(4)</sup> Totals may not add due to rounding.

### **Power Sources and Costs; Related Long-Term Commitments**

Current and future costs for electric power required for operating the pumping systems of the CRA and the State Water Project are a substantial part of Metropolitan's overall expenses. Metropolitan's power costs include various ongoing fixed annual obligations under its contracts with the U.S. Department of Energy Western Area Power Administration and the Bureau of Reclamation for power from the Hoover Power Plant and Parker Power Plant, respectively. Expenses for electric power for the CRA for the fiscal years 2020-21 and 2021-22 were approximately \$50.5 million and \$91.1 million, respectively. Expenses for electric power and transmission service for the State Water Project for fiscal years 2020-21 and 2021-22 were approximately \$118.3 million and \$126.5 million, respectively. Electricity markets are subject to volatility and Metropolitan is unable to give any assurance with respect to the magnitude of future power costs.

**Colorado River Aqueduct.** Approximately 50 percent of the annual power requirements for pumping at full capacity (1.25 million acre-feet of Colorado River water) in Metropolitan's CRA are secured through long-term contracts for energy generated from federal facilities located on the Colorado River (Hoover Power Plant and Parker Power Plant). Payments made under the Hoover Power Plant and Parker Power Plant contracts are operation and maintenance expenses. These contracts provide Metropolitan with reliable and economical power resources to pump Colorado River water to Metropolitan's service area.

As provided for under the Hoover Power Allocation Act of 2011 (H.R. 470), Metropolitan has executed a 50-year agreement with the Western Area Power Administration for the continued purchase of electric energy generated at the Hoover Power Plant through September 2067, succeeding Metropolitan's prior Hoover contract that expired on September 30, 2017.

Depending on pumping conditions, Metropolitan can require additional energy in excess of the base resources available to Metropolitan from the Hoover Power Plant and Parker Power Plant. The remaining up to approximately 50 percent of annual pumping power requirements for full capacity pumping on the CRA is

obtained through energy purchases from municipal and investor-owned utilities, third party suppliers, or the CAISO markets. Metropolitan is a member of the Western Systems Power Pool (“WSPP”) and utilizes its industry standard form contract to make wholesale power purchases at market cost. The current drought conditions have reduced the water level of Lake Mead and led to declining generation output from Hoover Dam, a condition that is expected to remain for the next several years. This, combined with continued high pumping demand on the CRA, will likely lead to increased reliance on supplemental energy purchases from the WSPP or CAISO markets and continued higher than normal energy costs for the CRA.

Gross diversions of water from Lake Havasu for fiscal years 2020-21 and 2021-22 were approximately 1,026,000 acre-feet and 1,104,264 acre-feet, respectively, including Metropolitan’s basic apportionment of Colorado River water and supplies from water transfer and storage programs. In fiscal years 2020-21 and 2021-22, Metropolitan sold approximately 66,800 megawatt-hours and purchased approximately 1,181,000 megawatt-hours, respectively, of additional energy.

Metropolitan has agreements with the Arizona Electric Power Cooperative (“AEPCO”) to provide transmission and energy purchasing services to support CRA power operations. The term of these agreements extends to December 31, 2035. AEPCO’s subsidiary, ACES, provides energy scheduling services for Metropolitan’s share of Hoover and Parker generation and CRA pumping load.

**State Water Project.** The State Water Project’s power requirements are met from a diverse mix of resources, including State-owned hydroelectric generating facilities. DWR has short-term contracts with Kern River Conservation District (hydropower), Northern California Power Agency (natural gas generation), Solar Star California XLIV, LLC (Solar), Dominion Solar Holdings (Solar), and Solverde I, LLC (Solar). The remainder of the State Water Project power needs is met by purchases from the CAISO.

DWR is seeking renewal of the license issued by FERC for the State Water Project’s Hyatt-Thermalito hydroelectric generating facilities at Lake Oroville. A Settlement Agreement containing recommended conditions for the new license was submitted to FERC in March 2006. That agreement was signed by over 50 stakeholders, including Metropolitan and other State Water Project contractors. With only a few minor modifications, FERC staff recommended that the Settlement Agreement be adopted as the condition for the new license. DWR issued a final EIR for the relicensing project on July 22, 2008.

Butte County and Plumas County filed separate lawsuits against DWR challenging the adequacy of the final EIR. This lawsuit also named all of the signatories to the Settlement Agreement, including Metropolitan, as “real parties in interest,” since they could be adversely affected by this litigation. On September 5, 2019, the Court of Appeal ruled that review pursuant to CEQA is preempted in certain respects by the Federal Power Act. The case is now before the California Supreme Court. The case has been fully briefed and oral argument was completed. If the decision is affirmed, the case will be dismissed. If the California Supreme Court finds in favor of the plaintiffs, the case will be remanded to the California Court of Appeal for a determination of sufficiency regarding the merits of the CEQA petition.

Regulatory permits and authorizations are also required before the new license can take effect. In December 2016, NMFS issued a biological opinion setting forth the terms and conditions under which the relicensing project must operate in order to avoid adverse impacts to threatened and endangered species. This was the last major regulatory requirement prior to FERC issuing a new license. Following the 2017 Oroville Dam spillway incident, Butte County, the City of Oroville, and others requested that FERC not issue a new license until an Independent Forensic Team (“IFT”) delivered their final report to FERC and FERC has had adequate time to review the report. The Final IFT report was delivered on January 5, 2018. DWR submitted a plan to address the findings of the report to FERC on March 12, 2018. See “METROPOLITAN’S WATER SUPPLY–State Water Project –2017 Oroville Dam Spillway Incident” in this Appendix A Metropolitan anticipates that FERC will issue the new license; however, the timeframe for FERC approval is not currently

known. However, FERC has issued one-year renewals of the existing license since its initial expiration date on January 31, 2007 and is expected to issue successive one-year renewals until a new license is obtained.

DWR receives transmission service from the CAISO. The transmission service providers participating in the CAISO may seek increased transmission rates, subject to the approval of FERC. DWR has the right to contest any such proposed increase. DWR may also be subject to increases in the cost of transmission service as new electric grid facilities are constructed.

Numerous legislative bills and Executive Orders have been enacted over the years addressing California's GHG emissions that ultimately affect energy prices. The California Global Warming Solutions Act of 2006 (AB 32, Núñez), required California to reduce its GHG emissions to 1990 levels by 2020. SB 32 (2016, Pavley) extended AB 32 by requiring the state to reduce GHG emissions to 40 percent below 1990 levels by 2030. In 2018, Governor Brown signed SB 100 (de León) and Executive Order B-55-18, establishing the policy of the State that eligible renewable energy resources and zero-carbon resources supply 100 percent clean energy to all California end-use customers and State agencies by December 31, 2045. SB 100 also increased the 2030 Renewables Portfolio Standard ("RPS") requirement for retail electric utilities from 50 percent to 60 percent. Metropolitan and DWR are not subject to the RPS requirements. However, as a State agency, DWR is subject to the Executive Order. DWR has an existing climate action plan in order to achieve carbon neutrality by 2045. SB 1020 (2022, Laird) accelerated the date by which State agencies, including DWR, must procure 100 percent of electricity from eligible renewable energy resources and zero-carbon resources from December 31, 2045 to December 31, 2035, and would mandate certain criteria and process requirements that would apply to DWR in connection with its procurement of renewable and zero-carbon resources for the State Water Project. For 2023, two bills (AB 9, Muratsuchi and SB 12, Stern) have proposed changing the State's 2030 GHG reduction goal from 40 percent below 1990 levels to at least 55 percent below 1990 levels. Taken as a whole, these statutes and Executive Orders may result in higher energy costs to the State Water Project, and consequentially, higher costs for Metropolitan.

On October 9, 2019, Governor Newsom signed SB 49 into law. SB 49 requires Natural Resources, in collaboration with the California Energy Commission and DWR, to assess by January 1, 2022 the opportunities and constraints for potential operational and structural upgrades to the State Water Project to aid California in achieving its climate and energy goals, and to provide associated recommendations consistent with California's energy goals. DWR submitted its draft SB 49 report to the Governor's office for review in April 2022.

### **Defined Benefit Pension Plan and Other Post-Employment Benefits**

Metropolitan is a member of the California Public Employees' Retirement System ("PERS"), a multiple-employer pension system that provides a contributory defined-benefit pension for substantially all Metropolitan employees. PERS provides retirement and disability benefits, annual cost-of-living adjustments and death benefits to plan members and beneficiaries. PERS acts as a common investment and administrative agent for participating public entities within the State. PERS is a contributory plan deriving funds from employee contributions as well as from employer contributions and earnings from investments. A menu of benefit provisions is established by State statutes within the Public Employees' Retirement Law. Metropolitan selects optional benefit provisions from the benefit menu by contract with PERS.

Metropolitan makes contributions to PERS based on actuarially determined employer contribution rates. The actuarial methods and assumptions used are those adopted by the PERS Board of Administration ("PERS Board"). Employees hired prior to January 1, 2013 are required to contribute 7.00 percent of their earnings (excluding overtime pay) to PERS. Pursuant to the current memoranda of understanding, Metropolitan contributes the requisite 7.00 percent contribution for all employees represented by the Management and Professional Employees Association, the Association of Confidential Employees, Supervisors and Professional Personnel Association and AFSCME Local 1902 and who were hired prior to January 1, 2012. Employees in all four bargaining units who were hired on or after January 1, 2012 but before January 1, 2013, pay the full 7.00 percent contribution to PERS for the first five years of employment. After

the employee completes five years of employment, Metropolitan contributes the requisite 7.00 percent contribution. Metropolitan also contributes the entire 7.00 percent on behalf of unrepresented employees. Employees hired on or after January 1, 2013 and who are “new” PERS members as defined by Public Employees’ Pension Reform Act of 2013 pay a member contribution of 8.00 percent in fiscal year 2023-24. In addition, Metropolitan is required to contribute the actuarially determined remaining amounts necessary to fund the benefits for its members.

The contribution requirements of the plan members are established by State statute and the employer contribution rate is established and may be amended by PERS. The fiscal year contributions were/are based on the following actuarial reports and discount rates:

<b>Fiscal Year</b>	<b>Actuarial Valuation</b>	<b>Discount Rate</b>
2020-21	June 30, 2018	7.00%
2021-22	June 30, 2019	7.00%
2022-23	June 30, 2020	7.00%
2023-24	June 30, 2021	6.80%

The most recent actuarial valuation reports of PERS, as well as other information concerning benefits and other matters, are available on the PERS website at <https://www.calpers.ca.gov/page/employers/actuarial-resources/public-agency-actuarial-valuation-reports>. Such information is not incorporated by reference herein. Metropolitan cannot guarantee the accuracy of such information. Actuarial valuations are “forward-looking” information that reflect the judgment of the fiduciaries of the pension plans, and are based upon a variety of assumptions, one or more of which may not materialize or be changed in the future. Actuarial valuations will change with the future experience of the pension plans.

In July 2021, PERS’ Funding Risk Mitigation Policy triggered an automatic discount rate reduction from 7.0% to 6.8% due to the double-digit investment return for fiscal year 2021. In November 2021, PERS Board voted to retain the 6.8% discount rate, which will increase Metropolitan’s contribution levels beginning fiscal year 2023-24.

Metropolitan was required to contribute 32.43 percent and 34.39 percent of annual projected payroll for fiscal years 2020-21 and 2021-22, respectively. Metropolitan’s actual contribution for fiscal years 2020-21 and 2021-22 were \$74.3 million or 31.59 percent of annual covered payroll and \$81.5 million or 33.79 percent of annual covered payroll, respectively. The fiscal years 2020-21 and 2021-22 actual contribution included \$11.4 million or 4.84 percent and \$11.0 million or 4.56 percent of annual covered payroll, respectively, for Metropolitan’s pick-up of the employees’ 7.00 percent share. For fiscal years 2022-23 and 2023-24, Metropolitan is required to contribute 35.74 percent and 33.98 percent, respectively, of annual projected payroll, in addition to member contributions paid by Metropolitan.

Metropolitan’s required contributions to PERS fluctuate each year and include a normal cost component and a component equal to an amortized amount of the unfunded liability. Many assumptions are used to estimate the ultimate liability of pensions and the contributions that will be required to meet those obligations. The PERS Board has adjusted and may in the future further adjust certain assumptions used in the PERS actuarial valuations, which may increase Metropolitan’s required contributions to PERS in future years. Accordingly, Metropolitan cannot provide any assurances that its required contributions to PERS in future years will not significantly increase (or otherwise vary) from any past or current projected levels of contributions.

On December 19, 2017, the PERS Board adopted new actuarial assumptions based on the recommendations in the December 2017 CalPERS Experience Study and Review of Actuarial Assumptions.



This study reviewed the retirement rates, termination rates, mortality rates, rates of salary increases and inflation assumption for public agencies. These new assumptions were incorporated in the June 30, 2018 actuarial valuation and reflected in the required contribution for fiscal year 2020-21. In addition, the Board adopted a new asset portfolio as part of its Asset Liability Management. The new asset mix supports a 7.00 percent discount rate. The inflation rate used for the June 30, 2018 through June 30, 2020 valuation was 2.50 percent.

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

On November 17, 2021, the PERS Board adopted new actuarial assumptions based on the November 2021 CalPERS Experience Study and Review of Actuarial Assumptions. This study reviewed the retirement rates, termination rates, mortality rates, rate of salary increases, and inflation assumption for public agencies. The PERS Board also changed the strategic asset allocation, capital market assumptions, and economic assumptions all of which support the new 6.80 percent discount rate. In addition, the PERS Board reduced the inflation assumption from 2.50 percent to 2.30 percent. These changes were incorporated in the June 30, 2021 valuation and will impact Metropolitan's required contribution for fiscal year 2023-24.

The following table shows the funding progress of Metropolitan's pension plan.

<b>Valuation Date</b>	<b>Accrued Liability (\$ in billions)</b>	<b>Market Value of Assets (\$ in billions)</b>	<b>Unfunded Accrued Liability (\$ in billions)</b>	<b>Funded Ratio</b>
6/30/21 <sup>(1)</sup>	\$2.752	\$2.228	\$(0.524)	81.0%
6/30/20	\$2.625	\$1.848	\$(0.777)	70.4%
6/30/19	\$2.534	\$1.810	\$(0.724)	71.4%
6/30/18	\$2.433	\$1.744	\$(0.689)	71.7%
6/30/17	\$2.269	\$1.651	\$(0.618)	72.7%

*Source: California Public Employees' Retirement System*

<sup>(1)</sup> Most recent actuarial valuation available.

The market value of assets reflected above is based upon the most recent actuarial valuation as of June 30, 2021. Increased volatility has been experienced in the financial markets in recent years. Significant losses in market value or failure to achieve projected investment returns could substantially increase unfunded pension liabilities and future pension costs.

The following tables show the changes in Net Pension Liability and related ratios of Metropolitan's pension plan.

(Dollars in thousands)	06/30/22	6/30/21	Increase/ (Decrease)
<b>Total Pension Liability</b>	\$2,669,675	\$ 2,578,818	\$ 90,857
<b>Plan Fiduciary Net Position</b>	2,229,075	1,854,231	374,844
<b>Plan Net Pension Liability</b>	\$ 440,600	\$ 724,587	(\$ 283,987)
Plan fiduciary net positions as a % of the total pension liability	83.50%	71.90%	
Covered payroll	\$ 235,294	\$ 225,707	
Plan net pension liability as a % of covered payroll	187.26%	321.03%	

(Dollars in thousands)	06/30/21	6/30/20	Increase/ (Decrease)
<b>Total Pension Liability</b>	\$2,578,818	\$ 2,479,307	\$ 99,511
<b>Plan Fiduciary Net Position</b>	1,854,231	1,810,312	43,919
<b>Plan Net Pension Liability</b>	\$ 724,587	\$668,995	\$ 55,592
Plan fiduciary net positions as a % of the total pension liability	71.90%	73.02%	
Covered payroll	\$ 225,707	\$ 212,558	
Plan net pension liability as a % of covered payroll	321.03%	314.74%	

Source: GASB 68 Accounting Report for the respective measurement date prepared for Metropolitan by the California Public Employees' Retirement System.

The Net Pension Liability for Metropolitan's Miscellaneous Plan for the fiscal years ended June 30, 2021 and 2022 were measured as of June 30, 2020 and June 30, 2021, respectively, and the Total Pension Liability used to calculate the Net Pension Liability was determined by an annual actuarial valuation as of June 30, 2019 and June 30, 2020, respectively.

For more information on the plan, see APPENDIX B—"THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITORS' REPORT AND BASIC FINANCIAL STATEMENTS FOR FISCAL YEARS ENDED JUNE 30, 2022 AND JUNE 30, 2021 AND BASIC FINANCIAL STATEMENTS FOR THE SIX MONTHS ENDED DECEMBER 31, 2022 AND 2021 (UNAUDITED)."

Metropolitan currently provides post-employment medical insurance to retirees and pays the post-employment medical insurance premiums to PERS. On January 1, 2012, Metropolitan implemented a longer vesting schedule for retiree medical benefits, which applies to all new employees hired on or after January 1, 2012. Payments for this benefit were \$23.2 million in fiscal year 2020-21 and \$23.9 million in fiscal year 2021-22. Under Governmental Accounting Standards Board Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*, Metropolitan is required to account for and

report the outstanding obligations and commitments related to such benefits, commonly referred to as other post-employment benefits (“OPEB”), on an accrual basis.

The actuarial valuations dated June 30, 2019 and June 30, 2021, were released in June 2020 and May 2022, respectively. The 2019 valuation indicated that the Actuarially Determined Contribution (“ADC” formerly referred to as the Annual Required Contribution) in fiscal years 2020-21 and 2021-22 were \$23.2 million and \$23.9 million, respectively, and the 2021 valuation indicated that the ADC will be \$14.9 million and \$15.3 million in fiscal years 2022-23 and 2023-24, respectively. The ADC was based on the entry-age normal actuarial cost method with contributions determined as a level percent of pay.

	<b>June 30, 2021 Valuation</b>	<b>June 30, 2019 Valuation</b>
Investment Rate of Return	6.75%	6.75%
Inflation	2.30%	2.75%
Salary Increases	3.00%	3.00%
Health Care Cost Trends	Medicare – starting at 5.50%, grading down to 3.83% over fifty-four years. Non-Medicare – starting at 7.00%, grading down to 3.83% over fifty-four years	Medicare – starting at 6.30%, grading down to 4.00% over fifty-five years. Non-Medicare – starting at 7.25%, grading down to 4.00% over fifty-five years
Mortality, Termination, Disability	CalPERS Experience Study adopted in November 2021 Mortality projected fully generational with Scale MP-2021	CalPERS 1997-2015 Experience Study Mortality projected fully generational with Scale MP-2019

As of June 30, 2021, the date of the most recent OPEB actuarial report, the unfunded actuarial accrued liability was estimated to be \$94.3 million and projected to be \$69.7 million at June 30, 2022. The amortization period for the unfunded actuarial accrued liability is 23 years closed and the amortization period of actuarial gains and losses is 15 years closed. Adjustments to the ADC include amortization of the unfunded actuarial accrued liability and actuarial gains and losses.

In September 2013, Metropolitan’s Board established an irrevocable OPEB trust fund with the California Employers’ Retiree Benefit Trust Fund. The market value of assets in the trust as of June 30, 2022 was \$328.7 million. As part of its biennial budget process, the Board approved the full funding of the ADC for fiscal years 2022-23 and 2023-24.

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The following tables show the changes in Net OPEB Liability and related ratios of Metropolitan's OPEB plan.

(Dollars in thousands)	06/30/22	6/30/21	Increase/ (Decrease)
<b>Total OPEB Liability</b>	\$ 429,603	\$ 452,293	(\$ 22,690)
<b>Plan Fiduciary Net Position</b>	377,321	287,562	89,759
<b>Plan Net OPEB Liability</b>	\$ 52,282	\$ 164,731	(\$112,449)
Plan fiduciary net positions as a % of the total OPEB liability	87.83%	63.58%	
Covered payroll	\$235,294	\$225,707	
Plan net OPEB liability as a % of covered payroll	22.22%	72.98%	

(Dollars in thousands)	06/30/21	6/30/20	Increase/ (Decrease)
<b>Total OPEB Liability</b>	\$452,293	\$434,759	(\$ 17,534)
<b>Plan Fiduciary Net Position</b>	287,562	266,773	20,789
<b>Plan Net OPEB Liability</b>	\$164,731	\$167,986	(\$ 3,255)
Plan fiduciary net positions as a % of the total OPEB liability	63.58%	61.36%	
Covered payroll	\$225,707	\$212,558	
Plan net OPEB liability as a % of covered payroll	72.98%	79.03%	

Source: GASB Statement No. 74/75 Report for the respective fiscal year prepared for Metropolitan by its actuary for the Retiree Healthcare Plan..

The total OPEB liability used to calculate the net OPEB liability as of June 30, 2022 and 2021 was measured as of June 30, 2021 and 2020, respectively, using an actuarial valuation as of June 30, 2021 and 2019, respectively. The actuarial valuation as of June 30, 2019 was rolled forward to the June 30, 2020 measurement date, using standard update procedures.

For more information on the OPEB plan, see APPENDIX B—"THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITORS' REPORT AND BASIC FINANCIAL STATEMENTS FOR FISCAL YEARS ENDED JUNE 30, 2022 AND JUNE 30, 2021 AND BASIC FINANCIAL STATEMENTS FOR THE SIX MONTHS ENDED DECEMBER 31, 2022 AND 2021 (UNAUDITED)."

## HISTORICAL AND PROJECTED REVENUES AND EXPENSES

The "Historical and Projected Revenues and Expenses" table below for fiscal years 2019-20 through 2021-22, provides a summary of revenues and expenses of Metropolitan prepared on a modified accrual basis. This is consistent with Metropolitan's budgetary reporting for such fiscal years, including the biennial budget for fiscal years 2020-21 and 2021-22. Under the modified accrual basis of accounting, revenues are recognized in the fiscal year in which they are earned, and expenses are recognized when incurred. Thus, water revenues

are recognized in the month the water transaction occurs and expenses are recognized when goods have been received and services have been rendered.

Metropolitan's accounting method for budgetary purposes changed from modified accrual basis to cash basis beginning with fiscal year 2022-23. Metropolitan's biennial budget for fiscal years 2022-23 and 2023-24, which includes a ten-year financial forecast, has been prepared on a cash basis, and financial projections for fiscal years 2022-23 through 2027-28 prepared from the ten-year financial forecast on a cash basis are set forth in the table below. Under cash basis accounting, water sales revenues are recorded when received (two months after billed) and expenses when paid (approximately one month after invoiced). For comparative purposes only, Metropolitan has provided in the table below its fiscal year 2021-22 results on both a modified accrual basis and a cash basis. The financial projection for fiscal year 2022-23 reflects results through December 2022. The table does not reflect the accrual basis of accounting, which is used to prepare Metropolitan's annual audited financial statements. Under accrual accounting, revenues are recorded when earned and expenses are recorded at the time the liabilities are incurred, regardless of the timing of related cash flows. The change to cash basis accounting is for budgetary purposes. Metropolitan will continue to calculate compliance with its rate covenants, limitations on additional bonds and other financial covenants in the Resolutions in accordance with their terms.

The projections are based on assumptions concerning future events and circumstances that may impact revenues and expenses and represent management's best estimates of results at this time. See the footnotes to the table below entitled "HISTORICAL AND PROJECTED REVENUES AND EXPENSES" and "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES" for relevant assumptions, including projected water transactions and the average annual increase in the effective water rate, and "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES" for a discussion of potential impacts. Some assumptions inevitably will not materialize, and unanticipated events and circumstances may occur. Therefore, the actual results achieved during the projection period will vary from the projections and the variations may be material. The budget and projection information, and all other forward-looking statements in this Appendix A, are based on current expectations and are not intended as representations of facts or guarantees of future results.

As noted herein, for comparative purposes in connection with Metropolitan's change in accounting method for budgetary purposes, financial results for fiscal year 2021-22 are provided on both a modified accrual basis and a cash basis. The financial projection for fiscal year 2022-23 reflects results through December 2022. The financial projections for fiscal years 2023-24 through 2027-28 in the table below reflect the biennial budget for fiscal years 2022-23 and 2023-24 as well as a ten-year financial forecast provided therein on a cash basis. The financial projections include Metropolitan's share of the forecasted costs associated with the planning of a single tunnel Bay-Delta conveyance project and certain costs associated with the PWSC. See "METROPOLITAN'S WATER SUPPLY-State Water Project -Bay-Delta Proceedings Affecting State Water Project - Bay-Delta Planning Activities" and "- Delta Conveyance" and "REGIONAL WATER RESOURCES-Local Water Supplies - Recycled Water-Metropolitan Pure Water Southern California Program" in this Appendix A.

Metropolitan's resource planning projections are developed using a comprehensive analytical process that incorporates demographic growth projections from recognized regional planning entities, historical and projected data acquired through coordination with local agencies, and the use of generally accepted empirical and analytical methodologies. Due to the unpredictability of future hydrologic conditions, Metropolitan's projected supplemental wholesale water transactions may vary considerably. Metropolitan's Water Resource Management provided the projections of the volume of annual water transactions for the fiscal years 2022-23 and 2023-24 biennial budget and ten-year financial forecast provided therein. The water transactions projections used to determine water rates and charges assume a transition from dry conditions to average year hydrology. Actual water transactions are likely to vary from projections. As shown in the chart entitled "Historical Water Transactions" below, water transactions can vary significantly from average and

demonstrates the degree to which Metropolitan's commitments to meet supplemental demands can impact water transactions. In years when actual transactions exceed projections, the revenues from water transactions during the fiscal year will exceed budget, potentially resulting in an increase in financial reserves. In years when actual transactions are less than projections, Metropolitan uses various tools to manage reductions in revenues, such as reducing expenses below budgeted levels, reducing funding of capital projects from revenues, and drawing on reserves. See "METROPOLITAN REVENUES–Financial Reserve Policy" in this Appendix A. Metropolitan considers actual transactions, revenues and expenses, and financial reserve balances in setting rates for future fiscal years.

As described above, for comparative purposes, fiscal year 2021-22 results are presented on both a modified accrual basis and a cash basis. Projections in the following table reflect results through December 2022 for fiscal year 2022-23. Financial projections for fiscal years 2023-24 through 2027-28 reflect the biennial budget for fiscal year 2022-23 and 2023-24 and ten-year financial forecast provided therein on a cash basis. This includes the issuance of \$1,710 million of bonds for fiscal years 2022-23 through 2027-28 to finance the CIP. The projections also assume the issuance of an additional \$133.9 million of bonds in calendar year 2023 to finance other capital expenditures of Metropolitan relating to conservation and supply programs. See "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES" and "CAPITAL INVESTMENT PLAN–Capital Investment Plan Financing" in this Appendix A.

Water transactions with member agencies were 1.65 million acre-feet in fiscal year 2021-22. Water transactions with member agencies are projected to be 1.59 million acre-feet for fiscal year 2022-23, 1.54 million acre-feet for fiscal years 2023-24 and 2024-25, 1.51 million acre-feet for fiscal year 2025-26, and 1.53 million acre-feet for fiscal years 2026-27 and 2027-28. Rates and charges increased by 5.0 percent on January 1, 2023. Rates and charges are projected to increase 5.0 percent for calendar year 2024, 7.0 percent for calendar year 2025, and 6.0 percent for each of calendar years 2026, 2027, and 2028. Actual rates and charges to be effective in calendar year 2025 and thereafter are subject to adoption by Metropolitan's Board.

The projections were prepared by Metropolitan and have not been reviewed by independent certified public accountants or any entity other than Metropolitan. Dollar amounts are rounded.

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**HISTORICAL AND PROJECTED REVENUES AND EXPENSES<sup>(a)</sup>**  
**Fiscal Years Ended June 30**  
**(Dollars in Millions)**

	Actual				Projected					
	Modified Accrual				Cash Basis					
	2020	2021	2022	2022	2023	2024	2025	2026	2027	2028
Water Revenues <sup>(b)</sup>	\$ 1,188	\$ 1,405	\$ 1,515	\$ 1,523	\$ 1,503	\$ 1,522	\$ 1,606	\$ 1,677	\$ 1,804	\$ 1,926
Additional Revenue Sources <sup>(c)</sup>	165	165	172	171	186	196	206	210	213	222
Total Operating Revenues	1,353	1,570	1,687	1,694	1,689	1,718	1,812	1,887	2,017	2,148
O&M, CRA Power and Water Transfer Costs <sup>(d)</sup>	(642)	(636)	(823)	(796)	(803)	(792)	(818)	(863)	(903)	(945)
Total SWC OMP&R and Power Costs <sup>(e)</sup>	(384)	(393)	(411)	(374)	(521)	(595)	(575)	(597)	(620)	(668)
Total Operation and Maintenance	(1,026)	(1,029)	(1,234)	(1,170)	(1,324)	(1,387)	(1,393)	(1,460)	(1,523)	(1,613)
Net Operating Revenues	\$ 327	\$ 541	\$ 453	\$ 524	\$ 365	\$ 331	\$ 419	\$ 427	\$ 494	\$ 535
Miscellaneous Revenue <sup>(f)</sup>	14	14	18	22	44	47	41	42	44	40
Transfer from Reserve Funds	--	--	--	--	--	--	--	--	--	--
Sales of Hydroelectric Power <sup>(g)</sup>	16	19	8	9	17	14	16	16	16	16
Interest on Investments <sup>(h)</sup>	20	10	7	10	6	10	13	16	19	20
Adjusted Net Operating Revenues <sup>(i)</sup>	377	584	486	565	432	401	489	501	574	611
Senior and Subordinate Obligations <sup>(i)</sup>	(272)	(279)	(275)	(275)	(283)	(296)	(300)	(319)	(333)	(352)
Funds Available from Operations	\$ 105	\$ 305	211	290	\$ 149	\$ 105	\$ 189	\$ 182	\$ 240	\$ 259
Debt Service Coverage on all Senior and Subordinate Bonds <sup>(k)</sup>	1.39	2.09	1.77	2.05	1.53	1.35	1.63	1.57	1.72	1.73
Funds Available from Operations	\$ 105	\$ 305	\$ 211	\$ 290	\$ 149	\$ 105	\$ 189	\$ 182	\$ 240	\$ 259
Other Revenues (Expenses)	(6)	(6)	(4)	(4)	(9)	(9)	(9)	(9)	(10)	(10)
Pay-As-You Go Construction	(39)	(110)	(135)	(135)	(135)	(135)	(175)	(175)	(175)	(175)
Pay-As-You Go Funded from Replacement & Refurbishment Fund Reserves	1	--	1	1	--	--	--	--	--	--
Total SWC Capital Costs Paid from Current Year Operations	(1)	--	--	--	--	--	--	--	--	--
Remaining Funds Available from Operations	60	189	73	152	5	(39)	5	(2)	55	74
Fixed Charge Coverage <sup>(l)</sup>	1.38	2.09	1.77	2.05	1.53	1.35	1.63	1.57	1.72	1.73
Property Taxes	147	161	168	160	163	168	175	179	186	193
General Obligation Bonds Debt Service Paid from Property Taxes	(13)	(7)	(8)	(8)	(2)	(2)	(2)	(2)	(2)	(2)
SWC Capital Costs Paid from Property Taxes	(134)	(131)	(139)	(139)	(136)	(163)	(125)	(141)	(153)	(187)
SWC O&M Costs Paid from Property Taxes	--	(23)	(21)	(13)	(25)	(4)	(48)	(48)	(36)	(31)
Net Funds Available from Current Year	\$ 60	\$ 189	\$ 73	\$ 152	\$ 5	\$ (39)	\$ 5	\$ (2)	\$ 55	\$ 74

Source: Metropolitan.

(Footnotes to table on next page)

(Footnotes to table on prior page)

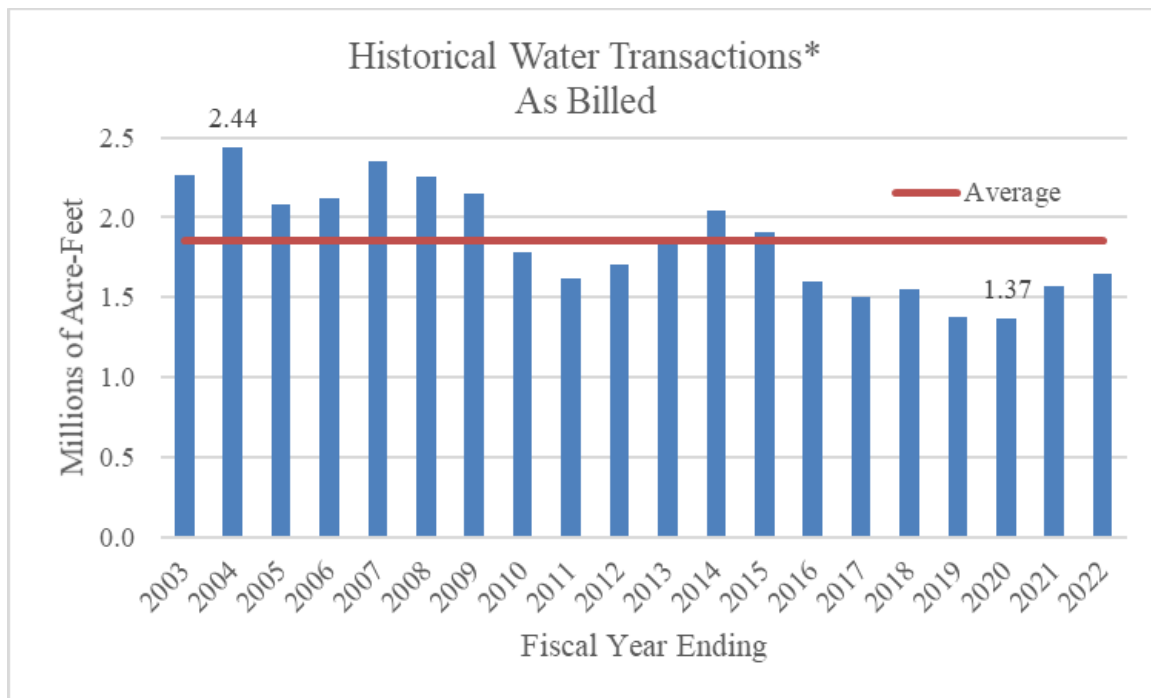
- (a) Unaudited. Prepared on a modified accrual basis through fiscal year 2021-22 and prepared and projected on a cash basis fiscal year 2021-22 forward. Projected revenues and expenses in fiscal year 2022-23 are based on results through December 2022. Projections for fiscal year 2023-24 through fiscal year 2027-28 are based on assumptions and estimates used in the biennial budget for fiscal years 2022-23 and 2023-24 and ten-year financial forecast provided therein and reflect the projected issuance of additional bonds. See “MANAGEMENT’S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES” in this Appendix A.
- (b) Water Revenues include revenues from water sales, exchanges, and wheeling. During the fiscal years ended June 30, 2020 through June 30, 2022, annual water transactions with member agencies (in acre-feet) were 1.37 million, 1.57 million, and 1.65 million, respectively. See the table entitled “Summary of Water Transactions and Revenues” under “METROPOLITAN REVENUES–Water Revenues” in this Appendix A. The water transactions projections (in acre-feet) are 1.59 million acre-feet for fiscal year 2022-23, 1.54 million acre-feet for fiscal years 2023-24 and 2024-25, 1.51 million acre-feet for fiscal year 2025-26, and 1.53 million acre-feet for fiscal years 2026-27 and 2027-28. Projections reflect adopted overall rate and charge increase of 5.0 percent for each of the calendar years 2023 and 2024. Rates and charges are projected to increase 7.0 percent for calendar year 2025, and 6.0 percent for each of the calendar years 2026, 2027, and 2028, subject to adoption by Metropolitan’s Board. See “MANAGEMENT’S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES” in this Appendix A.
- (c) Includes revenues from water standby, readiness-to-serve, and capacity charges. The term Operating Revenues excludes *ad valorem* taxes. See “METROPOLITAN REVENUES–Other Charges” in this Appendix A.
- (d) Water Transfer Costs and PWSC planning costs (described under “REGIONAL WATER RESOURCES–Local Water Supplies – *Recycled Water-Metropolitan Pure Water Southern California Program*” in this Appendix A) are included in operation and maintenance expenses for purposes of calculating the debt service coverage on all Obligations. For fiscal year 2021-22, operation and maintenance expenses also include \$24.0 million in payments to SDCWA in connection with the litigation challenging Metropolitan’s rates (of the total \$50.5 million paid, with the balance paid from the Exchange Agreement Set-Aside Fund). See METROPOLITAN REVENUES–Litigation Challenging Rate Structure” in this Appendix A.
- (e) Includes on- and off-aqueduct power and operation, maintenance, power and replacement costs payable under the State Water Contract and Delta Conveyance planning costs. See “METROPOLITAN EXPENSES–State Water Contract Obligations” in this Appendix A. See also “METROPOLITAN’S WATER SUPPLY–State Water Project –Bay-Delta Proceedings Affecting State Water Project – *Bay-Delta Planning Activities*” and “– *Delta Conveyance*” in this Appendix A.
- (f) May include lease and rental net proceeds, net proceeds from sale of surplus property, reimbursements, and historically, federal interest subsidy payments for Build America Bonds.
- (g) Includes CRA power sales.
- (h) Does not include interest applicable to Bond Construction Funds, the Excess Earnings Funds, other trust funds and the Deferred Compensation Trust Fund. Includes net gain or loss on investments.
- (i) Adjusted Net Operating Revenues is the sum of all available revenues that the revenue bond resolutions specify may be considered by Metropolitan in setting rates and issuing additional Senior Revenue Bonds and Senior Parity Obligations and Subordinate Revenue Bonds and Subordinate Parity Obligations.
- (j) Includes debt service on outstanding Senior Revenue Bonds, Senior Parity Obligations, Subordinate Revenue Bonds, Subordinate Parity Obligations, and additional Revenue Bonds (projected). Assumes the issuance of approximately \$330.0 million in aggregate in additional Revenue Bonds for fiscal years 2022-23 and 2023-24 CIP expenditures, approximately \$200 million in fiscal year 2024-25, approximately \$210 million in fiscal year 2025-26, approximately \$300 million in fiscal year 2026-27, and approximately \$670 million in fiscal year 2027-28. Also assumes the issuance of approximately \$133.9 million of bonds for other capital expenditures relating to conservation and supply programs in calendar year 2023. Fiscal year 2019-20 debt service was reduced by \$28.5 million due to the prepayment of \$28.5 million in June 2019 of debt service due on July 1, 2019, as such the payment was reflected in fiscal year 2018-19. See “CAPITAL INVESTMENT PLAN–Capital Investment Plan Financing” in this Appendix A. See also “METROPOLITAN WATER SUPPLY–Water Transfer, Storage and Exchange Programs –State Water Project Agreements and Programs – *Antelope Valley-East Kern High Desert Water Bank Program*” in this Appendix A.
- (k) Adjusted Net Operating Revenues, divided by the sum of debt service on outstanding Senior Revenue Bonds, Senior Parity Obligations, Subordinate Revenue Bonds and Subordinate Parity Obligations and additional Revenue Bonds (projected). See “METROPOLITAN EXPENSES–Outstanding Senior Revenue Bonds and Senior Parity Obligations” and “– Outstanding Subordinate Revenue Bonds and Subordinate Parity Obligations” in this Appendix A.
- (l) Adjusted Net Operating Revenues, divided by the sum of State Water Contract capital costs paid from current year operations and debt service on outstanding Senior Revenue Bonds, Senior Parity Obligations, Subordinate Revenue Bonds and Subordinate Parity Obligations, and additional Revenue Bonds (projected).



## MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES

### Water Transactions Projections

The water transactions with member agencies in the table above for fiscal year 2021-22 were 1.65 million acre-feet. The water transactions forecast for fiscal year 2022-23 is 1.59 million acre-feet, 1.54 million acre-feet for fiscal years 2023-24 and 2024-25, 1.51 million acre-feet for fiscal year 2025-26, and 1.53 million acre-feet for fiscal years 2026-27 and 2027-28, consistent with the biennial budget and ten-year financial forecast. For purposes of comparison, Metropolitan's highest level of water transactions during the past 20 fiscal years was approximately 2.44 million acre-feet in fiscal year 2003-04 and the lowest was 1.37 million acre-feet in fiscal year 2019-20. The chart below shows the volume of water transactions with member agencies over the last 20 fiscal years.



\* Water transactions include sales, exchanges, and wheeling with member agencies.

### Water Revenues

Metropolitan relies on revenues from water transactions for about 80 percent of its total revenues. In adopting the budget and rates and charges for each fiscal year, Metropolitan's Board reviews the anticipated revenue requirements and projected water transactions to determine the rates necessary to produce the required revenues to be derived from water transactions during the fiscal year. Metropolitan sets rates and charges estimated to provide operating revenues sufficient, with other sources of funds, to provide for payment of its expenses. See "HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A.

Metropolitan's Board has adopted annual increases in water rates each year beginning with the rates effective January 1, 2004. See "METROPOLITAN REVENUES—Rate Structure" and "—Classes of Water Service" in this Appendix A. On April 12, 2022, the Board adopted average increases in rates and charges of 5.0 percent, to become effective on January 1, 2023 and January 1, 2024. Rates and charges are projected to increase 7.0 percent for calendar year 2025, and 6.0 percent for each of calendar years 2026, 2027, and 2028.

Actual rates and charges to be effective in calendar year 2025 and thereafter are subject to adoption by Metropolitan's Board.

### **Projected Fiscal Year 2022-23 Financial Results**

Projections for fiscal year 2022-23, in the table above (on a cash basis), are based on results through December 2022. Operation and maintenance expenses in fiscal year 2022-23 are projected to be \$1,324 million, which represents approximately 69.2 percent of total costs. These expenses include the costs of labor, electrical power, materials and supplies of both Metropolitan and its contractual share of the State Water Project. Metropolitan's operation and maintenance expenses are projected to be on budget in fiscal year 2022-23. Comparatively, operations and maintenance expenditures in fiscal year 2021-22 were \$1,234 million (on a modified accrual basis), which represents approximately 67.9 percent of total costs. Overall, projected expenditures for the twelve months ending June 30, 2023 are \$1.9 billion, which is on budget.

Fiscal year 2022-23 revenue bond debt service coverage (on a cash basis) is projected to be 1.53x and fixed charge coverage to be 1.53x. Fiscal year 2022-23 capital expenditures, estimated at \$300.0 million, will be partially funded by the proceeds of bonds issued for fiscal year 2022-23 for such purpose and the remainder from pay-as-you-go funding. Metropolitan's unrestricted reserves are projected to be approximately \$686 million on a cash basis at June 30, 2023. See "METROPOLITAN REVENUES—Financial Reserve Policy" in this Appendix A.

Financial projections for fiscal years 2023-24 through 2027-28 are reflected in the fiscal year 2022-23 and 2023-24 biennial budget and ten-year financial forecast provided therein. The fiscal year 2022-23 and 2023-24 biennial budget and rates set the stage for predictable and reasonable rate increases over the ten-year planning period, with Board adopted overall rate increases of 5.0 percent for each of calendar years 2023 and 2024. The fiscal year 2022-23 and 2023-24 biennial budget and ten-year financial forecast includes rate increases of 7.0 percent for calendar year 2025, and 6.0 percent for calendar years 2026, 2027, and 2028. Actual rates and charges to be effective in calendar year 2025 and thereafter are subject to adoption by Metropolitan's Board as part of the biennial budget process, at which point the ten-year forecast will be updated as well. Increases in rates and charges reflect the impact of reduced water transactions projections, increasing operations and maintenance costs, and increasing State Water Project costs, when compared to prior fiscal years.

Metropolitan's financial results during the fiscal years 2022-23 through 2027-28 may be impacted by current and subsequent developments relating to the pandemic, the effects of the ongoing drought, as well as other unforeseen events.

See also the "Management's Discussion and Analysis" contained in APPENDIX B— "THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITORS' REPORT AND BASIC FINANCIAL STATEMENTS FOR FISCAL YEARS ENDED JUNE 30, 2022 AND JUNE 30, 2021 AND BASIC FINANCIAL STATEMENTS FOR THE SIX MONTHS ENDED DECEMBER 31, 2022 AND 2021 (UNAUDITED)."

~~Board Distribution Draft, 05/13/22~~

Board Distribution Draft, 04/06/23

## APPENDIX A

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### The Metropolitan Water District of Southern California

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## INTRODUCTION

*This Appendix A provides general information regarding The Metropolitan Water District of Southern California (“Metropolitan”), including information regarding Metropolitan’s operations and finances. Certain statements included or incorporated by reference in this Appendix A constitute “forward-looking statements.” Such statements are generally identifiable by the terminology used such as “plan,” “project,” “expect,” “estimate,” “budget” or other similar words. Such statements are based on facts and assumptions set forth in Metropolitan’s current planning documents including, without limitation, its most recent biennial budget. The achievement of results or other expectations contained in such forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Actual results may differ from Metropolitan’s forecasts. Metropolitan is not obligated to issue any updates or revisions to the forward-looking statements in any event.*

*Metropolitan maintains a website that may include information on programs or projects described in this Appendix A; however, none of the information on Metropolitan’s website is incorporated by reference or intended to assist investors in making an investment decision or to provide any additional information with respect to the information included in this Appendix A. The information presented on Metropolitan’s website is not part of the Official Statement and should not be relied upon in making investment decisions.*

### Formation and Purpose

Metropolitan is a metropolitan water district created in 1928 under the authority of the Metropolitan Water District Act (California Statutes 1927, Chapter 429, as reenacted in 1969 as Chapter 209, as amended (herein referred to as the “Act”). The Act authorizes Metropolitan to: levy property taxes within its service area; establish water rates; impose 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 of Directors (the “Board”) is authorized to establish terms and conditions under which additional areas may be annexed to Metropolitan’s service area.

Metropolitan’s primary purpose is to provide a supplemental supply of water for domestic and municipal uses at wholesale rates to its member agencies. If additional water is available, such water may be sold for other beneficial uses. As a water wholesaler, Metropolitan has no retail customers.

The mission of Metropolitan, as promulgated by the Board, is to provide its service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.

Metropolitan’s rates and charges for water transactions and availability are set by its Board and are not subject to regulation or approval by the California Public Utilities Commission or any other state or federal agency. Metropolitan imports water from two principal sources: northern California via the Edmund G. Brown California Aqueduct (the “California Aqueduct”) of the State Water Project owned by the State of California (the “State” or “California”) and the Colorado River via the Colorado River Aqueduct (“CRA”) owned by Metropolitan.

### Member Agencies

Metropolitan is comprised of 26 member agencies, all of which are public entities, including 14 cities, 11 municipal water districts, and one county water authority, which collectively serve the residents and businesses of more than 300 cities and numerous unincorporated communities. Member agencies



request water from Metropolitan at various delivery points within Metropolitan's system and pay for such water at uniform rates established by the Board for each class of water service. Metropolitan's water is a supplemental supply for its member agencies, most of whom have local supplies and other sources of water. See "METROPOLITAN REVENUES–Principal Customers" in this Appendix A for a listing of the ten member agencies representing the highest level of water transactions and revenues of Metropolitan during the fiscal year ended June 30, ~~2021~~2022. No member is required to purchase water from Metropolitan, but all member agencies are required to pay readiness-to-serve charges whether or not they purchase water from Metropolitan. See "METROPOLITAN REVENUES–Rate Structure," "–Member Agency Purchase Orders" and "–Other Charges" in this Appendix A. Local supplies include water produced by local agencies from various sources including but not limited to groundwater, surface water, locally-owned imported supplies, recycled water, and seawater desalination (see "REGIONAL WATER RESOURCES" in this Appendix A). Metropolitan's member agencies may develop additional sources of water and Metropolitan provides support for several programs to develop these local resources. See also "REGIONAL WATER RESOURCES–Local Water Supplies" in this Appendix A."

The following table lists the 26 member agencies of Metropolitan.

Municipal Water Districts		Cities		County Water Authority
Calleguas	Las Virgenes	Anaheim	Los Angeles	San Diego <sup>(1)</sup>
Central Basin	Orange County	Beverly Hills	Pasadena	
Eastern	Three Valleys	Burbank	San Fernando	
Foothill	West Basin	Compton	San Marino	
Inland Empire Utilities Agency		Fullerton	Santa Ana	
Upper San Gabriel Valley		Glendale	Santa Monica	
Western of Riverside County		Long Beach	Torrance	

<sup>(1)</sup> The San Diego County Water Authority, ~~currently~~ Metropolitan's second largest customer based on water transactions for fiscal year 2021-22, is a plaintiff in litigation challenging certain rates adopted by the Board and asserting other claims. See "METROPOLITAN REVENUES–Litigation Challenging Rate Structure" in this Appendix A.

## Service Area

Metropolitan's service area comprises approximately 5,200 square miles and includes all or 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 4,575 square miles since that time. The expansion was primarily the result of annexation of the service areas of additional member agencies.

Metropolitan estimates that approximately ~~18.719~~ million people lived in Metropolitan's service area (as of July ~~2021~~2022), 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 are being 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 ~~2020~~2021, the economy of the six counties which contain Metropolitan's service area had a gross domestic product larger than all but ~~ten~~eleven nations of the world. Metropolitan has historically provided between 40 and 60 percent of the water used annually within its service area. For additional economic and demographic information concerning the six county area



containing Metropolitan's service area, see Appendix E—"SELECTED DEMOGRAPHIC AND ECONOMIC INFORMATION FOR METROPOLITAN'S SERVICE AREA."

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. Since 2000, annual rainfall has ranged from approximately 4 to 21 inches along the coastal area, 6 to 38 inches in foothill areas, and 5 to 22 inches in inland areas. See also "METROPOLITAN'S WATER SUPPLY-General Overview," "Current Water Conditions and Drought Response Actions," and "Climate Action Planning and Other Environmental, Social and Governance Initiatives."

## GOVERNANCE AND MANAGEMENT

### Board of Directors

Metropolitan is governed by a 38-member Board of Directors, made up of representatives from all of Metropolitan's 26 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. Changes in relative assessed valuation do not terminate any director's term. In 2019, California Assembly Bill 1220 (Garcia) amended the Act to provide that "A member public agency shall not have fewer than the number of representatives the member public agency had as of January 1, 2019." Accordingly, the Board may, from time to time, have more than 38 directors.

The Board includes business, professional, and civic leaders. Directors are appointed by member agencies in accordance with those agencies' processes and the Act. They 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 was adopted by the Board in 1977. The Administrative Code is periodically amended to reflect new policies or changes to existing policies that occur from time to time.

### Management

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. Following is a biographical summary of Metropolitan's principal executive officers.

*Adel Hagekhalil, General Manager* – Mr. Hagekhalil was appointed as General Manager in June 2021. Before joining Metropolitan, Mr. Hagekhalil was appointed in 2018 by Los Angeles Mayor Eric Garcetti to serve as the executive director and general manager of the City of Los Angeles' Bureau of Street Services. His responsibilities included oversight of the management, maintenance and improvement of the city's network of streets, sidewalks, trees and bikeways. Mr. Hagekhalil also focused on climate change adaptation and multi-benefit integrated active transportation corridors. Previously, he served nearly 10 years as assistant general manager of the Los Angeles' Bureau of Sanitation, overseeing the city's wastewater collection system, stormwater and watershed protection program, water quality compliance, advance planning and facilities. He also helped develop the city's 2040 One Water LA Plan, a regional watershed approach to integrate water supply, reuse, conservation, stormwater management and wastewater facilities planning. Mr. Hagekhalil is a member of the American Public Works Association as well as the Water Environment Federation ("WEF"), which recognized him in 2019 as a WEF Fellow for his contribution to enhancing and forwarding the water industry. He also served for more than a decade as a board member of the National Association of Clean Water Agencies, including a term as president. Mr. Hagekhalil is a registered civil engineer and national board-certified environmental engineer. He earned his bachelor's and master's degrees in civil engineering from the University of Houston, Texas.

*Marcia Scully, General Counsel* – Ms. Scully was appointed as Metropolitan’s General Counsel in March 2012. She previously served as Metropolitan’s Interim General Counsel from March 2011 to March 2012. Ms. Scully joined Metropolitan in 1995, after a decade of private law practice, providing legal representation to Metropolitan on construction, employment, Colorado River and significant litigation matters. From 1981 to 1985 she was assistant city attorney for the City of Inglewood. Ms. Scully served as president of the University of Michigan’s Alumnae Club of Los Angeles and is a recipient of the 1996 State Bar of California, District 7 President’s Pro Bono Service Award and the Southern California Association of Non-Profit Housing Advocate of the Year Award. She is also a member of the League of Women Voters for Whittier and was appointed for two terms on the City of Whittier’s Planning Commission, three years of which were served as chair. Ms. Scully earned a bachelor’s degree in liberal arts from the University of Michigan, a master’s degree in urban planning from Wayne State University and her law degree from Loyola Law School.

~~*Gerald C. Riss, General Auditor* – Mr. Riss was appointed as Metropolitan’s General Auditor in July 2002. As General Auditor, he is responsible for the independent evaluation of the policies, procedures and systems of control throughout Metropolitan. Mr. Riss is a certified fraud examiner, certified financial services auditor and certified risk professional with more than 25 years of experience in accounting, audit and risk management. Prior to joining Metropolitan, Mr. Riss was Vice President and Assistant Division Head of Risk Management Administration at United California Bank/Bank of the West. He also served as Senior Vice President, Director of Risk Management and General Auditor of Tokai Bank of California from 1988 until its reorganization as United California Bank in 2001. He earned a bachelor’s degree in accounting and a master’s degree in business administration from Wayne State University. Mr. Riss has announced his retirement effective June 1, 2022.~~

*Scott Suzuki, General Auditor* – Mr. Suzuki assumed the position of General Auditor on February 6, 2023. As general auditor, Mr. Suzuki will independently review internal controls, financial records and reports, develop a flexible annual audit plan, ensure that assets and resources are properly accounted for and safeguarded against waste, loss or misuse, and administer Metropolitan’s contract for audit services with an independent public accounting firm. Prior to joining Metropolitan, Mr. Suzuki served the County of Orange for almost 21 years in various auditing and accounting roles, concluding as assistant director of internal audit. He also held auditor positions at Home Base Deloitte, and the California State University system. Mr. Suzuki holds a Bachelor of Arts degree in business economics from the University of California, Los Angeles. He holds a certified public accountant (CPA) license and certified internal auditor (CIA), certified information systems auditor (CISA), and certified fraud examiner (CFE) designations.

*Abel Salinas, Ethics Officer* – Mr. Salinas was appointed as Metropolitan’s Ethics Officer in July 2019. He is responsible for making recommendations regarding rules and policies related to lobbying, conflicts of interest, contracts, campaign contributions and internal disclosures, while providing education and advice about these rules. Prior to joining Metropolitan, Mr. Salinas worked as the Special Agent in Charge in the U.S. Department of Labor’s Office of Inspector General. Before joining that agency, he served for three years in the U.S. Office of Personnel Management. Mr. Salinas holds a bachelor’s degree in criminal justice from University of Texas—Pan American and a master’s degree in policy management from Georgetown University.

*Deven Upadhyay, Executive Officer & Assistant General Manager, Water Resources and Engineering* – Mr. Upadhyay focuses primarily on key Metropolitan strategies and innovative planning efforts for the Colorado River and the State Water Project. He is responsible for managing the engineering services and water resource management groups, and the Colorado River and Bay Delta programs. Prior to his current position, Mr. Upadhyay was formerly Metropolitan’s Chief Operating Officer from November 2017. He has over 25 years of experience in the water industry. He joined Metropolitan in 1995, beginning as a Resource Specialist and then left Metropolitan in 2005 to work at the Municipal Water District of Orange County. In 2008, he returned to Metropolitan as a Budget and Financial Planning Section Manager

and became a Water Resource Management Group Manager in 2010. Mr. Upadhyay has a Bachelor of Arts degree in economics from the California State University, Fullerton and a master's degree in public administration from the University of La Verne.

*Katano Kasaine, Assistant General Manager, ~~Finance & Administration~~/Chief Financial Officer* – Ms. Kasaine is responsible for directing Metropolitan's financial activities, including accounting and financial reporting, debt issuance and management, financial planning and strategy, managing Metropolitan's investment portfolio, budget administration, financial analysis, financial systems management, and developing rates and charges. In addition, she is responsible for human resources, administrative services, ~~Board Administration~~, risk management, and business continuity activities. Before joining Metropolitan in August 2019, Ms. Kasaine worked at the City of Oakland for 25 years, holding various leadership positions, notably as the city's Finance Director/Treasurer. She holds a bachelor's degree in business administration from Dominican University in San Rafael, California and a master's degree in public health from Loma Linda University.

*Shane Chapman, Assistant General Manager, Operations* – Mr. Chapman is responsible for the strategic direction and management of Metropolitan's operations. His primary responsibilities include managing water system operations, information technology, cybersecurity, real property, and security. Prior to his current position, Mr. Chapman previously was Metropolitan's Chief Administrative Officer from January 2018. He joined Metropolitan as a Resource Specialist in 1991, progressing to the level of Program Manager in 2001. He became the Revenue, Rates and Budget Manager in 2003 and Assistant Group Manager in Water System Operations in 2006. Mr. Chapman previously served as General Manager of the Upper San Gabriel Valley Municipal Water District for seven years. Mr. Chapman has a Bachelor of Arts degree in economics from Claremont McKenna College and a master's degree in public administration from the University of Southern California.

*Dee Zinke, Assistant General Manager, External Affairs* – Ms. Zinke has been responsible for Metropolitan's communications, public outreach, education, member services, and legislative matters since January 2016. She joined Metropolitan in 2009 as Manager of the Legislative Services Section. Before coming to Metropolitan, Ms. Zinke was the Manager of Governmental and Legislative Affairs at the Calleguas Municipal Water District. Prior to her public service, she worked in the private sector as the Executive Officer and Senior Legislative Advocate for the Building Industry Association of Greater Los Angeles and Ventura Counties and as Director of Communications for E-Systems, a defense contractor specializing in communication, surveillance and navigation systems, based in Washington, D.C. Ms. Zinke holds a Bachelor of Arts degree in communication and psychology from Virginia Polytechnic Institute and State University.

## Employee Relations

**General.** The total number of budgeted regular full-time Metropolitan employees for fiscal year 2022-23 is 1,929. ~~As of April 2022, Metropolitan had 1,742 positions filled, 165 positions under recruitment or vacant, and 22 new positions to become effective on July 1, 2022 for recruitment.~~ Of the filled positions, ~~1,192~~ 1,260 were represented by AFSCME Local 1902, ~~929~~ 93 by the Supervisors Association, ~~300~~ 310 by the Management and Professional Employees Association and ~~120~~ 126 by the Association of Confidential Employees. The remaining ~~383~~ 9 employees are unrepresented. The four bargaining units represent 98 percent of Metropolitan's current employees. The Memorandum of Understanding ("MOU") with AFSCME Local 1902 extends through December 31, 2024. The MOUs with the Management and Professional Employees Association and the Association of Confidential Employees ~~extend~~ have also been extended through December 31, ~~2022~~ 2024. The MOU with the Supervisors Association expired on December 31, 2021 and is currently being negotiated. Until a successor contract is executed, the terms of the expired MOU will continue to govern.

***State Audit of Workplace Concerns.*** The acting California State Auditor (“State Auditor”) conducted an audit of Metropolitan’s personnel and hiring practices after Metropolitan was the subject of allegations of discrimination and harassment in the workplace. The State ~~audit~~Auditor reviewed Metropolitan’s handling of equal employment opportunity (“EEO”) complaints from 2004 to 2021, as well as hiring practices, the independence and authority of Metropolitan’s Ethics office, safety program, and maintenance of workforce housing at Metropolitan’s desert facilities.

The State Auditor issued its audit report on April 21, 2022. The audit report identified a number of deficiencies in Metropolitan’s personnel and hiring practices. The findings of the audit report included that: (i) Metropolitan’s EEO policy and procedures did not align with best practices in certain key areas and did not ensure timely investigation of and response to EEO complaints; (ii) Metropolitan’s hiring processes did not include appropriate safeguards to consistently ensure or demonstrate that its hiring decisions were equitable and reasonable and sufficiently protected applicants from potential discrimination; (iii) Metropolitan had not taken adequate actions to ensure its Ethics office is able to independently conduct its duties; and (iv) Metropolitan ~~has had~~ not instituted adequate procedures to timely respond to employee workforce housing maintenance issues, and Metropolitan’s implementation of a comprehensive, long-term solution to address employee workforce housing has been slow.

The State audit report included several recommendations to address its key findings. In addition to recommendations made to Metropolitan, the audit report recommends that the State Legislature enact legislation requiring Metropolitan to formally adopt procedures for hiring and promoting employees and establishing certain additional requirements to support the independence and autonomy of Metropolitan’s Ethics office. Metropolitan accepted all the ~~State audit’s recommendations and has begun to implement them to address the deficiencies~~ identified in the State audit and anticipates all recommendations will be fully implemented by the April 2023 deadline. In addition, Metropolitan is implementing certain policies and procedures recommended by a Workplace Climate Assessment that Metropolitan commissioned from an outside law firm and received in 2021. Among other things, Metropolitan hired its first Chief Equal Employment Opportunity Officer in March 2022 to help implement a suite of changes that will be designed to build and reaffirm a workplace culture of inclusion, respect, safety and accountability, ~~and has~~ Metropolitan also created a Diversity, Equity, and Inclusion Office, ~~which will establish programs to support its workforce. Metropolitan and~~ hired its first Chief Diversity, Equity and Inclusion Officer in May 2022. The Diversity, Equity and Inclusion Office has established programs to support Metropolitan’s workforce.

## **Risk Management**

Metropolitan is exposed to various risks of loss related to, among other things, the design and construction of facilities, and the treatment and delivery of water. With the assistance of third-party claims administrators, Metropolitan is self-insured for property losses, liability, and workers’ compensation. Metropolitan self-insures the first \$25 million per liability occurrence, with commercial general liability coverage of \$75 million in excess of the self-insured retention. The \$25 million self-insured retention is maintained as a separate restricted reserve. Metropolitan is also self-insured for loss or damage to its property, with the \$25 million self-insured retention also being accessible for emergency repairs and Metropolitan property losses. In addition, Metropolitan obtains other excess and specialty insurance coverages such as directors’ and officers’ liability, fiduciary liability and aircraft hull and liability coverage.

Metropolitan self-insures the first \$5 million for workers’ compensation with statutory excess coverage. The self-insurance retentions and reserve levels currently maintained by Metropolitan may be modified by the Board at its sole discretion.

## **Cybersecurity**

Metropolitan has adopted and maintains an active Cybersecurity Program (“CSP”) that includes policies reviewed by Metropolitan’s Office of Enterprise Cybersecurity, Audit department and independent

third-party auditors and consultants. Metropolitan has appointed an Information Security Officer who is responsible for overseeing the annual review of the CSP and its alignment with Metropolitan's Strategic Plan. Metropolitan's policies and procedures on information governance, risk management, and compliance are consistent with best practices outlined by the Cybersecurity and Infrastructure Security Agency (CISA) Shields Up initiative and are consistent with the requirements prescribed by the America's Water Infrastructure Act (AWIA) for risk assessment and emergency response. Metropolitan's Cybersecurity Team is responsible for identifying cybersecurity risks to Metropolitan, preventing, investigating, and responding to any cybersecurity incidents, and providing guidance and education on the implementation of new technologies at Metropolitan. All persons or entities authorized to use Metropolitan's computer resources are required to participate in Metropolitan's Cybersecurity Awareness Training, which is conducted annually. [See also "RISK FACTORS – Cybersecurity; Other Safety and Security Risks" in the front part of this Official Statement.](#)

### Business Continuity

Metropolitan maintains a Business Continuity Program to ensure that plans are in place across the District to mitigate, respond to and recover from disruptive events that may impact normal operations. The plans ensure that strategies are in place to continue critical operations in the event of impacts to information technology systems, facilities, staffing levels, key vendors and resources. Using a continuous improvement model, Business Continuity Plans are reviewed, updated and exercised on a regular basis.

### COVID-19 Pandemic

~~The late 2019 outbreak of the novel highly transmissible strain of coronavirus (and variants thereof) and the disease it causes (known as COVID-19), has had significant negative impacts throughout the world, including in California. The World Health Organization (the "WHO") declared the outbreak of COVID-19 to be a pandemic in 2020, and states of emergency were declared in the United States (the "U.S."), the State of California, and numerous counties throughout the State, including in the six counties all or portions of which comprise the service area of Metropolitan. The purpose behind these declarations was to coordinate and formalize emergency actions across federal, state, and local governmental agencies.~~

~~The Governor of California lifted most statewide COVID-19 restrictions on June 15, 2021. Restrictions, however, may be re-imposed in various jurisdictions from time to time as local conditions warrant. The negative effects of the COVID-19 pandemic and its aftermath on global, national and local economies are expected to continue at least for the foreseeable future.~~

Metropolitan continues to [monitor and](#) respond to the COVID-19 pandemic and ~~ongoing~~ developments surrounding it. [As of the date of this Official Statement, Metropolitan ~~has taken~~ does not expect that the COVID-19 pandemic and its impacts will have a material adverse effect on its ability to pay debt service on its bonds or other obligations.](#)

[During the COVID-19 pandemic, Metropolitan implemented](#) a number of steps to maintain continuity of its critical and essential business functions and avoid widespread impacts to its workforce from the COVID-19 outbreak. Metropolitan has transitioned to a formal hybrid working environment with employees reporting to work facilities for a minimum of two days a week. Metropolitan ~~will be~~ [is](#) working with its labor and management association representatives to adopt a formal teleworking operating policy and to develop other specifics of return to work protocols.

[Metropolitan's ability to treat and deliver water was not interrupted or impaired as a result of the COVID-19 pandemic.](#) COVID-19 is not believed to present a threat to the safety of Metropolitan's treated water supplies. ~~During the pandemic, Metropolitan's ability to treat and deliver water has not been interrupted or impaired.~~ While Metropolitan initially paused certain construction work on non-essential capital projects at the onset of the COVID-19 outbreak, such activity has generally resumed. Metropolitan



continues to advance a variety of infrastructure and system reliability projects, although some projects continue to be ~~delayed due to~~impacted by supply chain issues, ~~and other geopolitical conditions~~

On February 28, 2023, the Governor of the State of California issued a proclamation terminating the State's COVID-19 state of emergency, as had been previously announced. While the major impacts of the COVID-19 pandemic appear to be lessening, the ultimate effects of the COVID-19 pandemic and its aftermath, including inflation and the possibility of recession, on global, national, and local economies remain uncertain. As of the date of this Official Statement, Metropolitan has not experienced a material adverse impact to its finances or operations as a result of COVID-19.

~~Metropolitan also proactively responded to the anticipated effects of the ongoing COVID-19 pandemic likely to be experienced by its member agencies. Following the onset of the pandemic and response actions, many water service providers serving residential, commercial and industrial end-use customers (referred to herein as "retail water service providers"), which includes some Metropolitan member agencies, implemented measures to assist their customers facing financial hardship as a result of the COVID-19 outbreak. In December 2020, Metropolitan's Board adopted and made available to its member agencies a COVID-19 Member Agency Payment Deferment Program for water transactions occurring from January 1, 2021 to June 30, 2021. No member agency utilized the COVID-19 Member Agency Payment Deferment Program.~~

~~Metropolitan cannot predict whether any reinstatement of stay-at-home orders and travel restrictions or other measures meant to suppress increases in COVID-19 cases from time to time will occur or the pace at which a full economic recovery will be achieved. Given the remaining~~However, given the uncertainties surrounding the COVID-19 pandemic~~and, its aftermath, and the effect of widespread public health emergencies in general,~~ there can be no assurances that the impact of the COVID-19 pandemic, the worsening of the current state of the COVID-19 pandemic, or the outbreak of another infectious disease in the region, will not materially adversely impact the financial condition of Metropolitan in the future.~~There are many variables that will continue to contribute to the economic impact of the COVID-19 pandemic and the recovery therefrom, including the extent to which and length of time social distancing measures are in place, the effectiveness of State and federal government relief programs, the emergence of new variants of the coronavirus, and the ultimate effectiveness of vaccinations efforts.~~

~~To date, Metropolitan does not believe the impacts of the COVID-19 pandemic will have a material adverse impact on its ability to pay debt service on its bonds or other debt obligations.~~

## METROPOLITAN'S WATER SUPPLY

### General Overview

Metropolitan's principal sources of water supplies are the State Water Project and the Colorado River. Metropolitan receives water delivered from the State Water Project under ~~State Water Contract~~ provisions of a State water supply contract, including contracted supplies, use of carryover storage in the 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 the availability of surplus supplies. Water management programs supplement these Colorado River supplies. To secure additional supplies, Metropolitan also has groundwater banking partnerships and water transfer and storage arrangements within and outside its service area.

Metropolitan's State Water Contract provides for up to 1,911,500 acre-feet contracted amount of State Water Project supplies annually. The amount of State Water Project water available for allocation under the State Water Contract each year is determined by the California Department of Water Resources ("DWR") based on existing supplies in storage, forecasted hydrology, and other factors, including human

health and safety needs, water quality and environmental flow obligations and other operational considerations. Over the ten-year period ~~2012~~2013 through ~~2021~~2022, Metropolitan's State Water Project allocation averaged approximately ~~40~~35 percent, which is equal to roughly ~~770,000~~670,000 acre-feet annually. (An acre-foot is the amount of water that will cover one acre to a depth of one foot and equals approximately 325,851 gallons, which represents the needs of three average families in and around the home for one year within Metropolitan's service area.) Over the ten-year period ~~2012~~2013 through ~~2021~~2022, the amount of water received by Metropolitan from the State Water Project, including human health and safety supplies, and transfer, groundwater banking, and exchange programs delivered through the California Aqueduct varied from a low of ~~588,000~~468,000 acre-feet in calendar year ~~2020~~2022 to a high of 1,473,000 acre-feet in calendar year 2017.

Metropolitan's rights to Colorado River water include a fourth priority right to 550,000 acre-feet of Colorado River water annually (its basic apportionment) and a fifth priority right to an additional 662,000 acre-feet annually (when surplus is available, which availability has been limited since 2003). Metropolitan has additional available Colorado River supplies, totaling up to 526,000 acre-feet per year, under water supply programs, transfer, exchanges, and certain conservation and storage agreements. Over the ten-year period ~~2012~~2013 through ~~2021~~2022, Metropolitan's total available Colorado River supplies have averaged approximately ~~958,924~~988,000 acre-feet annually, with annual volumes dependent primarily on programs to augment supplies, including transfers of conserved water from agriculture.

Metropolitan's principal water supply sources, and other supply arrangements and water management programs are more fully described herein. See also "Current Water Conditions and Drought Response Actions" in this Appendix A.

The water supply for Metropolitan's service area is provided in part by Metropolitan and in part by non-Metropolitan sources available to ~~members~~Metropolitan's member agencies. The demand for supplemental water supplies provided by Metropolitan is dependent on water use at the retail consumer level and the amount of locally supplied and conserved water. ~~Over the ten-year period 2012~~From calendar years 2013 through ~~2021~~2022, Metropolitan's water transactions (including water sales, exchanges and wheeling) with member agencies have averaged approximately ~~1.65~~1.64 million acre-feet annually.

Metropolitan's water supplies in calendar year ~~2022~~2023 comprise a combination of available State Water Project ~~Table A~~ supplies ~~as well as additional~~allocated to it based upon its proportional contracted entitlement amount as set forth in "Table A" of its State water supply contract ("Table A State Water Project ~~supplies requested by Metropolitan for human health and safety (water" as further described below~~herein), CRA deliveries, storage reserves, and supplemental water transfers and purchases. See "Current Water Conditions and Drought Response Actions"~~in this Appendix A."~~

Metropolitan faces a variety of long-term challenges in providing adequate, reliable and high-quality supplemental water supplies for Southern California. These challenges include, among others: (1) population growth within the service area; (2) increased competition for low-cost water supplies; (3) variable weather conditions, including extended drought periods; (4) increased environmental regulations; and (5) climate change. Metropolitan's resources and strategies for meeting these long-term challenges are set forth in its Integrated Water Resources Plan, as updated from time to time. See "Integrated Water Resources Plan." In addition, Metropolitan manages water supplies in response to the prevailing hydrologic conditions by implementing its Water Surplus and Drought Management ("WSDM") Plan, and in times of prolonged or severe shortages, the Water Supply Allocation Plan (the "Water Supply Allocation Plan"). See "CONSERVATION AND WATER SHORTAGE MEASURES-Water Surplus and Drought Management Plan" and "Water Supply Allocation Plan" in this Appendix A. The Water Supply Allocation Plan provides for the equitable distribution of available limited water supplies regionwide in case of extreme water shortages within Metropolitan's service area. Implementation of the Water Supply ~~Action~~Allocation Plan for fiscal year ~~2022-23~~2022-23 is not expected. In April 2022, in response to minimal supplies of State Water

Project water being available in 2022 to meet normal demands in parts of Metropolitan's service area that cannot be supplied with Colorado River water, Metropolitan's Board approved the framework of an Emergency Water Conservation Program to be implemented to reduce demands for State Water Project water in those areas. In March 2023, in light of improved State Water Project water supply conditions, Metropolitan's Board terminated the Emergency Water Conservation Program. See "CONSERVATION AND WATER SHORTAGE MEASURES– Emergency Water Conservation Program for the State Water Project Dependent Area." in this Appendix A.

Hydrologic conditions can have a significant impact on Metropolitan's imported water supply sources. For Metropolitan's State Water Project supplies, precipitation in California's northern Sierra Nevada during the fall and winter helps replenish storage levels in Lake Oroville, a key State Water Project facility. The subsequent runoff from the spring snowmelt helps satisfy regulatory requirements in the San Francisco Bay/Sacramento-San Joaquin River Delta ("Bay-Delta") bolstering water supply reliability in the same year. See "–State Water Project – Bay-Delta Proceedings Affecting State Water Project." The source of Metropolitan's Colorado River supplies is primarily the watersheds of the Upper Colorado River Basin in the states of Colorado, Utah, and Wyoming. See "–Colorado River Aqueduct." Although precipitation is primarily observed in the winter and spring, summer storms are common and can affect water supply conditions. See also "–Current Water Conditions and Drought Response Actions" ~~in this Appendix A.~~

Uncertainties from potential future temperature and precipitation changes in a climate driven by increased concentrations of atmospheric carbon dioxide and other greenhouse gases ("GHGs") also present challenges. Areas of concern to California water planners identified by researchers include: reduction in Sierra Nevada and Colorado Basin snowpack; increased intensity and frequency of extreme weather events; shifting runoff patterns to earlier in the year when reservoir storage is more constrained due to flood protection; and rising sea levels resulting in increased risk of damage from storms, high-tide events, and the erosion of levees and potential cutbacks of deliveries of imported water. While the range of potential impacts from climate change remain subject to study and debate, climate change is among the uncertainties that Metropolitan seeks to address through its planning processes. See "–Integrated Water Resources Plan" and "–Climate Action Planning and Other Environmental, Social and Governance Initiatives." ~~in this Appendix A.~~

### **Current Water Conditions and Drought Response Actions**

The water years 2020 ~~and 2021~~ through 2022 combined ranked as the ~~two~~ three driest years in California's statewide precipitation record. (A water year begins on October 1 and ends on the following September 30.) Beginning in April 2021, Governor Newsom issued a series of drought emergency proclamations affecting various counties throughout the State, culminating in an October 19, 2021 proclamation declaring a drought state of emergency to be in effect statewide and directing local water suppliers to implement water shortage contingency plans at a level appropriate to local conditions. On March 28, 2022, Governor Newsom issued an executive order directing the State Water Resources Control Board (the "SWRCB") to consider adopting regulations by May 25, 2022 ~~that, to~~ require urban water suppliers with water shortage contingency plans to implement, at a minimum, shortage response actions for a shortage level of up to 20 percent ~~– (a "Level 2" shortage).~~ On May 24, 2022, in response to the executive order, the SWRCB adopted a new emergency water conservation regulation. The new regulation temporarily bans irrigating turf with potable water at commercial, industrial, and institutional properties, such as grass in front of or next to large industrial or commercial buildings. The ban does not include watering turf that is used for recreation or other community purposes, water used at residences or water to maintain trees. The regulation also requires all urban water suppliers to implement conservation actions under Level 2 of their water shortage contingency plans.

Water year 2023 began as a dry year. However, conditions improved significantly as the months progressed and between late December 2022 and mid-March 2023, a series of 11 atmospheric rivers



occurred in California, bringing extreme precipitation and a massive amount of snow. The State Water Project annual allocation for 2023 started at five percent of contracted amounts on December 1, 2022, but has subsequently been increased (through three increases) to 75 percent of contracted amounts (1,433,625 acre-feet for Metropolitan) as of March 24, 2023. See “–State Water Project – Background and Current Supply.”

As of ~~May 4~~March 14, 20222023, northern Sierra precipitation was ~~80~~132 percent of the 30-year average for the time of year, while the snowpack ~~reached its peak on January 17, 2022, was~~ at ~~61~~169 percent of the 30-year April 1<sup>st</sup> peak average and still growing. As of ~~April 26~~March 1, 20222023, the median water year runoff forecast for the Sacramento River was ~~10.8~~20.2 million acre-feet or ~~61~~114 percent of the 30-year average ~~for the time of year. Although the end of 2021 was hydrologically above average, the State. On~~ March 10, 2023, DWR increased releases from Lake Oroville using the main spillway to reduce the volume of water stored and make way for increased inflow due to incoming storms. As of March 14, 2023, Lake Oroville was at 2.74 million acre-feet or 117% of historical average for the date, while San Luis Reservoir was at 994,000 acre-feet for the State Water Project or 94% of the State Water Project capacity in the shared San Luis Reservoir. Due to the full reservoirs and additional inflows as a result of the atmospheric rivers experienced the driest January through in California in March 2023, on record in the northern Sierra to begin 2022. On March 18, 2022, following the previously mentioned record dry conditions, DWR decreased the March 10, 2023, DWR indicated that certain interruptible State Water Project allocation estimate for 2022 from 15 percent to 5 percent of contracted amounts, with additional supplies that may be made available pursuant to meet the human health and safety water needs of contractors. This follows a final allocation of 5 percent of contracted amounts in 2021. terms of the State water supply contracts when such water is not needed to fulfill the State Water Project contractors’ annual entitlements or for meeting State Water Project operational requirements, including storage goals (referred to as “Article 21 water”) would potentially become available in the following weeks. As of March 14, 2023, Metropolitan has signed the guideline agreeing to the terms of receiving Article 21 water, and on March 21, 2023, Metropolitan received confirmation of the initial availability of these Article 21 supplies. DWR will notify Metropolitan and the other State Water Project contractors on a weekly basis as to the availability of Article 21 supplies for the succeeding week.

~~In light of these conditions, DWR will exercise a never before invoked provision of the water supply contract (Article 18a) that allows State Water Project water to be allocated on some other basis than Table A to meet minimum demands for domestic supply, fire protection, or sanitation. The health and safety water allocation is 55 gallons per person per day offset by the available local supplies. At the request of DWR, Metropolitan submitted a letter to DWR in October 2021 requesting delivery of certain human health and safety supplies to the SWP Dependent Area (as hereinafter defined). Although the exact conditions to access human health and safety supplies are not finalized, DWR expects contractors receiving these supplies to mandate substantial reductions in water use consistent with these emergency drought circumstances. Further, DWR will require any water taken in 2022 for human health and safety purposes to be returned within five years, thus creating a water supply debt that effectively reduces future Table A allocations and slows storage recovery once the drought eases. See “– State Water Project” in this Appendix A.~~

~~The Colorado River Basin is also experiencing an extended drought.~~

As of ~~May 2~~March 6, 20222023, the Upper Colorado River Basin ~~precipitation~~snowpack was ~~95~~132 percent of the 30-year median. ~~However, due to dry soil conditions and warmer than normal temperatures, as of April 18, 2022, while~~ the water year runoff forecast into Lake Powell was ~~only 66~~113 percent ~~of average, again extending drought conditions in the Colorado River Basin. Despite above normal conditions at this point in time, the Colorado River Basin is still experiencing an extended drought.~~ On ~~May 4~~March 5, 20222023, the total system storage in the Colorado River Basin was ~~34~~32 percent of capacity, which is a decrease of ~~8.54~~ percent, or ~~5.22.5~~ million acre-feet, from the same time last year. On August 16, ~~2024~~2022, the United States Bureau of Reclamation (the “Bureau of Reclamation”) declared a ~~shortage~~Tier 2 Shortage

condition for the Colorado River Basin for 2023, as the storage level of Lake Mead behind Hoover Dam ~~fell was projected to be~~ below an elevation of 1,0751,050 feet at the end of 2022. This shortage condition results in reduced deliveries to Arizona, Nevada, and Mexico. Because of its higher priority, California, including Metropolitan, is not affected by this shortage declaration and will be able to take ICS (defined below) out of Lake Mead, if needed, to augment Metropolitan's Colorado River supplies to meet demands in its service area. As of March ~~316, 2022~~2023, the ~~projected~~Bureau of Reclamation is projecting a supply of Colorado River water ~~available to Metropolitan~~ in calendar year ~~2022 was estimated to be 951,000~~2023 of 909,000 acre-feet, which ~~will likely be augmented~~includes approximately 277,700 acre-feet pursuant to the Exchange Agreement, to be available to Metropolitan. Additional Colorado River supply tends to be available from higher priority water users as the year progresses. Based on recent higher priority water use, Metropolitan expects final Colorado River supplies to be approximately 991,000 acre-feet. In the event that actual supply is less than Metropolitan's projection, Metropolitan expects to augment such supply with water stored in Lake Mead to meet local water demands.

Lake Powell has declined to the lowest elevation since it was filled nearly sixty years ago. On May 4, 2022, the Department of Interior announced that it would reduce releases of water from Glen Canyon Dam from the planned amount of 7.48 million acre-feet to 7.0 million acre-feet during the 2022 water year in order to reduce or delay Lake Powell declining below critically low elevations. Operation of Glen Canyon Dam below certain reservoir elevations may threaten dam infrastructure, would interrupt hydropower generation and would interrupt water supplies for two communities near Glen Canyon Dam. This action was taken to avoid these outcomes. The Bureau of Reclamation will address the future release of these 480,000 acre-feet with input from the Colorado River Basin States (hereinafter defined). In a separate effort to protect critical reservoir elevations at Lake Powell, the Bureau of Reclamation and the States of the Upper Division of the Colorado River Basin approved the 2022 Drought Response Operations Plan to release 500,000 acre-feet of water from Flaming Gorge Reservoir to Lake Powell between May 2022 and April 2023.

On June 14, 2022, in testimony before the United States Senate, the Commissioner of the Bureau of Reclamation announced that the Bureau of Reclamation estimates that between two and four million acre-feet of additional conservation is needed in the Colorado River system in 2023 in order to prevent further declines in Lake Mead and Lake Powell below critical levels. The Commissioner called upon the Colorado River Basin States to develop a plan for the needed conservation measures within 60 days. The Commissioner further indicated that the Bureau of Reclamation was prepared to use its emergency authority to mandate measures if agreement among the states could not be reached. While the Colorado River Basin States did not develop a consensus plan within that timeline, two proposed alternatives have been submitted to the Bureau of Reclamation for the Supplemental Environmental Impact Statement ("SEIS") being prepared to modify the 2007 interim guidelines for Colorado River operations in 2023, 2024, and possibly through 2026. The Bureau of Reclamation is expected to develop its own alternative that will be modeled in the SEIS based on its emergency authority. The Colorado River Basin States will continue working toward a single proposal for a preferred alternative for the final SEIS. The Bureau of Reclamation plans to issue a draft SEIS for public comment in the spring of 2023 and a final SEIS and Record of Decision in the summer of 2023. See "Colorado River Aqueduct – Colorado River Operations: Surplus and Shortage Guidelines – Ongoing Activities Relating to Colorado River Operations." ~~in this Appendix A.~~

Metropolitan has planned and prepared for dry conditions by investing in vital infrastructure to increase its storage capacity and enhance operational flexibility. However, conditions in calendar year 2022, the third consecutive dry year and the second year of a five percent allocation from the State Water Project, exposed the issue that certain areas within Metropolitan service area are dependent exclusively on the State Water Project. During calendar year 2022, DWR invoked for the first in time in history, an article of the State Water Project contract and allocated water for human health and safety in addition to the normal allocation process. Metropolitan took delivery of approximately 134,000 acre-feet of human health and safety supplies that must be returned within five calendar years of the calendar year of delivery, with

mandatory return amounts to be made in years when State Water Project allocations are 40 percent of contracted amounts or greater. See “–State Water Project – Background and Current Supply.” In addition to the human health and safety supplies and mandatory water use reductions for the State Water Project dependent area agencies, Metropolitan met the water demands in its service area in calendar year ~~2021~~2022 using a combination of CRA deliveries, storage reserves and supplemental water transfers and purchases. ~~On April 13, 2021, the Board authorized the General Manager to secure up to 65,000~~In 2022, approximately 28,000 acre-feet of ~~additional water pursuant to one-year water transfers from water districts located north of the Sacramento San Joaquin River, at a maximum cost of up to \$44 million. Approximately 40,000 acre-feet were secured. The authorized water transfers allowed Metropolitan to preserve some water stored in surface water reservoirs on the State Water Project system for 2022.~~were secured.

Metropolitan’s storage as of January 1, ~~2022~~2023 is estimated to be ~~3.35~~2.99 million acre-feet. See “–Storage Capacity and Water in Storage” ~~in this Appendix A. As of April 1, 2022, Metropolitan’s projected supply/demand gap estimate for the calendar year 2022 is approximately 848,000 acre-feet based upon its demand estimate of 1.82 million acre-feet, the State Water Project allocation estimate of 5 percent of contracted amounts, and its Colorado River Aqueduct supply estimate of 867,000 acre-feet. Metropolitan is prepared to fill the supply/demand gap and meet water demands in its service area in the calendar year 2022 using a combination of available State Water Project Table A supplies as well as additional State Water Project supplies requested by Metropolitan for human health and safety, CRA deliveries, storage reserves, supplemental water transfers and purchases, and conservation. Metropolitan has initiated the process to withdraw from its dry-year storage reserves in the State Water Project banking programs and flexible storage accounts. In December 2021, Metropolitan’s Board approved the purchase of 4,200 acre-feet and a lease of 5,000 acre-feet of return capacity from San Diego County Water Authority’s Semitropic Program for 2022. See “–Water Transfer, Storage and Exchange Programs – State Water Project Agreements and Programs – San Diego County Water Authority Semitropic Program” in this Appendix A. Also, in December 2021, Metropolitan’s Board authorized the General Manager to enter into agreements with San Bernardino Valley Municipal Water District (“SBVMWD”) and DWR to improve the management of State Water Project supplies, including the framework for exchange of water. Pursuant to such authority, effective as of April 1, 2022, Metropolitan and SBVMWD entered into a 2022 exchange agreement that provides for the exchange of both local and State Water Project supplies in 2022. Under this agreement, during calendar year 2022, Metropolitan may request up to 3,000 acre-feet of carryover water stored in San Luis Reservoir and up to 1,000 acre-feet/month of groundwater. This additional supply will help member agencies within the SWP Dependent Area (as hereinafter defined). See also “–Water Transfer, Storage and Exchange Programs – State Water Project Agreements and Programs – San Bernardino Valley Municipal Water District Exchange Program” in this Appendix A.”~~ On April 12January 9, 20222023, the Board authorized the General Manager to secure ~~up to 75,000 acre-feet of additional water~~ in 2023 pursuant to one-year water transfers from various water districts ~~located north of the Sacramento San Joaquin River Delta, and private water purveyors throughout the State~~ at a maximum cost of up to ~~\$60~~100 million. As of February 28, 2023, Metropolitan ~~has in place arrangements’s projected supply/demand estimate for calendar year 2023 is approximately 30,000 to 35,000~~119,000 acre-feet of ~~transfers pursuant to this authority. surplus supplies based upon its demand estimate of 1.44 million acre-feet, and its supply estimate of 1.56 million acre-feet.~~

~~Beginning since~~From early 2021, in response to ~~persistent~~the dry conditions, Metropolitan ~~has implemented certain operational measures and programs to minimize State Water Project deliveries and preserve State Water Project supplies, expand,~~ such as delivering Diamond Valley Lake water for the first time in history to the Henry J. Mills Treatment Plant, and expanding the delivery of Colorado River water, ~~and store supplies further in the distribution system.~~ These measures were made possible by Metropolitan’s continued investment in facility upgrades and improvements. Metropolitan also ~~coordinated with~~paid for several member agencies to shift from service connections that utilize State Water Project supplies to service connections that use Colorado River water to conserve State Water Project supplies. With the current 75 percent State Water Project allocation and the perspective for additional increases in the upcoming months, these drought measures are being phased out, starting with stopping deliveries from Diamond Valley Lake

on March 16, 2023 and beginning the rebuilding of surface storage in Castaic Lake and Lake Perris. See “–Water Transfer, Storage and Exchange Programs –State Water Project and Colorado River Aqueduct Arrangements – Operational Shift Cost Offset Program” in this Appendix A. ”

Metropolitan continues to encourage responsible and efficient water use to lower demands. Following the Governor’s October 2021 proclamation of a statewide drought emergency, on November 9, 2021, Metropolitan’s Board of Directors declared a drought emergency and called on its member agencies dependent on State Water Project water to use increased conservation measures or other means to reduce their use of those supplies. To assist in these conservation efforts, Metropolitan’s ~~board~~Board also approved a series of measures to expand various rebate and water-efficiency programs. On April 26, 2022 Metropolitan’s ~~board~~Board approved the framework of an Emergency Water Conservation Program for the State Water Project dependent area to further reduce demand on State Water Project supplies. Due to the improved hydrologic conditions and the increased State Water Project allocation for 2023, the Board voted to rescind the Emergency Water Conservation Program on March 14, 2023. See “CONSERVATION AND WATER SHORTAGE MEASURES–Emergency Water Conservation Program for the State Water Project Dependent Area” in this Appendix A. On March 24, 2023, the Governor announced that certain of the Statewide water conservation measures previously imposed would be eased.

Metropolitan’s financial reserve policy provides funds to manage through periods of reduced sales. See “METROPOLITAN REVENUES–Financial Reserve Policy” in this Appendix A. In years when actual sales are less than projections, Metropolitan uses various tools to manage reductions in revenues, such as reducing expenditures below budgeted levels, reducing funding of capital projects from revenues, and drawing on reserves. See also “MANAGEMENT’S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES” in this Appendix A.”

### **Integrated Water Resources Plan**

**Overview and Background.** The Integrated Water Resources Plan (~~hereafter, the~~ “IRP”) is Metropolitan’s principal water resources planning document. Metropolitan, its member agencies, subagencies and groundwater basin managers developed Metropolitan’s first IRP as a long-term planning guideline for resources and capital investments over a 25-year planning cycle. The purpose of the IRP was the development of a portfolio of preferred resources to meet the water supply reliability and water quality needs for the region in a cost-effective and environmentally sound manner. The first IRP was adopted by the Board in January 1996 and has been subsequently updated approximately every five years (*i.e.*, in 2004, 2010 and 2015). Work on Metropolitan’s 2020 IRP commenced in February 2020 and is ongoing as described under “–2020 IRP” below.

Metropolitan’s last IRP update (the “2015 IRP Update”) was adopted by the Board on January 12, 2016 as a strategy to set goals and a framework for water resources development. The strategy reflected in the 2015 IRP Update was aimed at providing regional reliability through 2040 by stabilizing Metropolitan’s traditional imported water supplies and continuing to develop additional conservation programs and local resources, with an increased emphasis on regional collaboration. It also advances long-term planning for potential future contingency resources, such as potable reuse, storm water capture and seawater desalination.

Specifically, the 2015 IRP Update identifies the goals, approaches and regional targets for water resource development that are needed to ensure reliability under planned conditions through the year 2040, focusing on the following primary resource areas: (i) State Water Project, (ii) Colorado River Aqueduct, (iii) water transfers and exchanges; (iv) water conservation, and (v) local water supplies. It provides an adaptive management approach to address future uncertainty, including uncertainty from climate change. Adaptive water management, as opposed to a rigid set of planned actions over future decades, is designed to be a systematic process for improving management policies and practices by learning from the outcomes of implemented management strategies. An adaptive management approach began to evolve with



Metropolitan's first IRP in 1996, after drought-related shortages in 1991 prompted a rethinking of Southern California's long-term water strategy. Reliance on imported supplies to meet future water needs has decreased steadily over time, replaced by plans for local actions to meet new demands. The 2015 IRP Update continues a diversified portfolio approach to water management.

**2020 IRP.** In February 2020, Metropolitan initiated a new process for the development of the 2020 IRP. The year 2020 marked the conclusion of the 25-year planning cycle envisioned by the original 1996 IRP. The ~~2020 IRP~~, development of ~~which~~ the 2020 IRP utilizing this new process is ongoing. The 2020 IRP builds upon Metropolitan's adaptive management strategy by ~~utilizing~~ using a scenario planning approach. The 2020 IRP anticipates ranges for how much water Southern California can expect from its imported and local supplies, as well as regional water demands, across four plausible scenarios through 2045.

Development of the 2020 IRP is being undertaken in two phases (i) Phase 1: Regional Needs Assessment, and (ii) Phase 2: One Water Implementation. As the first phase of the 2020 IRP's development, the Regional Needs Assessment analyzed potential gaps between the expected supplies and the forecasted demands across the four IRP scenarios. The Regional Needs Assessment presents key technical findings and examines the effectiveness of generalized portfolio categories. The Regional Needs Assessment also frames and guides the establishment of more specific targets to maintain reliability over the planning period and informs Metropolitan's Board on resource investment decisions as well as the establishment of a plan to fund them. In light of the future uncertainties inherent in long-term resource planning, including uncertainties about climate change and regulatory requirements, as well as Southern California's population and economy, the 2020 IRP's scenario planning approach better prepares the region for a wider range of potential outcomes by identifying solutions and policies across a variety of possible future conditions. This strategy is designed to enable Metropolitan and its member agencies to manage future challenges and changes in California's water conditions and to balance investments with water reliability benefits.

The Board adopted the 2020 IRP Regional Needs Assessment Report in April 2022, thus completing the IRP Regional Needs Assessment phase. The 2020 IRP Regional Needs Assessment outcomes can be summarized through a set of findings grounded in the scenario reliability analysis. The findings fall within five key focus areas: SWP Dependent Areas, Storage, Retail Demand/Demand Management, Metropolitan Imported Supplies, and Local Supply. Adopting the Regional Needs Assessment allows the analysis and findings to serve as both a foundation and as guardrails for the One Water Implementation phase.

The One Water Implementation phase will take the results and findings of Phase 1 into a collaborative process to identify integrated regional solutions. Using a One Water approach, the implementation phase will translate the high-level portfolio analysis from Phase 1 into specific policies, programs, and projects to address the findings and mitigate the potential shortages. Comprehensive, adaptive management strategy and evaluation criteria will be developed to guide these specific actions. The adaptive management strategy will also establish a process for monitoring key reliability indicators to support decision-making.

Information and materials relating to Metropolitan's ongoing development of its 2020 IRP are available at: <https://www.mwdh2o.com/irp-how-we-plan/integrated-resource-plan/>. The materials and other information set forth on Metropolitan's website are not incorporated into this Appendix A and should not be construed to be a part of this Appendix A by virtue of the foregoing reference to such materials and website.

Specific projects identified by Metropolitan in connection with the implementation of its IRP are subject to Board consideration and approval, as well as environmental and regulatory documentation and compliance.

## Climate Action Planning and Other Environmental, Social and Governance Initiatives

**General; Background.** Metropolitan has long supported sustainability efforts, dating back to its founding in 1928, when planners and engineers designed the CRA to deliver water primarily by gravity across 242 miles of California desert to the State's south coastal plain. Metropolitan recognized the need for a reliable supply of power by investing in the construction of Hoover Dam and Parker Dam. Together, these dams produce clean, carbon-free energy that ~~supply~~have historically supplied more than half of the energy needed to power the CRA pumps. See "METROPOLITAN EXPENSES–Power Sources and Costs; Related Long-Term Commitments – Colorado River Aqueduct."

In the decades that followed, Metropolitan has continued to make investments in clean energy and energy-efficient design to reduce GHG emissions, as well as climate adaptation investments to bolster water supply availability, particularly during times of drought. In addition, Metropolitan has partnered with the scientific community, including academic research institutions and the private sector, to test and ultimately implement advanced technologies that monitor and enhance Metropolitan's water supplies. Metropolitan's efforts to date in this area have focused not only on the goal of achieving broad environmental sustainability and efficiency objectives but also environmental risk mitigation.

Metropolitan has adopted ~~or is in the process of adopting~~ several planning documents that address the core issues of environmental sustainability, improving climate resiliency of operations, and advancing the goal of carbon neutrality. These documents include the Climate Action Plan (discussed below), the Energy Sustainability Plan, ~~the 2020 IRP and~~ Metropolitan's Capital ~~Improvement~~Investment Plan, and its IRP discussed above. Metropolitan ~~will be coordinating~~coordinates its ongoing sustainability efforts through its Chief Sustainability, ~~Resiliency~~Resilience, and Innovation Officer ("SRI Officer"). ~~The SRI is a newly created executive position that reports directly to the General Manager.~~

Information and materials relating to Metropolitan's ~~SRI Officer will play a central role in refining and implementing Metropolitan's existing climate action goals, as well as developing new goals to help Metropolitan meet its objectives across the organization~~planning actions relating to climate change are available at: <https://www.mwdh2o.com/planning-for-tomorrow/addressing-climate-change/>. The materials and other information set forth on Metropolitan's website are not incorporated into this Appendix A and should not be construed to be a part of this Appendix A by virtue of the foregoing reference to such materials and website.

**Climate Change and Climate Action Plan.** Climate change is expected to increase average temperatures across the western United States. In the Colorado River Basin, that is expected to result in decreased runoff and lower flows as less snow is coupled with ~~more demand~~increased evapotranspiration from trees and plants. In the Sierra Nevada, precipitation is anticipated to increasingly fall as rain in a few large storms, rather than as snow. Sierra snowpack, a critical storage tool in California's water management as it holds water high in the mountains until peak summer demand, has been projected to decrease by up to 65 percent by the end of the century. In the local Southern California region, climate change threatens groundwater basins with saltwater intrusion and less natural replenishment. These factors are expected to reduce the reliability of Metropolitan's imported water supply for Southern California.

Metropolitan has long recognized the threat to its water supply posed by these long-term impacts and has been addressing climate change for more than two decades through its IRP. Pursuant to its IRP (originally adopted in January 1996 and subsequently updated in 2004, 2010 and 2015), Metropolitan has invested in local supplies, developed new storage, and increased the flexibility of its water system facilities to be able to take delivery of water from diverse sources when available. Below are a few examples:

- Metropolitan has increased the water storage capacity of its dams and reservoirs by more than 13-fold since 1990 and has built the Inland Feeder, a large conveyance pipeline that allows for the

movement of water into that storage. See “METROPOLITAN’S WATER DELIVERY SYSTEM” in this Appendix A. With snowpack dwindling, these investments provide a valuable opportunity to capture water in wet years and save it for dry ones.

- Metropolitan has increased the operational flexibility of its water delivery system through infrastructure improvements, such as the Inland Feeder, which provides the ability to capture and store high allocations of State Water Project supplies when available, and agreements to deliver Colorado River water supplies when State supplies are in drought, and vice versa. See “–Water Transfer, Storage and Exchange Programs.”
- Metropolitan has invested approximately \$840 million in conservation programs, which have helped decrease potable per capita water consumption over time in Metropolitan’s service area from ~~207~~209 gallons per person per day in 1990 to ~~427~~129 gallons per person per day in ~~2017~~2021 – a ~~39~~38 percent reduction. Metropolitan plans to continue to expand these efforts into the future. See “CONSERVATION AND WATER STORAGE MEASURES” in this Appendix A.
- Metropolitan’s Local Resources Program accelerates the development of local water supply reliability projects by incentivizing agencies within Metropolitan’s service area to construct recycled water, groundwater recovery and seawater desalination projects. Since 1982, Metropolitan has invested approximately ~~\$528~~534 million in recycled water projects, ~~a resilient supply source not impacted by climate change~~. See “REGIONAL WATER RESOURCES–Local Water Supplies.” in this Appendix A.
- Metropolitan has partnered with other utilities and organizations across the nation to understand both the effects of climate change and potential opportunities to build resilience. These collaborators include the Water Utility Climate Alliance, a collaboration of large water providers working on climate issues affecting the country’s water agencies, and the California Resilience Challenge, a collaboration of businesses, utilities, and non-profit organizations developing climate adaptation planning projects.

In May 2022, Metropolitan adopted a Climate Action Plan, a comprehensive planning document that outlines Metropolitan’s strategy for reducing GHG emissions associated with future construction, operation, and maintenance activities. The Climate Action Plan includes an analysis of Metropolitan’s historical GHG emissions, a forecast of future GHG emissions, sets a GHG reduction target for reducing emissions consistent with applicable state policies, and identifies a suite of specific GHG reduction actions that Metropolitan can implement to achieve its adopted targets. The Climate Action Plan establishes a GHG emissions reduction goal of 40 percent by 2030 and carbon neutrality by 2045. Metropolitan’s Climate Action Plan includes nine strategies that target the reduction of direct emissions from natural gas and fuel combustion by supporting the transition to a zero emissions vehicle fleet and reduction of natural gas combustion; ~~reduction of~~reducing indirect emissions associated with electricity consumption through improved energy efficiency and utilizing low-carbon and carbon-free electricity; and ~~implementation of~~implementing GHG reduction measures that incentivize sustainable employee commutes, increase waste diversion, increase water conservation and local water supply, and ~~investigate~~investigating and ~~implement~~implementing carbon capture and carbon sequestration opportunities on Metropolitan-owned lands.

Metropolitan’s Climate Action Plan includes an implementation strategy, annual GHG inventories, a public-facing tracking and monitoring tool to ensure progress towards meeting its goal, and five-year updates to capture new and emerging technologies for GHG emissions reductions. The strategies included in the Climate Action Plan provide the co-benefits of improved infrastructure reliability, greater energy resiliency, and expected reduced costs associated with energy procurement and maintenance.

***Energy Sustainability.*** Metropolitan meets its energy demands through its investments in hydroelectric and solar power and the purchase of more than 2,000 GWh of electricity annually from the regional power grid. In November 2020, Metropolitan developed an Energy Sustainability Plan. The Energy Sustainability Plan includes a framework of sustainable actions focused on energy cost containment, reliability, affordability, conservation and adaptation, including reconfiguring certain existing power plants and variable-speed pump drives at pumping stations, and assessing the integration of islanded operations for microgrid purposes. Metropolitan invests in renewable energy resources, including buying and generating hydroelectric power to help meet much of its electricity needs. Currently, over three-quarters of Metropolitan's pumping and water treatment energy needs are met through renewable/sustainable energy resources. In addition to using power generated at Parker and Hoover Dams, Metropolitan has built 15 in-stream hydroelectric plants throughout its distribution system with a total capacity of about 130 megawatts. Metropolitan has also installed 5.5 megawatts of photovoltaic solar power at its facilities and is implementing a project to add battery energy storage [at three of its water treatment plants](#) to store green energy when power rates are low and discharge that energy when rates are higher.

***Diversity, Equity and Inclusion and Governance.*** In its dedication to improving workplace culture for all employees, Metropolitan's Board has adopted a statement pledging its support of diversity, equity and inclusion initiatives. The Statement of Commitment is the result of a collaborative discussion among the 38-member board and provides guidance so that staff can develop, implement and maintain policies and practices to support diversity, equity and inclusion. In May 2022, Metropolitan hired its first Chief Diversity, Equity and Inclusion officer to help plan, develop, and implement strategies and initiatives designed to ensure that Metropolitan is a diverse and inclusive organization. See "GOVERNANCE AND MANAGEMENT–Management" and "–Employee Relations" [in this Appendix A.](#)"



## State Water Project

### Background and Current Supply

One of Metropolitan's two major sources of water is the State Water Project, which is owned by the State, and managed and operated by DWR. The State Water Project 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 State Water Project 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 ~~39.4~~39.2 million residents, including the population within the service area of Metropolitan.

The State Water Project's watershed encompasses the mountains and waterways around the Feather River, the principal tributary of the Sacramento River, in the Sacramento Valley of Northern California. Through the State Water Project, Feather River water stored in and released from Oroville Dam (located about 70 miles north of Sacramento, east of the city of Oroville, California) and unregulated flows diverted directly from the Bay-Delta are transported south through the Central Valley of California, over the Tehachapi Mountains and into Southern California, via the California Aqueduct, to four delivery points near the northern and eastern boundaries of Metropolitan's service area. The total length of the California Aqueduct is approximately 444 miles. See "METROPOLITAN'S WATER DELIVERY SYSTEM—Primary Facilities and Method of Delivery —*State Water Project*" in this Appendix A.

From ~~the~~ calendar year ~~2012~~2013 through ~~2021~~2022, the amount of water received by Metropolitan from the State Water Project, including water from human health and safety supplies, and water transfer, groundwater banking and exchange programs delivered through the California Aqueduct (described under "—Water Transfer, Storage and Exchange Programs" below), varied from a low of ~~588,000~~468,000 acre-feet in the calendar year ~~2020~~2022 to a high of 1,473,000 acre-feet in 2017. In ~~the calendar year 2020, DWR's allocation to State Water Contractors was 20 percent of contracted amounts, or 382,300 acre-feet, for Metropolitan. In the calendar years~~ 2021 and 2022, DWR's allocation to State Water ~~Contractors~~Project contractors (defined below) was ~~5~~five percent of contracted amounts, or 95,575 acre-feet, for Metropolitan.

On December 1, ~~2021~~2022, DWR announced an initial calendar year ~~2022~~2023 allocation of ~~0~~five percent. ~~In light of the unprecedented contracted amounts, based on DWR's expectation of continued extreme drought conditions, DWR stated that the initial allocation for 2022 would focus on the health and safety needs of the 29 State Water Contractors in the region.~~ On January ~~2026~~, ~~2022~~2023, DWR increased the annual allocation estimate to ~~15~~30 percent of contracted amounts, ~~or 286,725 acre-feet for Metropolitan,~~ based on increased precipitation experienced in December 2022 and January 2023 and estimates of future runoff ~~under very dry conditions~~. On February 22, 2023, DWR announced a further increase in the annual allocation estimate to 35 percent of contracted amounts, and on March 18, 2023, due to extremely dry conditions, DWR decreased 2023, DWR announced an additional increase in the annual allocation estimate to 57.5 percent of contracted amounts, with additional supplies available to meet the health and safety water needs of contractors. Changes or 1,433,625 acre-feet for Metropolitan, based on improved snowpack conditions and reservoir storage levels. Further changes to the ~~2022~~2023 allocation may occur ~~and are dependent~~depending on the ~~developing hydrologic conditions~~amount of additional precipitation experienced in the State. See also "—Current Water Conditions and Drought Response Actions."

In 2022, due to historically dry conditions, DWR exercised a provision of the State water supply contract that allowed DWR State Water Project to provide State Water Project Water to certain State Water Project contractors, that was in addition to the contracted amounts, to meet minimum demands for domestic supply, fire protection or sanitation. Under this provision, Metropolitan requested and received from DWR delivery of an additional 133,842 acre feet of certain human health and safety supplies to the State Water Project dependent portion of Metropolitan's service area ("SWP Dependent Area"). The human health and safety supplies received by Metropolitan in 2022 are to be returned within five calendar years of the calendar year of delivery, with mandatory returns to be made in years when State Water Project allocations

are 40 percent of contracted amounts or greater, thus creating a water supply debt that effectively reduces future allocations and slows storage recovery once the drought eases. Metropolitan is required to return 95,575 acre-feet in 2023 so long as the State Water Project allocation remains at 40 percent or higher. Due to the increase in State Water Project allocation for 2023, Metropolitan has determined not to request additional supplies for human health and safety purposes for 2023.

### **State Water Contract**

***General Terms of the Contract.*** In 1960, Metropolitan signed a water supply contract (as amended, the “State Water Contract”) with DWR to receive water from the State Water Project. Metropolitan is one of 29 agencies and districts that have long-term contracts for water service from DWR (known collectively as the “State Water ~~Contractors~~Project contractors” and sometimes referred to herein as “Contractors”). Metropolitan is the largest of the State Water ~~Contractors~~Project contractors in terms of the number of people it serves (approximately 19 million), the share of State Water Project water that it has contracted to receive (approximately 46 percent), and the percentage of total annual payments made to DWR by agencies with State water supply contracts (approximately ~~54~~53 percent for calendar year ~~2022~~2023). Metropolitan received its first delivery of State Water Project water in 1972.

Pursuant to the terms of the State water supply contracts, all water-supply related expenditures for capital and operations, maintenance, power, and replacement costs associated with the State Water Project facilities are paid for by the State Water ~~Contractors~~Project contractors as components of their annual payment obligations to DWR. In exchange, Contractors have the right to participate in the system, with an entitlement to water service from the State Water Project and the right to use the portion of the State Water Project conveyance system necessary to deliver water to them. Each year DWR estimates the total State Water Project water available for delivery to the State Water ~~Contractors~~Project contractors and allocates the available project water among the State Water ~~Contractors~~Project contractors in accordance with the State ~~water~~Water Project supply contracts. ~~Late~~On or about December 1 of each year, DWR announces an initial allocation estimate for the upcoming year, but periodically provides subsequent estimates throughout the year if warranted by developing precipitation and water supply conditions. Based upon the updated rainfall and snowpack values, DWR’s total water supply availability projections are refined during each calendar year and allocations to the State Water ~~Contractors~~Project contractors are adjusted accordingly.

Under its State Water Contract, Metropolitan has a contractual right to its proportionate share of the State Water Project water that DWR determines annually is available for allocation to the Contractors. This determination is made by DWR each year based on existing supplies in storage, forecasted hydrology, and other factors, including water quality and environmental flow obligations and other operational considerations. Available State Water Project water is then allocated to the Contractors in proportion to the amounts set forth in “Table A” of their respective State water supply contract (sometimes referred to herein as “Table A State Water Project water”); provided, that in accordance with the terms of the State water supply contracts, the State may allocate on some other basis if such action is required to meet minimum demands of contractors for domestic supply, fire protection, or sanitation during the year. Pursuant to Table A of its State Water Contract, Metropolitan is entitled to approximately 46 percent of the total annual allocation made available to State Water ~~Contractors~~Project contractors each year. Metropolitan’s State Water Contract, under a 100 percent allocation, provides Metropolitan 1,911,500 acre-feet of water. The 100 percent allocation is referred to as the contracted amount. See also “–Current Water Conditions and Drought Response Actions” for information regarding Metropolitan’s allocation of State Water Project water for ~~2022~~2023.

The term of Metropolitan’s State Water Contract currently extends to December 31, ~~2035~~2085, or until all DWR bonds issued to finance construction of project facilities are repaid, whichever is longer. Upon expiration of the State Water Contract term, Metropolitan has the option to continue service under substantially the same terms and conditions. See also “–Amendment of Contract Term.”

~~**Monterey Amendment.** Amendments, approved by Metropolitan's Board in 1995, and since executed by DWR and 27 of the State Water Contractors (collectively known as the "Monterey Amendment"), among other things, made explicit that the Contractors' rights to use the portion of the State Water Project conveyance system necessary to deliver water to them also includes the right to convey non State Water Project water at no additional cost as long as capacity exists. These amendments also expanded the ability of the State Water Contractors to carry over State Water Project water in State Water Project storage facilities, allowed participating Contractors to borrow water from terminal reservoirs, and allowed Contractors to store water in groundwater storage facilities outside a Contractor's service area for later use. These amendments provided the means for individual Contractors to increase supply reliability through water transfers and storage outside their service area. Metropolitan has subsequently developed and actively manages a portfolio of water supplies to convey through the California Aqueduct pursuant to these contractual rights. See "Water Transfer, Storage and Exchange Programs."~~

~~The adequacy of the Environmental Impact Report ("EIR") for the Monterey Amendment was challenged in litigation. After revising the EIR and completing remedial CEQA review, in September 2021, the Court of Appeal upheld the adequacy of the EIR, the validity of the Monterey Amendment and the agreement relating to the Kern Water Bank (a portion of the Monterey Amendment that does not directly affect Metropolitan), and the trial court's denial of attorney fees for one of the plaintiffs.~~

~~On January 5, 2022, the California Supreme Court denied petitions seeking review of the Court of Appeal's decision. The Court of Appeal's decision upholding the Monterey Amendment is therefore final.~~

**Project Improvement Amendments.** Metropolitan's State Water Contract has been amended a number of times since its original execution and delivery. Several of the amendments, entered into by DWR and various subsets of State Water ~~Contractors~~Project contractors, relate to the financing and construction of a variety of State Water Project facilities and improvements and impose certain cost responsibility therefor on the affected Contractors, including Metropolitan. For a description of Metropolitan's financial obligations under its State Water Contract, including with respect to such amendments, see "METROPOLITAN EXPENSES-State Water Contract Obligations" in this Appendix A.

**Water Management Amendments.** Metropolitan and other State Water ~~Contractors~~Project contractors have undertaken negotiations with DWR to amend their State water supply contracts to clarify the criteria applicable to certain water management tools including single and multi-year water transfers and exchanges. The water management provisions amendment allows for greater flexibility for transfers and exchanges among the State Water ~~Contractors~~Project contractors. Specifically, the amendment confirms existing practices for exchanges, allows more flexibility for non-permanent water transfers, and allows for the transfer and exchange of certain portions of Article 56 carryover water (see "Water Transfer, Storage and Exchange Programs -State Water Project Agreements and Programs - *Metropolitan Article 56 Carryover*"). DWR certified a final EIR for the water management amendments in August 2020. In September 2020, North Coast Rivers Alliance, California Water Impact Network and others separately filed two lawsuits challenging DWR's final EIR and approval of the State water supply contract water management provisions amendment under the California Environmental Quality Act ("CEQA"). North Coast Rivers Alliance also alleges violations of the Delta Reform Act, and public trust doctrine, and seeks declaratory and injunctive relief. The cases were deemed related and assigned to the same judge. DWR is in the process of compiling the administrative record. Any adverse impact of this litigation and rulings on Metropolitan's State Water Project supplies cannot be determined at this time. Despite the pending litigation, enough of the State Water ~~Contractors~~Project contractors approved and executed the ~~amendments~~amendment as required by DWR for it to be deemed fully executed. The amendments went into effect on February 28, 2021. The State Water ~~Contractors~~Project contractors association, made up of 27 State Water Project contractors, has intervened in the two related cases to protect the interests of the Contractors.

***Amendment of Contract Term.*** ~~In 2014, DWR and the State Water Contractors~~Project contractors reached an Agreement in Principle (the “Agreement in Principle”) on an amendment to ~~the~~extend their State water supply ~~contract to extend the contract beyond~~contracts to December 31, ~~2035~~2085 and to make certain other changes related to financial management of the State Water Project ~~in the future. DWR and 25 of the State Water Contractors, including Metropolitan, have signed the Agreement in Principle. Under the Agreement in Principle, the term of the State water supply contract for each Contractor that signs an amendment would be extended until December 31, 2085.~~ The Agreement in Principle served as the “proposed project” for purposes of the environmental review required under CEQA. ~~Three, which such review was completed in December 2018. Following DWR’s approval of the proposed project, three separate lawsuits were filed relating to the contract extension: one, a validation action, by DWR seeking to validate the contract extension amendment, and two others, separate petitions for writ of mandate and a complaint for declaratory and injunctive relief by environmental groups and other entities challenging DWR’s final EIR and approval of the State water supply contract extension amendment under CEQA, the Delta Reform Act, and public trust doctrine. The validation and CEQA and the adequacy of the underlying environmental review. These cases were deemed related by the court and assigned to a single judge. After a three-day trial in January 2022, the court issued a final statement of decision on March 9, 2022 ruling, in which it ruled that the amendments were valid and denying the petitions for writs of mandate challenging the final EIR and rejecting the Delta Reform Act and public trust causes of action. Once rejected all other challenges and claims. In late April 2022, final judgments were entered in all three cases and served, any on the parties. In May 2022, two separate appeals must be were filed within 60 days. Briefing on these appeals is expected to be complete by summer 2023.~~ Any potential adverse impact of the appeals on Metropolitan’s State Water Project supplies cannot be determined at this time. ~~To date, 22~~As of January 1, 2023, 25 of the 29 State Water ~~Contractors~~Project contractors, including Metropolitan, have had executed the amendment, exceeding the DWR established ~~threshold~~thresholds needed for ~~it to be implemented. Considering the favorable outcome at trial, DWR is considering moving forward with implementation of the amendments with individual State Water Contractors. Unless the amendment to become effective. These Contractors also executed waivers allowing the amendment to be implemented notwithstanding the pending litigation. As a result, the contract extension amendment is implemented, the amortization period for any future State Water Project bonds will end in 2035 became effective on January 1, 2023 and the term of the water supply contracts of the State Water Project contractors executing the amendment was extended to December 31, 2085. While an adverse outcome in the pending appeals could potentially affect the ongoing validity and future implementation of the amendment, Metropolitan considers the risk to be low given the favorable outcome at trial.~~

***Amendments for Allocation of Conveyance Costs.*** Metropolitan and other State Water ~~Contractors~~Project contractors embarked on a third public process to further negotiate proposed amendments to their State water supply contracts related to cost allocation for a potential Delta Conveyance ~~Project~~project. Pursuant to the terms of ~~the Monterey a prior~~ settlement ~~(referenced above)~~, negotiations for this State Water Project contract amendment were completed in public. In March ~~of~~ 2021, DWR and the State Water ~~Contractors~~Project contractors concluded public negotiations and reached an Agreement in Principle (the “Delta Conveyance AIP”) that will be the basis for amendment of the State water supply contracts. The future contract amendment contemplated by the Delta Conveyance AIP would provide a mechanism that would allow for the costs related to any Delta Conveyance ~~Project~~project to be allocated and collected by DWR. The Delta Conveyance AIP also provides for the allocation of benefits for any Delta Conveyance ~~Project~~project in proportion to each State Water ~~Contractor~~Project contractor’s participation. DWR will maintain a table reflecting decisions made by public agency governing boards regarding that agency’s participation. Contract language for the proposed amendments is under development. Consideration of the amendments for approval by DWR and the State Water ~~Contractors~~Project contractors would not occur until after DWR’s completion of the Delta Conveyance ~~Project~~project environmental review, which is not expected before 2024. See “–Bay-Delta Planning Activities” and “–Delta Conveyance” under “Bay-Delta Proceedings Affecting State Water Project” below.



### **Coordinated Operations with Central Valley Project**

DWR operates the State Water Project in coordination with the federal Central Valley Project, which is operated by the Bureau of Reclamation. Since 1986, the coordinated operations have been undertaken pursuant to a Coordinated Operations Agreement for the Central Valley Project and State Water Project (the “COA”). The COA defines how the State and federal water projects share water quality and environmental flow obligations imposed by regulatory agencies. The agreement calls for periodic review to determine whether updates are needed in light of changed conditions. After completing a joint review process, DWR and the Bureau of Reclamation agreed to amend the COA to reflect water quality regulations, biological opinions and hydrology updated since the 1986 agreement was signed. On December 13, 2018, DWR and the Bureau of Reclamation executed an Addendum to the COA (the “COA Addendum”). The COA Addendum provides for DWR’s adjustment of ~~current~~ State Water Project operations to modify pumping operations, as well as project storage withdrawals to meet in-basin uses, pursuant to revised calculations based on water year types. The COA Addendum will shift responsibilities for meeting obligations between the Central Valley Project and the State Water Project, resulting in a shift of approximately 120,000 acre-~~feet~~ in long-term average annual exports from the State Water Project to the Central Valley Project.

In executing the COA Addendum, DWR found the agreement to be exempt from environmental review under CEQA as an ongoing project and that the adjustments in operations are within the original scope of the project. On January 16, 2019, commercial fishing groups and ~~an~~ [American Indian](#) tribe (“petitioners”) filed a lawsuit against DWR alleging that entering the COA Addendum violated CEQA, the Delta Reform Act, and the public trust doctrine. On April 11, 2019, Westlands Water District (“Westlands”) filed a motion to intervene, which was not opposed by any party. The court granted Westlands’ motion on June 7, 2019. On October 7, 2019, the North Delta Water Agency filed a motion to intervene. On November 19, 2019, the court granted North Delta Water Agency’s motion. The petitioners are still in the process of preparing the administrative record. ~~A hearing on the merits has been set for July 22, 2022.~~ The effect of this lawsuit on the COA Addendum and State Water Project operations cannot be determined at this time.

### **2017 Oroville Dam Spillway Incident**

Oroville Dam, the earthfill embankment dam on the Feather River which impounds Lake Oroville, is operated by DWR as a facility of the State Water Project. On February 7, 2017, the main flood control spillway at Oroville Dam, a gated and concrete lined facility, experienced significant damage as DWR released water to manage higher inflows driven by continued precipitation in the Feather River basin. The damaged main spillway impaired DWR’s ability to manage lake levels causing water to flow over the emergency spillway structure, an ungated, 1,730-foot-long concrete barrier located adjacent to the main flood control spillway structure. Use of the emergency spillway structure resulted in erosion that threatened the stability of the emergency spillway structure. This concern prompted the Butte County Sheriff to issue an evacuation order for approximately 200,000 people living in Oroville and the surrounding communities.

On November 1, 2018, DWR completed reconstruction of the main spillway to its original design capacity of approximately 270,000 cubic feet per second (“cfs”), a capacity almost twice its highest historical outflow. Work on the emergency spillway was substantially completed in April 2019. Mitigation measures such as slope revegetation were completed in 2021. DWR has estimated the total costs of the recovery and restoration project prior to any federal or other reimbursement to be approximately \$1.2 billion. As of ~~March 2022~~[January 2023](#), DWR has received or expects to receive reimbursement of a total of approximately \$617 million of these costs under the Public Assistance Program of the Federal Emergency Management Agency (“FEMA”). ~~Unrecovered~~[Remaining](#) costs of about ~~\$602~~[\\$567](#) million were charged to the State Water ~~Contractors~~[Project contractors](#) under the State ~~Water Contracts~~[water supply contracts](#), of which Metropolitan’s share totaled about ~~\$275~~[\\$259](#) million. DWR financed these ~~unrecovered~~[remaining](#) costs with DWR bonds.

Various lawsuits ~~have been~~were filed against DWR asserting claims for property damage, economic losses, environmental impacts and civil penalties related to this incident. Neither Metropolitan nor any other State Water ~~Contractor~~Project contractor was named as a defendant in any of these lawsuits. ~~These~~Most of these cases, which ~~have been~~were coordinated in Sacramento Superior Court (Case No. JCCP 4974), ~~include~~have now been resolved, either through decisions in favor of DWR or settlements with terms favorable to DWR. With one exception discussed below, cumulative payments for all claims related to the Oroville Dam spillway incident are anticipated to be less than \$40 million.

The primary outstanding lawsuit is one that was filed by the Butte County District Attorney (“DA”) ~~that, which~~ seeks up to \$51 billion in civil penalties. This lawsuit asserts a single claim under California Fish and Game Code section 5650, *et seq.*, which makes it unlawful to deposit or place certain substances into the waters of the State, including lime, slag and “any substance or material deleterious to fish, plant life, mammals, or bird life.” Among other things, the statute provides for the assessment of civil penalties of up to \$25,000 a day and \$10 per pound of material deposited in violation of its strictures. On September 3, 2020, DWR filed a motion for summary judgment in the Butte County DA case ~~on September 3, 2020~~. On December 18, 2020, the ~~Sacramento Superior Court issued a ruling granting DWR’s~~court granted the motion. ~~In its, ruling, the court determined that, as a matter of law, DWR is not a person subject to the penalty provisions of the California Fish and Game Code sections at issue, and therefore the Butte County DA’s complaint failed to state a cause of action. As a result of the granting of the motion,~~Accordingly, the matter was dismissed ~~by the trial court. The~~and judgment was entered on January 11, 2021. The Butte County DA filed a notice of appeal on February 9, 2021. On March 30, 2021, the Third District Court of Appeal ordered this case to mediation, but no settlement was reached. As a result, the court terminated the mediation on January 6, 2022. ~~The record on appeal has been designated, but no briefing schedule has been set~~On October 25, 2022, the Butte County DA filed its opening brief in the appeal. DWR filed a responsive brief on February 22, 2023. All briefing is expected to complete by summer 2023. At this time, Metropolitan cannot predict the outcome of this litigation or the amount of civil penalties that might be assessed in the event the Butte County DA prevails on an appeal of the decision.

The State water supply contracts provide that Metropolitan and the other State Water ~~Contractors~~Project contractors are not liable for any claim of damage of any nature arising out of or connected to the control, carriage, handling, use, disposal or distribution of State Water Project water prior to the point where it reaches their turnouts. However, DWR has asserted that regardless of legal liability all costs of the State Water Project system must be borne by State Water ~~Contractors~~Project contractors. Thus, DWR has indicated that it intends to bill the State Water ~~Contractors~~Project contractors for any expenditures related to litigation (cost of litigation, settlements, damages awards/verdicts) arising from the Oroville Dam spillway incident and costs incurred by DWR to date have been reflected in DWR charges. Metropolitan has established that all charges related to this litigation are being paid under protest, and it has an existing tolling agreement with DWR to preserve its legal right to seek recovery of these charges and/or dispute any future charges that DWR may seek to assess related to such litigation.

### **Bay-Delta Proceedings Affecting State Water Project**

**General.** In addition to being a source of water for diversion into the State Water Project, the Bay-Delta is the source of water for local agricultural, municipal, and industrial needs. The Bay-Delta also supports significant resident and anadromous fish and wildlife resources, as well as recreational uses of water. Both the State Water Project’s upstream reservoir operations and its Bay-Delta diversions can at times affect these other uses of Bay-Delta water directly, or indirectly, through impacts on Bay-Delta water quality. A variety of proceedings and other activities are ongoing with the participation of various State and federal agencies, as well as California’s environmental, urban and agricultural communities, in an effort to develop long-term, collectively negotiated solutions to the environmental and water management issues concerning the Bay-Delta. Metropolitan actively participates in these proceedings. Metropolitan cannot predict the outcome of any of the litigation or regulatory processes described below but believes that a materially adverse impact on the operation of State Water Project pumps, could negatively impact Metropolitan’s State Water Project deliveries and/or Metropolitan’s water reserves.

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***SWRCB Regulatory Activities and Decisions.*** The SWRCB is the agency responsible for setting water quality standards and administering water rights throughout California. The SWRCB exercises its regulatory authority over the Bay-Delta by means of public proceedings leading to regulations and decisions that can affect the availability of water to Metropolitan and other users of State Water Project water. These include the Water Quality Control Plan (“WQCP”) for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary, which establishes the water quality objectives and proposed flow regime of the estuary, and water rights decisions, which assign responsibility for implementing the objectives of the WQCP to users throughout the system by adjusting their respective water rights permits.

Since 2000, SWRCB’s Water Rights Decision 1641 (“D-1641”) has governed the State Water Project’s ability to export water from the Bay-Delta for delivery to Metropolitan and other agencies receiving water from the State Water Project. D-1641 allocated responsibility for meeting flow requirements and salinity and other water quality objectives established earlier by the WQCP.

The WQCP gets reviewed periodically and new standards and allocations of responsibility can be imposed on the State Water Project as a result. The SWRCB’s current review and update of the WQCP is being undertaken in phased proceedings. In December 2018, the SWRCB completed Phase 1 of the WQCP proceedings, adopting the plan amendments and environmental documents to support new flow standards for the Lower San Joaquin River tributaries and revised southern Delta salinity objectives. Various stakeholders filed suit against the SWRCB challenging these amendments. As part of Phase 2 proceedings, a framework document for the second plan amendment process, focused on the Sacramento River and its tributaries, Delta eastside tributaries, Delta outflows, and interior Delta flows, was released in July 2018. The framework describes changes that will likely be proposed by the SWRCB through formally proposed amendments and supporting environmental documents unless it approves an alternative. The proposed changes include certain unimpaired flow requirements for the Sacramento River and its salmon-bearing tributaries. The SWRCB has also encouraged all stakeholders to work together to reach one or more voluntary agreements for consideration by the SWRCB that could implement the proposed amendments to the WQCP through a variety of tools, including non-flow habitat restoration for sensitive salmon and smelt species, while seeking to protect water supply reliability. Metropolitan is participating in the Phase 2 proceedings and voluntary agreement negotiations. On March 29, [2022](#), Metropolitan’s General Manager signed a Memorandum of Understanding Advancing a Term Sheet for the Voluntary Agreements to Update and Implement the Bay-Delta Water Quality Control Plan, and Other Related Actions (the “VA MOU”). Other parties include the California Natural Resources Agency (“Natural Resources”), the California Environmental Protection Agency, the California Department of Fish and Wildlife (“CDFW”), the Bureau of Reclamation, [DWR](#), the State Water Contractors ~~and nine other~~ [association and additional agricultural and municipal](#) water users. Under the VA MOU, the parties “seek to take a comprehensive approach to integrate flow and non-flow measures, including habitat restoration, subject to ongoing adaptive management based on a science program” as described in an attached term sheet. The proposed approach [under the VA MOU](#) provides for implementation over eight years with a potential extension to up to ~~fifteen~~ [15](#) years. [In January 2023, the SWRCB projected a consideration of adoption of the voluntary agreements by the end of 2024.](#)

***Bay-Delta Planning Activities.*** In 2000, several State and federal agencies released the CALFED Bay-Delta Programmatic Record of Decision and Environmental Impact Report/Environmental Impact Statement (“EIR/EIS”) that outlined and disclosed the environmental impacts of a 30-year plan to improve the Bay-Delta’s ecosystem, water supply reliability, water quality, and levee stability. CALFED is the consortium of ~~state~~ [State](#) and federal agencies with management and regulatory responsibilities in the San Francisco Bay/ Sacramento-San Joaquin Delta Estuary. The CALFED Record of Decision remains in effect and many of the State, federal, and local projects begun under CALFED continue.

In 2006, multiple State and federal resource agencies, water agencies, and other stakeholder groups entered into a planning agreement for the Bay-Delta Conservation Plan (“BDCP”). The BDCP was originally conceived as a comprehensive conservation strategy for the Bay-Delta designed to restore and protect ecosystem health, water supply, and water quality within a stable regulatory framework to be

implemented over a 50-year time frame with corresponding long-term permit authorizations from fish and wildlife regulatory agencies. The BDCP includes both alternatives for new water conveyance infrastructure and extensive habitat restoration in the Bay-Delta.

The existing State Water Project Delta water conveyance system needs to be improved and modernized to address operational constraints on pumping in the south Delta as well as risks to water supplies and water quality from climate change, earthquakes, and flooding. Operational constraints are largely due to biological opinions and incidental take permits to which the State Water Project is subject that substantially limit the way DWR operates the State Water Project.

In 2015, the State and federal lead agencies proposed an alternative implementation strategy and new alternatives to the BDCP to provide for the protection of water supplies conveyed through the Bay-Delta and the restoration of the ecosystem of the Bay-Delta, termed “California WaterFix” and “California EcoRestore,” respectively. Planned water conveyance improvements, California WaterFix, would be implemented by DWR and the Bureau of Reclamation as a stand-alone project with the required habitat restoration limited to that directly related to construction mitigation. Ecosystem improvements and habitat restoration more generally, California EcoRestore, would be undertaken under a more phased approach.

**California EcoRestore.** As part of California EcoRestore, which was initiated in 2015, the State is pursuing more than 30,000 acres of Delta habitat restoration. During the period 2015 through December 2020, California EcoRestore was on track to restore 3,500 acres of non-tidal wetland; projected to restore 14,000 acres of tidal and subtidal habitat, 18,580 acres of floodplain, and 1,650 acres of riparian and upland habitat, exceeding initial estimates. Work on several California EcoRestore projects is ongoing. The overall estimated cost to complete the current list of 32 California EcoRestore projects is ~~\$750-950~~ \$750 to \$950 million, with approximately half expected to be paid from the State Water Project by State Water ~~Contractors~~ Project contractors and half from other funding sources. Over the first five years (which was 2015-2020), California EcoRestore represents an investment of approximately \$500 million for implementation and planning costs. This includes certain amounts being paid by the State Water ~~Contractors~~ Project contractors, including Metropolitan, for the costs of habitat restoration required to mitigate State and federal water project impacts pursuant to the biological opinions. See also “–Endangered Species Act and Other Environmental Considerations Relating to Water Supply – Endangered Species Act Considerations – State Water Project.”

**Delta Conveyance.** On April 29, 2019, Governor Newsom issued an executive order directing identified State agencies to develop a comprehensive statewide strategy to build a climate-resilient water system, directing the State agencies to inventory and assess the current planning for modernizing conveyance through the Bay-Delta with a new single tunnel project (rather than the previously contemplated two-tunnel California WaterFix). Consistent with the Governor’s direction, in January 2020, DWR commenced a formal environmental review process under CEQA for a proposed single tunnel Delta Conveyance Project. The new conveyance facilities being reviewed ~~would~~ include intake structures on the Sacramento River, with a total capacity of 6,000 cfs, and a single tunnel to convey water to the existing pumping plants in the south Delta. On July 27, 2022, DWR released the Delta Conveyance Draft EIR for public and agency comment under CEQA. The proposed project would convey water to a new pumping facility in the south Delta that would lift water into the existing Bethany Reservoir, part of the California Aqueduct. The public comment period closed on December 16, 2022, and DWR is now preparing responses to comments. Planning, environmental review and conceptual design work by DWR are expected to be completed ~~in~~ over the 2023-2024 timeframe.

On August 20, 2020, the U.S. Army Corps of Engineers (“Army Corps”), the lead agency for the Delta Conveyance Project under the National Environmental Policy Act (“NEPA”), issued a notice of intent of the development of the ~~environmental impact statement~~ EIS for the Delta Conveyance Project. ~~The draft environmental impact statement is currently anticipated to be available~~ On December 16, 2022, the Army



Corps released the Draft EIS for public ~~review~~ and agency comment ~~in mid-2022~~ under NEPA. The comment period closed on March 16, 2023.

Metropolitan's Board has previously authorized Metropolitan's participation in two joint powers agencies relating to a Bay-Delta conveyance project (originally formed in connection with California WaterFix): the Delta Conveyance Design and Construction Authority (the "DCA"), formed by the participating water agencies to actively participate with DWR in the design and construction of the conveyance project in coordination with DWR and under the control and supervision of DWR; and the Delta Conveyance Finance Authority (the "Financing JPA"), formed by the participating water agencies to facilitate financing for the conveyance project. The DCA is providing engineering and design activities to support the DWR's planning and environmental analysis for the potential new Delta Conveyance Project.

In August 2020, the DCA released preliminary cost information for the proposed Delta Conveyance Project based on an early cost assessment prepared by the DCA. The DCA's early assessment is based on preliminary engineering, not a full conceptual engineering report, and includes project costs for construction, management, oversight, mitigation, planning, soft costs, and contingencies. Based on these assumptions, the DCA's early assessment estimated a project cost of approximately \$15.9 billion in 2020 non-discounted dollars, which includes a 44 percent overall contingency applied to the preliminary construction costs.

Approximately \$340.7 million of investment is estimated to be needed over four years (2021 through 2024) to fund planning and pre-construction costs for the proposed Delta Conveyance Project. At its December 8, 2020 Board meeting, Metropolitan's Board authorized the General Manager to execute a funding agreement with DWR and commit funding for a Metropolitan participation level of 47.2 percent of such costs of preliminary design, environmental planning and other pre-construction activities to assist in the environmental process for the proposed Delta Conveyance Project. Metropolitan's 47.2 percent share amounts to an estimated funding commitment of \$160.8 million over the four years 2021 through 2024. Eighteen other State Water ~~Contractors~~ Project contractors also have approved funding a share of the planning and pre-construction costs. Like prior agreements for BDCP and California WaterFix, the funding agreement provides that funds would be reimbursed to Metropolitan if the project is approved and when the first bonds, if any, for the project are issued. In connection with approving the funding agreement, at its December 2020 Board meeting, the Board also authorized the General Manager to execute an amendment to the DCA joint exercise of powers agreement. The amendment was developed to address changes in the anticipated participation structure for the proposed Delta Conveyance Project from that contemplated for California WaterFix.

Metropolitan's December 8, 2020 action to approve ~~fund~~ the funding of planning and pre-construction costs does not commit Metropolitan to participate in the Delta Conveyance Project. Any final decision to commit to the project and incur final design and construction costs would require Board approval following completion of the environmental review for the proposed Delta Conveyance Project, which is not expected to occur until 2024 or later.

On August 6, 2020, DWR adopted certain resolutions to authorize the issuance of bonds to finance costs of the Delta Conveyance Project environmental review, planning, design and, if and when such a project is approved, the costs of acquisition and construction thereof. The same day, it filed a complaint in Sacramento County Superior Court seeking to validate its authority to issue the bonds. Fourteen answers have been filed in the validation action, ~~and one related case was filed in the same court alleging that DWR violated CEQA by adopting the bond resolutions before completing environmental review of the Delta Conveyance Project. DWR and several project opponents filed cross motions for summary judgment on the CEQA affirmative defenses and related CEQA lawsuit, and in December 2021, the trial court granted DWR's motions and denied opponents' motions, eliminating the CEQA affirmative defenses. Because the trial court judge was elevated to the Court of Appeal, the parties have requested reassignment to a new trial court judge to move the validation case forward to trial. Trial is scheduled for May 15, 2023. DWR, joined~~

[by Metropolitan and several other supporting parties, filed its opening brief on January 13, 2023](#). Additional lawsuits could be filed in the future with respect to any new Bay-Delta conveyance project and may impact the anticipated timing and costs of any proposed new single tunnel Delta Conveyance Project.

## **Colorado River Aqueduct**

### **Background**

The Colorado River was Metropolitan's original source of water after Metropolitan's establishment in 1928. Metropolitan has a legal entitlement to receive water from the Colorado River under a permanent service contract with the Secretary of the Interior. Water from the Colorado River and its tributaries is also available to other users in California, as well as users in the states of Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming (collectively, the "Colorado River Basin States"), resulting in both competition and the need for cooperation among these holders of Colorado River entitlements. In addition, under a 1944 treaty, Mexico has the right to delivery of 1.5 million acre-feet of Colorado River water annually except as provided under shortage conditions described in Treaty Minute 323. The United States and Mexico agreed to conditions for reduced deliveries of Colorado River water to Mexico in Treaty Minute 323, adopted in 2017. Treaty Minute 323 established the rules under which Mexico agreed to take shortages and create reservoir storage in Lake Mead. Those conditions are in parity with the requirements placed on the Lower Basin States (defined below) in the Lower Basin Drought Contingency Plan (described under "– Colorado River Operations: Surplus and Storage Guidelines – *Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead*" ~~in this Appendix A~~). Mexico can also schedule delivery of an additional 200,000 acre-feet of Colorado River water per year if water is available in excess of the requirements in the United States and the 1.5 million acre-feet allotted to Mexico.

Construction of the CRA, which is owned and operated by Metropolitan, was undertaken by Metropolitan to provide for the transportation of its Colorado River water entitlement to its service area. The CRA originates at Lake Havasu on the Colorado River and extends approximately 242 miles through a series of pump stations and reservoirs to its terminus at Lake Mathews in Riverside County. Up to 1.25 million acre-feet of water per year may be conveyed through the CRA to Metropolitan's member agencies, subject to the availability of Colorado River water for delivery to Metropolitan as described below. Metropolitan first delivered CRA water to its member agencies in 1941.

### **Colorado River Water Apportionment and Seven-Party Agreement**

Pursuant to the federal Boulder Canyon Project Act of 1928, California is apportioned the use of 4.4 million acre-feet of water from the Colorado River each year plus one-half of any surplus that may be available for use collectively in Arizona, California and Nevada (the "Lower Basin States"). Under an agreement entered into in 1931 among the California entities that expected to receive a portion of California's apportionment of Colorado River water (the "Seven-Party Agreement") and which has formed the basis for the distribution of Colorado River water made available to California, Metropolitan holds the fourth priority right to 550,000 acre-feet per year. This is the last priority within California's basic apportionment. In addition, Metropolitan holds the fifth priority right to 662,000 acre-feet of water, which is in excess of California's basic apportionment. Until 2003, Metropolitan had been able to take full advantage of its fifth priority right as a result of the availability of surplus water and water apportioned to Arizona and Nevada that was not needed by those states. However, during the 1990s Arizona and Nevada increased their use of water from the Colorado River, and by 2002 no unused apportionment was available for California. As a result, California has limited its annual use to 4.4 million acre-feet since 2003, not including supplies made available under water supply programs such as Intentionally Created Surplus ("ICS") and certain conservation and storage agreements. In addition, a severe drought in the Colorado River Basin from 2000-2004 reduced storage in system reservoirs, ending the availability of surplus deliveries to Metropolitan. Prior to 2003, Metropolitan could divert over 1.25 million acre-feet in any year. Since 2003, Metropolitan's net diversions of Colorado River water have ranged from a low of 537,607 acre-feet in 2019 to a high of approximately 1,179,000 acre-feet in 2015. ~~Preliminary average~~ [Average](#) annual net

diversions for ~~2012~~2013 through ~~2021~~2022 (based on preliminary estimates) were ~~909,585~~948,682 acre-feet, with annual volumes dependent primarily on programs to augment supplies, including transfers of conserved water from agriculture and water made available to and owned by Metropolitan pursuant to the Exchange Agreement, in exchange for which Metropolitan delivers a like amount to SDCWA from any Metropolitan supply. See “– Quantification Settlement Agreement” and “– Colorado River Operations: Surplus and Shortage Guidelines.” See also “–Current Water Conditions and Drought Response Actions” and “–Water Transfer, Storage and Exchange Programs – Colorado River Aqueduct Agreements and Programs.” In ~~2021~~2022, based upon preliminary estimates, Metropolitan’s ~~preliminary~~ total available Colorado River supply was just over ~~one~~1.1 million acre-feet. A portion of the available supply was supply from Metropolitan’s Lake Mead ICS supplies. See also “–Storage Capacity and Water in Storage.”

The following table sets forth the existing priorities of the California users of Colorado River water established under the 1931 Seven-Party Agreement.

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#### PRIORITIES UNDER THE 1931 CALIFORNIA SEVEN-PARTY AGREEMENT<sup>(1)</sup>

Priority	Description	Acre-Feet Annually
1	Palo Verde Irrigation District gross area of 104,500 acres of land in the Palo Verde Valley	3,850,000
2	Yuma Project in California not exceeding a gross area of 25,000 acres in California	
3(a)	Imperial Irrigation District and other lands in Imperial and Coachella Valleys <sup>(2)</sup> to be served by All-American Canal	
3(b)	Palo Verde Irrigation District <del>=</del> 16,000 acres of land on the Lower Palo Verde Mesa	
4	Metropolitan Water District of Southern California for use on the coastal plain	550,000
	<b>SUBTOTAL</b>	4,400,000
5(a)	Metropolitan Water District of Southern California for use on the coastal plain	550,000
5(b)	Metropolitan Water District of Southern California for use on the coastal plain <sup>(3)</sup>	112,000
6(a)	Imperial Irrigation District and other lands in Imperial and Coachella Valleys to be served by the All-American Canal	300,000
6(b)	Palo Verde Irrigation District <del>=</del> 16,000 acres of land on the Lower Palo Verde Mesa	
	<b>TOTAL</b>	5,362,000
7	Agricultural use in the Colorado River Basin in California	

		Remaining surplus
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*Source: Metropolitan.*

- (1) Agreement dated August 18, 1931, among Palo Verde Irrigation District, Imperial Irrigation District, Coachella Valley County Water District, Metropolitan, the City of Los Angeles, the City of San Diego and the County of San Diego. These priorities were memorialized in the agencies' respective water delivery contracts with the Secretary of the Interior.
- (2) The Coachella Valley Water District serves Coachella Valley.
- (3) In 1946, the City of San Diego, the San Diego County Water Authority, Metropolitan and the Secretary of the Interior entered into a contract that merged and added the City and County of San Diego's rights to storage and delivery of Colorado River water to the rights of Metropolitan.

### **Quantification Settlement Agreement**

The Quantification Settlement Agreement (“QSA”), executed by the Coachella Valley Water District (“CVWD”), Imperial Irrigation District (“IID”), Metropolitan, and others in October 2003, establishes Colorado River water use limits for IID and CVWD, and provides for specific acquisitions of conserved water and water supply arrangements. 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.

Specific programs under the QSA and related agreements include lining portions of the All-American and Coachella Canals, which were completed in 2009 and conserve over 98,000 acre-feet annually. Metropolitan receives this water and delivers over 77,000 acre-feet of exchange water annually to the San Diego County Water Authority (“SDCWA”), and provides 16,000 acre-feet of water annually by exchange to the United States for use by the La Jolla, Pala, Pauma, Rincon, and San Pasqual Bands of Mission Indians, the San Luis Rey River Indian Water Authority, the City of Escondido, and the Vista Irrigation District. Water became available for exchange with the United States following a May 17, 2017 notice from the Federal Energy Regulatory Commission (“FERC”) satisfying the last requirement of Section 104 of the San Luis Rey Indian Water Rights Settlement Act (Title I of Public Law 100-675, as amended). The QSA and related agreements also authorized the transfer of conserved water annually by IID to SDCWA (up to a maximum amount in 2021 of 205,000 acre-feet, then stabilizing to 200,000 acre-feet per year). Metropolitan ~~also~~ receives this water and delivers an equal amount of exchange water annually to SDCWA. See description under “– Metropolitan and San Diego County Water Authority Exchange Agreement” below; see also “METROPOLITAN REVENUES–Principal Customers” in this Appendix A. Also included under the QSA related agreements is a delivery and exchange agreement between Metropolitan and CVWD that provides for Metropolitan, when requested, to deliver annually up to 35,000 acre-feet of Metropolitan’s State Water Project contractual water to CVWD by exchange with Metropolitan’s available Colorado River supplies.

### **Metropolitan and San Diego County Water Authority Exchange Agreement**

No facilities exist to deliver conserved water acquired by SDCWA from IID and water allocated to SDCWA that has been conserved as a result of the lining of the All-American and Coachella Canals. See “–Quantification Settlement Agreement.” Accordingly, in 2003, Metropolitan and SDCWA entered into an exchange agreement (the “Exchange Agreement”), pursuant to which SDCWA makes available to Metropolitan at its intake at Lake Havasu on the Colorado River the conserved Colorado River water SDCWA receives under the QSA related agreements. Metropolitan delivers an equal volume of water from its own sources of supply through its delivery system to SDCWA. The Exchange Agreement limits the amount of water that Metropolitan delivers to 277,700 acre-feet per year, except that an additional 5,000 acre-feet was exchanged in 2021 and an additional 2,500 acre-feet ~~will be~~<sup>was</sup> exchanged in 2022. In consideration for the exchange of the conserved water made available to Metropolitan by SDCWA with the exchange water delivered by Metropolitan, SDCWA pays the agreement price. The price payable by SDCWA is calculated using the charges set by Metropolitan’s Board from time to time to be paid by its member agencies for the conveyance of water through Metropolitan’s facilities. See “METROPOLITAN REVENUES–Litigation Challenging Rate Structure” in this Appendix A for a description of Metropolitan’s charges for the conveyance of water through Metropolitan’s facilities and litigation in which SDCWA is challenging such charges. The term of the Exchange Agreement, as it relates to conserved water transferred by IID to SDCWA, extends through 2047, and as it relates to water allocated to SDCWA that has been conserved as a result of the lining of the All-American and Coachella Canals, extends through 2112; subject, in each case, to the right of SDCWA, upon a minimum of five years’ advance written notice to Metropolitan, to permanently reduce the aggregate quantity of conserved water made available to Metropolitan under the Exchange Agreement to the extent SDCWA decides continually and regularly to transport such conserved water to SDCWA through alternative facilities (which do not presently exist). In ~~2021~~<sup>2022</sup>, preliminary estimates of water delivered to Metropolitan by SDCWA for exchange was approximately ~~282,700~~<sup>280,200</sup>



acre-feet, consisting of ~~205,000~~202,500 acre=feet of IID conservation plus 77,700 acre=feet of conserved water from the Coachella Canal and All-American Canal lining projects.

## Colorado River Operations: Surplus and Shortage Guidelines

**General.** The Secretary of the Interior is vested with the responsibility of managing the mainstream waters of the lower Colorado River pursuant to federal law. Each year, the Secretary of the Interior is required to declare the Colorado River water supply availability conditions for the Lower Basin States in terms of “normal,” “surplus” or “shortage” and has adopted operations criteria in the form of guidelines to determine the availability of surplus or potential shortage allocations among the Lower Basin States and reservoir operations for such conditions.

***Interim Surplus Guidelines.*** In January 2001, the Secretary of the Interior adopted guidelines (the “Interim Surplus Guidelines”), initially for use through 2016, in determining the availability and quantity of surplus Colorado River water available for use in California, Arizona and Nevada. The Interim Surplus Guidelines were amended in 2007 and now extend through 2026. The purpose of the Interim Surplus Guidelines was to provide mainstream users of Colorado River water, particularly those in California and Nevada who had been utilizing surplus flows, a greater degree of predictability with respect to the availability and quantity of surplus water. Under the Interim Surplus Guidelines, Metropolitan initially expected to divert up to 1.25 million acre–feet of Colorado River water annually under foreseeable runoff and reservoir storage scenarios from 2004 through 2016. However, as described above, an extended drought in the Colorado River Basin reduced these initial expectations, and Metropolitan has not received any surplus water since 2002 and does not expect to receive any surplus water in the foreseeable future.

***Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead.*** In May 2005, the Secretary of the Interior directed the Bureau of Reclamation to develop additional strategies for improving coordinated management of the reservoirs of the Colorado River system. In November 2007, the Bureau of Reclamation issued a Final EIS regarding new federal guidelines concerning the operation of the Colorado River system reservoirs, particularly during drought and low reservoir conditions. These guidelines provide water release criteria from Lake Powell and water storage and water release criteria from Lake Mead during shortage and surplus conditions in the Lower Basin, provide a mechanism for the storage and delivery of conserved system and non-system water in Lake Mead, and extend the Interim Surplus Guidelines through 2026 (as noted above). The Secretary of the Interior issued the final guidelines through a Record of Decision signed in December 2007. The Record of Decision and accompanying agreement among the Colorado River Basin States protect reservoir levels by reducing deliveries during low inflow periods, encouraging agencies to develop conservation programs and allowing the Colorado River Basin States to develop and store new water supplies. The Colorado River Basin Project Act of 1968 insulates California from shortages in all but the most extreme hydrologic conditions. Consistent with these legal protections, under the guidelines, Arizona and Nevada are first subject to the initial annual shortages identified by the Secretary in a shared amount of up to 500,000 acre-feet.

The guidelines also created the ICS program, which allows water contractors in the Lower Basin States to store conserved water in Lake Mead. Under this program, ICS water (water that has been conserved through an extraordinary conservation measure, such as land fallowing) is eligible for storage in Lake Mead by Metropolitan. ICS can be created through 2026 and delivered through 2036. See the table entitled “Metropolitan’s Water Storage Capacity and Water in Storage” under “–Storage Capacity and Water in Storage.” Under the guidelines and the subsequent Colorado River Drought Contingency Plan Authorization Act, California can create and deliver up to 400,000 acre–feet of extraordinary conservation ICS (“EC ICS”) annually and accumulate up to 1.5 million acre–feet of EC ICS in Lake Mead. In December 2007, California contractors for Colorado River water executed the California Agreement for the Creation and Delivery of Extraordinary Conservation Intentionally Created Surplus (the “California ICS Agreement”), which established terms and conditions for the creation, accumulation, and delivery of EC ICS by California contractors receiving Colorado River water. Under the California ICS Agreement, the State’s EC ICS

creation, accumulation, and delivery limits provided to California under the 2007 ~~Interim-Shortage Guidelines~~[interim shortage guidelines](#) are apportioned between IID and Metropolitan. No other California contractors were permitted to create or accumulate ICS. Under the terms of the agreement, IID is allowed to store up to 25,000 acre-feet per year of EC ICS in Lake Mead with a cumulative limit of 50,000 acre-feet, in addition to any acquired Binational ICS water (water that has been conserved through conservation projects in Mexico). Metropolitan is permitted to use the remaining available ICS creation, delivery, and accumulation limits provided to California.

The Secretary of the Interior delivers the stored ICS water to Metropolitan in accordance with the terms of December 13, 2007, January 6, 2010, and November 20, 2012 Delivery Agreements between the United States and Metropolitan. As of January 1, ~~2022~~[2023](#), Metropolitan had an estimated ~~1,243,000~~[1,139,000](#) acre-feet in its ICS accounts. These ICS accounts include water conserved by fallowing in the Palo Verde Valley, projects implemented with IID in its service area, groundwater desalination, the Warren H. Brock Reservoir Project, and international agreements that converted water conserved by Mexico to the United States.

**Colorado River Drought Contingency Plans.** Since the 2007 Lower Basin shortage guidelines were issued for the coordinated operations of Lake Powell and Lake Mead, the Colorado River has continued to experience drought conditions. The seven Colorado River Basin States, the U.S. Department of Interior through the Bureau of Reclamation, and water users in the Colorado River Basin, including Metropolitan, began developing Drought Contingency Plans (“DCPs”) to reduce the risk of Lake Powell and Lake Mead declining below critical elevations through 2026.

In April 2019, the President of the United States signed the Colorado River Drought Contingency Plan Authorization Act (referenced above), directing the Secretary of the Interior to sign and implement four DCP agreements related to the Upper and Lower Basin DCPs without delay. The agreements were executed and the Upper and Lower Basin DCPs became effective on May 20, 2019. The Lower Basin Drought Contingency Plan Agreement requires California, Arizona and Nevada to store defined volumes of water in Lake Mead at specified lake levels. California would begin making contributions if Lake Mead’s elevation is projected to be 1,045 feet above sea level or below on January 1. ~~Lake Mead elevation in January 2022 was 1,066 feet~~[For the calculation in 2023, the Bureau of Reclamation assumed that the 480,000 acre-feet that remained in Powell to protect critical infrastructure was released to Lake Mead. See “–Current Water Conditions and Drought Response Action.” Under that assumption, on January 1, 2023, elevation for Lake Mead was projected to be 1,052 feet and no DCP contribution is required by California in 2023. It is expected that the 480,000 acre-feet will be returned to the Lower Basin when available and DCP contribution amounts will return to being determined based on actual elevation of Lake Mead.](#) Depending on the lake’s elevation, California’s contributions would range from 200,000 to 350,000 acre-feet a year (“DCP Contributions”). Pursuant to intrastate implementation agreements and a settlement agreement with IID, Metropolitan will be responsible for 90 percent of California’s DCP Contributions under the Lower Basin DCP. CVWD will be responsible for 7 percent of California’s required DCP Contributions. While IID is not a party to the DCP, if Metropolitan is required to make a DCP contribution, IID will assist Metropolitan in making DCP contributions by contributing the lesser of either: (a) three percent of California’s DCP contribution or (b) the amount of water IID has stored with Metropolitan. The terms of the settlement agreement with IID referenced above and the mechanism by which IID will contribute to California’s DCP Contributions is described in more detail under “–Water Transfer, Storage and Exchange Programs –Colorado River Aqueduct Agreements and Programs – *California ICS Agreement Intrastate Storage Provisions*” in this Appendix A.

Implementation of the Lower Basin DCP enhances Metropolitan’s ability to store water in Lake Mead and ensures that water in storage can be delivered later. The Lower Basin DCP increases the total volume of water that California may store in Lake Mead by 200,000 acre-feet, for a total of 1.7 million acre-feet, which Metropolitan will have the right to use. Both EC ICS and Binational ICS count towards the

total volume of water that California may store in Lake Mead. Water stored as ICS will be available for delivery as long as Lake Mead's elevation remains above 1,025 feet. Previously, that water would likely have become inaccessible below a Lake Mead elevation of 1,075 feet. DCP Contributions may be made through conversion of existing ICS. These types of DCP Contributions become DCP ICS. DCP Contributions may also be made by leaving water in Lake Mead that there was a legal right to have delivered. This type of DCP Contribution becomes system water and may not be recovered. Rules are set for delivery of DCP ICS through 2026 and between 2027-2057. The Lower Basin DCP will be effective through 2026, however, the SEIS could alter provisions of the DCP.

**Ongoing Activities Relating to Colorado River Operations.** Before the DCP and 2007 Lower Basin shortage guidelines terminate in 2026, the U.S. Department of Interior through the Bureau of Reclamation, the seven Colorado River Basin States, and water users in the Colorado River Basin, including Metropolitan, are expected to develop new shortage guidelines for the management and operation of the Colorado River. The Bureau ~~In a process separate from the post-2026 guidelines development process, in November 2022, the~~ Bureau of Reclamation initiated an expedited process to modify the 2007 interim guidelines for Colorado River operations in 2023, 2024, and possibly through 2026. The Bureau of Reclamation suggested modifications may include additional shortage provisions and reductions in allowable annual Lake Powell release volumes. The Bureau of Reclamation will consider three alternatives in the SEIS for these modifications: a "No Action Alternative," a "Reservoir Operations Modification Alternative" developed by the Bureau of Reclamation, and a potential "Framework Agreement Alternative" developed by the seven Colorado River Basin States through a consensus-based process. Representatives from water agencies in the Colorado River Basin States, including Metropolitan, have been negotiating over a possible Framework Agreement Alternative, but they did not reach agreement by the Bureau of Reclamation's January 31, 2023 deadline. As described under "Current Water Conditions and Drought Response Actions," two proposed alternatives have been submitted to the Bureau of Reclamation. One such proposal was submitted on behalf of the States of Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming. The other alternative was submitted by the Colorado River Board of California on behalf of California. The Bureau of Reclamation is expected to develop its own alternative that will be modeled in the SEIS based on its emergency authority. The Colorado River Basin States will continue working toward a single proposal for a preferred alternative for the final SEIS. The Bureau ~~of Reclamation plans to announce in issue the Federal Register the official beginning of work on environmental documents for the new guidelines in January~~ draft SEIS for public comment in spring of 2023 and a final SEIS and Record of Decision in the summer of 2023.

**Lake Mead 500+ Plan.** In December 2021, Metropolitan, the U.S. Department of Interior, the Arizona Department of Water Resources, the Central Arizona Project, and ~~the Southern Nevada Water Authority ("SNWA"), and Metropolitan~~ executed a memorandum of understanding for an agreement to invest up to \$200 million in projects over the ~~next~~ 2022 and 2023 to keep Lake Mead from dropping to critically low levels. The agreement, known as the "500+ Plan," aims to add 500,000 acre-feet of additional water to Lake Mead in both 2022 and 2023 by facilitating actions to conserve water across the Lower Colorado River Basin. The additional water, enough water to serve about 1.5 million households per year, would add about 16 feet total to the reservoir's level. Under the memorandum of understanding, the Arizona Department of Water Resources ~~commits~~ committed to provide up to \$40 million to the initiative over two years, with Metropolitan, the Central Arizona Project and SNWA each agreeing to contribute up to \$20 million. The federal government plans to match those commitments, providing an additional \$100 million. ~~Some~~ As ~~of the specific conservation actions and programs that will be implemented through the 500+ Plan have already begun, while others are still being identified~~ end of calendar year 2022 over 500,000 acre-feet of additional water was added to Lake Mead. The ~~memorandum~~ Bureau of understanding includes conservation efforts in both urban and agricultural communities, such as funding crop fallowing on farms to save water, including the recent approval of a short-term agricultural land fallowing program in California, or urban conservation to reduce diversions from Reclamation, using funding from the 2022 Inflation Reduction Act, has established, and requested proposals for, a new Lower Basin System Conservation and Efficiency Program, which has effectively superseded the Lake Mead 500+ Plan.



***Related Litigation–Navajo Nation Suit.*** ~~The~~In 2003, the Navajo Nation filed litigation against the Department of the Interior, specifically the Bureau of Reclamation and the Bureau of Indian Affairs, ~~in~~ 2003, alleging that the Bureau of Reclamation has failed to determine the extent and quantity of the water rights of the Navajo Nation in the Colorado River and that the Bureau of Indian Affairs has failed to otherwise protect the interests of the Navajo Nation. The complaint challenges the adequacy of the environmental review for the Interim Surplus Guidelines (described under “–Colorado River Operations: Surplus and Shortage Guidelines – *Interim Surplus Guidelines*”) and seeks to prohibit the Department of the Interior from allocating any “surplus” water until such time as a determination of the rights of the Navajo Nation is completed. Metropolitan and other California water agencies filed motions to intervene in this action. In October 2004, the court granted the motions to intervene and stayed the litigation to allow negotiations among the Navajo Nation, federal defendants, Central Arizona Water Conservation District (~~“CAWCD”~~), State of Arizona and Arizona Department of Water Resources. After years of negotiations, a tentative settlement was proposed in 2012 that would provide the Navajo Nation with specified rights to water from the Little Colorado River and groundwater basins under the reservation, along with federal funding for the development of water supply systems on the tribe’s reservation. The proposed agreement was rejected by tribal councils for both the Navajo and the Hopi, who were seeking to intervene. In June 2013, the Navajo Nation amended its complaint and added a legal challenge to the Lower Basin Shortage Guidelines adopted by the Secretary of the Interior in 2007 that allow Metropolitan and other Colorado River water users to store water in Lake Mead (described under “– Colorado River Operations: Surplus and Shortage Guidelines – *Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead*”). Metropolitan has used these new guidelines to store over 1,000,000 acre–feet of water in Lake Mead, a portion of which has been delivered, and the remainder of which may be delivered at Metropolitan’s request in future years.

Following years of procedural challenges and appeals, in April 2021, the Ninth Circuit held that the Navajo Nation’s claim for breach of trust against the United States was not barred and its legal challenges could continue. Appeals to the U.S. Supreme Court ~~are~~were due May 18, ~~2022~~2022. Certain intervenors, including Metropolitan, filed an appeal on May 17, 2022. The Department of the Interior requested an extension to July 25, 2022 to file any appeal. On July 15, 2022, the Department of the Interior filed a separate appeal and there is a status conference in district court on June 3, 2022. response to intervenors’ appeal, arguing that the U.S. Supreme Court should reverse the Ninth Circuit decision on the breach of trust issue. On November 4, 2022, the U.S. Supreme Court granted both appeals and consolidated them. The parties are deciding whether to appeal or to allow have briefed the arguments, and matter to proceed in the district court is set for oral argument before the U.S. Supreme Court on March 20, 2023. Metropolitan is unable to assess at this time the ~~likelihood of success~~likely outcome of this litigation or any future claims, or their potential effect on Colorado River water supplies.

## **Endangered Species Act and Other Environmental Considerations Relating to Water Supply**

### **Endangered Species Act Considerations - State Water Project**

**General.** DWR has altered the operations of the State Water Project to accommodate species of fish listed as threatened or endangered under the federal Endangered Species Act (“ESA”) and/or California ESA.

The federal ESA requires that before any federal agency authorizes, funds, or carries out an action that may affect a listed species or designated critical habitat, it must consult with the appropriate federal fishery agency (either the National Marine Fisheries Service (“NMFS”) or the U.S. Fish and Wildlife Service (“USFWS”) depending on the species) to determine whether the action would jeopardize the continued existence of any threatened or endangered species, or adversely modify habitat critical to the species’ needs. The result of the consultation is known as a “biological opinion.” In a biological opinion, a federal fishery agency determines whether the action would cause jeopardy to a threatened or endangered species or adverse modification to critical habitat; and if jeopardy or adverse modification is found,

recommends reasonable and prudent alternatives that would allow the action to proceed without causing jeopardy or adverse modification. If no jeopardy or adverse modification is found, the fish agency issues a “no jeopardy opinion.” The biological opinion also includes an “incidental take statement.” The incidental take statement allows the action to go forward even though it will result in some level of “take,” including harming or killing some members of the species, incidental to the agency action, provided that the agency action does not jeopardize the continued existence of any threatened or endangered species and complies with reasonable mitigation and minimization measures recommended by the federal fishery agency or as incorporated into the project description.

The California ESA generally requires an incidental take permit or consistency determination for any action that may cause take of a State-listed species of fish or wildlife. To issue an incidental take permit or consistency determination, CDFW must determine that the impacts of the authorized take will be minimized and fully mitigated and will not cause jeopardy.

***Federal ESA--Biological Opinions.*** On August 2, 2016, DWR and the Bureau of Reclamation requested that USFWS and NMFS reinitiate federal ESA consultation on the coordinated operations of the State Water Project and the federal Central Valley Project to update them with the latest best available science and lessons learned operating under the prior 2008 and 2009 biological opinions. In January 2019, the Bureau of Reclamation submitted the initial biological assessment to USFWS and NMFS. The biological assessment contains a description of the Bureau of Reclamation’s and DWR’s proposed long-term coordinated operations plan (the “2019 Long-Term Operations Plan”). On October 22, 2019, USFWS and NMFS issued new federal biological opinions (the “2019 biological opinions”) that provide incidental take coverage for the 2019 Long-Term Operations Plan. On February 18, 2020, the Bureau of Reclamation signed a Record of Decision, pursuant to NEPA, completing its environmental review and adopting the 2019 Long-Term Operations Plan.

The 2019 Long-Term Operations Plan incorporates and updates many of the requirements contained in the previous 2008 and 2009 biological opinions. It also includes over \$1 billion over a ten-year period in costs for conservation, monitoring and new science, some of which is in the form of commitments carried forward from the previous biological opinions. Those costs are shared by the State Water Project and the federal Central Valley Project. The prior 2008 and 2009 biological opinions resulted in an estimated reduction in State Water Project deliveries of 0.3 million acre-feet during critically dry years to 1.3 million acre-feet in above normal water years as compared to the previous baseline. The 2019 Long-Term Operations Plan and 2019 biological opinions are expected to increase State Water Project deliveries by an annual average of 200,000 acre-feet as compared to the previous biological opinions.

On January 20, 2021, President Biden issued an Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis (the “President’s Executive Order on Public Health and the Environment”) directing all executive departments and agencies to immediately review, and, as appropriate and consistent with applicable law, take action to address the promulgation of ~~Federal~~federal regulations and other actions during the ~~last prior~~ four years for consistency with the new administration’s policies. Among numerous actions identified for review, the U.S. Department of Commerce and U.S. Department of Interior heads were directed to review the 2019 biological opinions. On September 30, 2021, the Bureau of Reclamation Regional Director ~~Ernest Conant~~for Interior Region 10 sent a letter to the USFWS and NMFS re-initiating consultation on the long-term operations of the state and federal water projects. The consultation process requires the Bureau of Reclamation and DWR to develop a biological assessment describing the proposed operating criteria that would be analyzed under the biological permitting process and perform an effects analysis. The NMFS and USFWS would then review the assessment and determine what the operating requirements might be under a biological opinion if the 2019 biological opinion is modified in any way. On February 28, 2022, the Notice of Intent was published in the Federal Register officially starting the federal ESA and NEPA process. At this point, it is unclear what changes to the 2019 biological opinions will be made and their possible effect on Metropolitan.

**Federal ESA–Litigation.** On December 2, 2019, a group of non-governmental organizations, including commercial fishing groups and the Natural Resources Defense Council (the “NGOs”), sued USFWS and NMFS, alleging the 2019 biological opinions were arbitrary and capricious, later amending the lawsuit to include claims under the federal ESA and NEPA related to decisions made by the Bureau of Reclamation. On February 20, 2020, Natural Resources, the California Environmental Protection Agency, and the California Attorney General (collectively, the “State Petitioners”) sued the federal agencies, making similar allegations. The State Water ~~Contractors~~[Project contractors](#) intervened in both cases to defend the 2019 biological opinions. The NGOs and the State Petitioners filed a preliminary injunction seeking a court order imposing interim operations consistent with the prior 2008 and 2009 biological opinions pending rulings on the merits of plaintiffs’ challenges to the two 2019 biological opinions. On May 11, 2020, the court granted, in part, the motions for preliminary injunction, thereby requiring the Central Valley Project to operate to one of the reasonable and prudent alternatives (referred to as the “inflow-to-export ratio”) in the 2009 biological opinion through May 31, 2020. As noted above, on September 30, 2021, the federal defendants formally re-initiated consultation on the challenged biological opinions. In October 2021, the federal defendants and state plaintiffs issued a draft Interim Operations Plan (“IOP”) that would govern Central Valley Project-State Water Project coordinated operations through the 2021-2022 water year ending on September 30, 2022. In November 2021, the federal defendants moved for a remand of the biological opinions without vacating them, requested a stay through September 30, 2022, and requested that the court impose the IOP as equitable relief. The ~~state plaintiffs~~[State Petitioners](#) moved to have the IOP imposed as a preliminary injunction, while the NGOs moved for a preliminary injunction seeking an order imposing greater operational restrictions than under the IOP. On March 11, 2022, the court denied the State Petitioners’ and NGO plaintiffs’ motions for preliminary injunctive relief and granted the federal defendants’ request for a remand without vacating the biological opinions, equitable relief imposing the IOP and a stay of the litigation through September 30, 2022. [On September 30, 2022, the federal defendants and state plaintiffs filed a joint status report describing the status of the reinitiated Central Valley Project and State Water Project consultation; recommending an IOP for 2022-2023 water year similar to the 2021-22 water year IOP, and requesting a continued stay. On February 24, 2023, the court issued an order approving an IOP for 2023 and extended the stay through December 31, 2023.](#) USFWS and NMFS have produced their respective administrative records. Once the administrative records are finalized, the parties anticipate stipulating to a briefing schedule to resolve the merits of the cases. However, considering the re-initiation of consultation and stay, the cases may be further stayed to allow completion of the reinitiated consultation and issuance of new or amended biological opinions without reaching the merits of the claims. Metropolitan is unable to predict the outcome of any litigation relating to the federal 2019 biological opinions or any potential effect on Metropolitan’s State Water Project water supplies.

**California ESA–DWR Permit Litigation.** As described above, operations of the State Water Project require both federal ESA and California ESA authorizations. DWR described and analyzed its proposed State Water Project long-term operations plan for purposes of obtaining a new California ESA permit in its November 2019 Draft EIR under CEQA. Its 2019 Draft EIR proposed essentially the same operations plan as for the federal 2019 biological opinions, with the addition of operations for the State-only listed species, Longfin smelt. In December 2019, DWR submitted its application for an incidental take permit under the California ESA to CDFW, with a modified State operation plan that added new outflow and environmental commitments. On March 27, 2020, DWR released its final EIR and Notice of Determination, describing and adopting a State operation plan with additional operational restrictions and additional conservation commitments. On March 31, 2020, CDFW issued an incidental take permit for the State Water Project that included further operational restrictions and outflow. As issued, the incidental take permit reduces State Water Project deliveries by more than 200,000 acre–feet on average annually and adds another \$218 million over a ten-year period in environmental commitments for the State Water Project.

On April 28, 2020, Metropolitan and [the](#) Mojave Water Agency (“Mojave”) jointly sued CDFW, DWR and Natural Resources, alleging that the new California ESA permit and final EIR violate CEQA and the California ESA. Metropolitan and Mojave also allege that DWR breached the State Water Contract and

the implied covenant of good faith and fair dealing by, among other things, accepting an incidental take permit containing mitigation requirements in excess of that required by law. Subsequently, two State Water ~~Contractors~~Project contractors and a Metropolitan member agency joined with Metropolitan and Mojave in a first amended complaint. Various other water agencies also filed CEQA and CESA actions, or subsequently joined in a first amended complaint in which the individual water contractors allege causes of action for breach of contract and the implied covenant of good faith and fair dealing. In addition, another State Water ~~Contractor~~Project contractor, the San Bernardino Valley Municipal Water District ("SBVMWD"), filed a complaint alleging violations of CEQA and CESA, as well as breach of contract and the implied covenant of good faith and fair dealing, unconstitutional takings, and anticipatory repudiation of contract. Several federal Central Valley Project water contractors also filed a CEQA challenge. Four other lawsuits have been filed by certain commercial fishing groups and ~~a~~an American Indian tribe, several environmental groups, and two in-Delta water agencies challenging the final EIR as inadequate under CEQA and alleging violations of the Delta Reform Act, public trust doctrine and, in one of the cases, certain water right statutes.

All eight cases have been coordinated in Sacramento County Superior Court. On May 7, 2021 the coordination trial judge ordered the CEQA and CESA causes of action as well as certain other administrative record-based claims alleged by petitioners in several other cases bifurcated from the State Water ~~Contractors~~Project contractors' respective contractual and unconstitutional takings causes of action, with the CEQA and CESA causes of action to be tried first. The court also ordered that a discovery stay remain in place pending final resolution of the CEQA, CESA and other administrative record claims. Metropolitan and the other State Water Project contractor petitioners have moved to augment the administrative records for the CEQA and CESA causes of action, and a hearing was held on February 10, 2023. Metropolitan is unable to assess at this time the ~~likelihood of success~~likely outcome of ~~any~~ litigation relating to the California ESA permit, including any future litigation or any future claims that may be filed, or any potential effect on Metropolitan's State Water Project water supplies.

### **Endangered Species Act Considerations - Colorado River**

Federal and state environmental laws protecting fish species and other wildlife species have the potential to affect Colorado River operations. A number of species that are on either "endangered" or "threatened" lists under the ESAs are present in the area of the Lower Colorado River, including among others, the bonytail chub, razorback sucker, southwestern willow flycatcher, and Yuma clapper rail. To address this issue, a broad-based state/federal/tribal/private regional partnership that includes water, hydroelectric power and wildlife management agencies in Arizona, California, and Nevada have developed a multi-species conservation program for the main stem of the Lower Colorado River (the Lower Colorado River Multi-Species Conservation Program or "MSCP"). The MSCP allows Metropolitan to obtain federal and state permits for any incidental take of protected species resulting from current and future water and power operations of its Colorado River facilities and to minimize any uncertainty from additional listings of endangered species. The MSCP also covers operations of federal dams and power plants on the river that deliver water and hydroelectric power for use by Metropolitan and other agencies. The MSCP covers 27 species and habitat in the Lower Colorado River from Lake Mead to the Mexican border for a term of 50 years (commencing in 2005). Over the 50-year term of the program, the total cost to Metropolitan is estimated to be about \$88.5 million (in 2003 dollars), with annual costs ranging between \$0.8 million and \$4.7 million (in 2003 dollars).

### **Invasive Species - Mussel Control Programs**

Zebra and quagga mussels are established in many regions of the United States. Mussels can reproduce quickly and, if left unmanaged, can reduce flows by clogging intakes and raw water conveyance systems, alter or destroy fish habitats, and affect lakes and beaches. Mussel management activities may require changes in water delivery protocols to reduce risks of spreading mussel populations and increase operation and maintenance costs.



In January 2007, quagga mussels were discovered in Lake Mead. All pipelines and facilities that transport raw Colorado River water are considered to be infested with quagga mussels. Metropolitan has a quagga mussel control plan, approved by the CDFW to address the presence of mussels in the CRA system and limit further spread of mussels. Year-round monitoring for mussel larvae is conducted at various locations in the CRA system and at select non-infested areas of Metropolitan's system and some locations in the State Water Project. Shutdown inspections have demonstrated that control activities effectively limit mussel infestation in the CRA and prevent the further spread of mussels to other bodies of water and water systems. Metropolitan's costs for controlling quagga mussels in the CRA system have been approximately \$5 million per year.

Established mussel populations are located within ten miles of the State Water Project. A ~~limited number of few adult~~ mussels have also been detected in the West Branch of the State Water Project supplies in 2016 and 2021 ~~but~~. Also, in early 2023, a single confirmed veliger (larval stage of quagga mussels) was detected at Metropolitan's Foothill Pressure Control Structure, which delivers water from Castaic Lake to the Joseph Jensen Treatment Plant. However, there is currently no evidence of established mussel populations, nor have they impacted Metropolitan's State Water Project deliveries. ~~To prevent the introduction and~~ Metropolitan will coordinate with DWR for further spread monitoring of mussels into the southern portion of the State Water Project, the Bay-Delta, and other uninfested bodies of water and water systems, DWR has also developed quagga mussel discussion of potential control plans strategies, if they become necessary.

## Water Transfer, Storage and Exchange Programs

### General

To supplement its State Water Project and Colorado River water supplies, Metropolitan has developed and actively manages a portfolio of water supply programs, including water ~~transfer~~ transfers, storage, and exchange agreements, ~~the supplies created by which~~. Supplies are conveyed through the California Aqueduct ~~of the State Water Project~~, utilizing Metropolitan's rights under its State Water Contract to use the portion of the State Water Project conveyance system necessary to deliver water to it, or through available CRA capacity. Consistent with its long-term planning efforts, Metropolitan ~~will continue~~ continues to pursue voluntary water transfer and exchange programs with State, federal, public and private water districts, and individuals to help mitigate supply/demand imbalances and provide additional dry-year supply sources. A summary description of ~~certain of~~ Metropolitan's supply programs is set forth below. In addition to the arrangements described below, Metropolitan is entitled to storage and access to stored water in connection with various ~~other~~ storage programs and facilities. See "Colorado River Aqueduct" above, as well as the table entitled "Metropolitan's Water Storage Capacity and Water in Storage" under "Storage Capacity and Water in Storage" below.

### State Water Project Agreements and Programs

In addition to the basic State Water Project contract provisions, Metropolitan has other contract rights that accrue to the overall value of the State Water Project. Because each Contractor is paying for physical facilities, they also have the right to use the facilities to move water supplies associated with agreements, water transfers and water exchanges. Metropolitan has entered into agreements and exchanges that provide additional water supplies.

Existing and potential water transfers and exchanges are an important element for improving the water supply reliability within Metropolitan's service area and accomplishing the reliability goal set by Metropolitan's Board. Under voluntary water transfers and exchanges with agricultural users, agricultural communities may periodically sell or conserve a portion of their agricultural water supply to make it available to support the State's urban areas. The portfolio of supplemental supplies that Metropolitan has developed to be conveyed through the California Aqueduct extend from north of the Bay-Delta to Southern California. Certain of these arrangements are described below.

***Castaic Lake and Lake Perris.*** Metropolitan has contractual rights to withdraw up to 65,000 acre-feet of water in Lake Perris (East Branch terminal reservoir) and 153,940 acre-feet of water in Castaic Lake (West Branch terminal reservoir). This storage provides Metropolitan with additional options for managing State Water Project deliveries to maximize yield from the project. Any water used must be returned to the State Water Project within five years or it is deducted from allocated amounts in the sixth year.

***Metropolitan Article 56 Carryover.*** Metropolitan has the right to store its allocated contract amount for delivery in subsequent years. Metropolitan can store between 100,000 and 200,000 acre-feet, depending on the final water supply allocation percentage.

***Yuba River Accord.*** Metropolitan entered into an agreement with DWR in December 2007 to purchase a portion of the water released by the Yuba County Water Agency (“YCWA”). YCWA was involved in a SWRCB proceeding in which it was required to increase Yuba River fishery flows. Within the framework of agreements known as the Yuba River Accord, DWR entered into an agreement for the long-term purchase of water from YCWA. The agreement permits YCWA to transfer additional supplies at its discretion. Metropolitan, other State Water ~~Contractors~~ Project contractors, and the San Luis & Delta-Mendota Water Authority entered into separate agreements with DWR for the purchase of portions of the water made available. Metropolitan’s agreement allows Metropolitan to purchase, in dry years through 2025, available water supplies which have ranged from approximately 6,555 acre-feet to 67,068 acre-feet per year.

Metropolitan has also developed other groundwater storage and exchange programs, certain of which are described below. See “METROPOLITAN’S WATER DELIVERY SYSTEM—Water Quality and Treatment” in this Appendix A for information regarding certain water quality regulations and developments that impact or may impact some of Metropolitan’s groundwater storage programs.

***Arvin-Edison/Metropolitan Water Management Program.*** In December 1997, Metropolitan entered into an agreement with the Arvin-Edison Water Storage District (“Arvin-Edison”), an irrigation agency located southeast of Bakersfield, California. Under the program, Arvin-Edison stores water on behalf of Metropolitan. In January 2008, Metropolitan and Arvin-Edison amended the agreement to enhance the program’s capabilities and to increase the delivery of water to the California Aqueduct. To facilitate the program, new wells, spreading basins and a return conveyance facility connecting Arvin-Edison’s existing facilities to the California Aqueduct have been constructed. The agreement also provides Metropolitan priority use of Arvin-Edison’s facilities to convey high-quality water available on the east side of the San Joaquin Valley to the California Aqueduct. Up to 350,000 acre-feet of Metropolitan’s water may be stored, and Arvin-Edison is obligated to return up to 75,000 acre-feet of stored water in any year to Metropolitan, upon request. The agreement will terminate in 2035 unless extended. Metropolitan’s estimated storage account balance under the Arvin-Edison/Metropolitan Water Management Program as of January 1, ~~2022~~ 2023 is shown in the table entitled “Metropolitan’s Water Storage Capacity and Water in Storage” under “–Storage Capacity and Water in Storage” below. As a result of detecting 1,2,3-trichloropropane (“TCP”) in Arvin-Edison wells above the maximum contaminant level (“MCL”) in 2018, Metropolitan has suspended the return of groundwater from the program until the water quality concerns can be further evaluated and managed. Instead, Metropolitan has requested that Arvin-Edison provide only surface water that can satisfy DWR’s standards for direct pump-back into the California Aqueduct, or alternative methods satisfactory to Metropolitan, in order to meet both the DWR pump-in requirements and Metropolitan’s request for the return of water ~~in 2022~~. In 2021 and 2022, Metropolitan recovered ~~5,679~~ in aggregate 23,130 acre-feet by exchanges with surface water. ~~The amount of surface water that may be available for recovery by Metropolitan from~~ In February 2023, Arvin-Edison began returning surface water supplies to Metropolitan. The estimated recovery of surface water supplies in 2023 is 20,000 acre-feet.

In October 2021, Arvin-Edison sued The Dow Chemical Company, Shell Oil Company, and others regarding TCP in Arvin-Edison's groundwater. According to Arvin-Edison's complaint, the defendants are the manufacturers and distributors of the TCP that caused the contamination of Arvin-Edison's groundwater supplies. Arvin-Edison alleges that the widespread presence of TCP at concentrations above the MCL in its wells has caused certain of its water banking partners (including Metropolitan) to reduce and/or suspend their water banking and management programs. Based upon a mitigation feasibility study dated November 4, 2021 prepared for Arvin-Edison, Arvin-Edison estimates that treatment would cost approximately \$465 million, which includes capital costs and the present worth of operation and maintenance treatment costs over a 50-year period. Metropolitan's person most qualified ("PMQ") deposition was taken on January 27, 2023, and mediation is scheduled for the end of March 2023. If Arvin-Edison prevails in ~~2022 is not yet known~~ its litigation, a monetary recovery, if any, would be available to offset costs associated with treatment facilities to remediate the groundwater contamination.

***Semitropic/Metropolitan Groundwater Storage and Exchange Program.*** In 1994, Metropolitan entered into an agreement with the Semitropic Water Storage District ("Semitropic"), located adjacent to the California Aqueduct north of Bakersfield, to store water in the groundwater basin underlying land within Semitropic. The minimum annual yield available to Metropolitan from the program is 38,200 acre-feet of water, and the maximum annual yield is ~~239,200~~ 239,700 acre-feet of water depending on the available unused capacity and the State Water Project allocation. The agreement extends to November 2035. Metropolitan's estimated storage account balance under the Semitropic program as of January 1, ~~2022~~ 2023 is shown in the table entitled "Metropolitan's Water Storage Capacity and Water in Storage" under "–Storage Capacity and Water in Storage" below. TCP has been detected in the groundwater supplies within Semitropic; however, detection levels at the turn-in locations for the Semitropic program have remained below the MCL and, to date, the return of groundwater to Metropolitan under the program has not been impacted.

In October 2021, Semitropic, as well as its several affiliated improvement districts (collectively referred to in this paragraph as "Semitropic"), sued The Dow Chemical Company, Shell Oil Company, and others regarding TCP in Semitropic's groundwater. According to Semitropic's complaint, the defendants are the manufacturers and distributors of the TCP that caused the contamination of Semitropic's groundwater supplies. Metropolitan's PMQ deposition was taken on February 10, 2023, and mediation is scheduled for the end of May 2023. If Semitropic prevails in its litigation, a monetary recovery, if any, would be available to offset costs associated with any needed treatment facilities to remediate the groundwater contamination.

***Kern Delta Storage Program.*** Metropolitan entered into an agreement with Kern Delta Water District ("Kern Delta") in May 2003, for a groundwater banking and exchange transfer program to allow Metropolitan to store up to 250,000 acre-feet of State Water Contract water in wet years and to permit Metropolitan, at Metropolitan's option, a return of up to 50,000 acre-feet of water annually during hydrologic and regulatory droughts. The agreement extends through 2028. Metropolitan's estimated storage account balance under this program as of January 1, ~~2022~~ 2023 is shown in the table entitled "Metropolitan's Water Storage Capacity and Water in Storage" under "–Storage Capacity and Water in Storage" below.

***Mojave Storage Program.*** Metropolitan entered into a groundwater banking and exchange transfer agreement with Mojave in October 2003. The agreement allows for Metropolitan to store water in an exchange account for later return. The agreement allows Metropolitan to annually withdraw Mojave State Water Project contractual amounts, after accounting for local needs. Under a 100 percent allocation, the State Water Contract provides Mojave 82,800 acre-feet of water. This agreement was amended in 2011 to allow for the cumulative storage of up to 390,000 acre-feet. The term of this agreement extends through 2035. Metropolitan's estimated storage account balance under this program as of January 1, ~~2022~~ 2023, is shown in the table entitled "Metropolitan's Water Storage Capacity and Water in Storage" under "–Storage Capacity and Water in Storage" below.

***Antelope Valley-East Kern Storage and Exchange Program.*** In 2016, Metropolitan entered into an agreement with the Antelope Valley-East Kern Water Agency (“AVEK”), the third largest State Water ~~Contractor~~[Project contractor](#), to both exchange supplies and store water in the Antelope Valley groundwater basin. Under the exchange, AVEK would provide at least 30,000 acre-feet over ten years of its unused Table A State Water Project water to Metropolitan. For every two acre-feet provided to Metropolitan as part of the exchange, AVEK would receive back one acre-foot in the future. For the one acre-foot that is retained by Metropolitan, Metropolitan would pay AVEK under a set price schedule based on the State Water Project allocation at the time. Under this agreement, AVEK also provides Metropolitan up to 30,000 acre-feet of storage. Metropolitan’s estimated storage account balance under this program as of January 1, ~~2022~~[2023](#), is shown in the table entitled “Metropolitan’s Water Storage Capacity and Water in Storage” under “Storage Capacity and Water in Storage” below.

***Antelope Valley-East Kern High Desert Water Bank Program.*** In 2019, Metropolitan entered into an agreement with AVEK for a groundwater banking program referred to as the High Desert Water Bank Program. The [original](#) estimated cost of construction of the facilities to [be funded by Metropolitan to implement the program](#) ~~is was~~ \$131 million, [but the estimated cost has increased to \\$210 million over the past four years due to inflation, finalization of the off-site power distribution design, the need for additional wells to achieve the recovery target of 70,000 acre-feet per year, and water quality issues. Water quality testing of the deeper recovery wells installed in 2021 revealed that arsenic levels in all four wells were above the MCL of 10 micrograms per liter \(“µg/L”\), ranging from 11 to 19 µg/L. Arsenic naturally occurs in the Antelope Valley groundwater basin, with levels detected throughout the basin but such levels are generally higher in the deeper aquifer. Based on the current water quality data, it appears that recovered water from the High Desert Water Bank Program requires treatment before delivery to the California Aqueduct. Pursuant to the project agreement, Metropolitan and AVEK will agree in writing to the final design, construction and estimated budget for the program. At its option, Metropolitan may scale down the project to maintain the original estimated budget of \\$131 million or fund the additional costs. Metropolitan staff is expected to present additional information and options to the Metropolitan Board for its consideration in April 2023.](#) Following completion of construction, which is expected by mid-2025, Metropolitan would have the right to store up to 70,000 acre-feet per year of its unused Table A State Water Project water or other supplies in the Antelope Valley groundwater basin for later return. The maximum storage capacity for Metropolitan supplies would be 280,000 acre-feet. At Metropolitan’s direction, up to 70,000 acre-feet of stored water annually would be available for return by direct pump back into the East Branch of the California Aqueduct. Upon completion, this program would provide additional flexibility to store and recover water for emergency or water supply needs through 2057.

***San Gabriel Valley Municipal Water District and Other Exchange Programs.*** In 2013, Metropolitan entered into an agreement with the San Gabriel Valley Municipal Water District (“SGVMWD”). Under this agreement, Metropolitan delivers treated water to a SGVMWD subagency in exchange for twice as much untreated water in the groundwater basin. Metropolitan’s member agencies can then use the groundwater supplies to meet their needs. Metropolitan can exchange and purchase at least 5,000 acre-feet per year. This program has the potential to increase Metropolitan’s reliability by providing 115,000 acre-feet through 2035.

***Irvine Ranch Water District Strand Ranch Banking Program.*** In 2011, Metropolitan entered into an agreement with the Municipal Water District of Orange County (“MWDOC”) and the Irvine Ranch Water District (“IRWD”) to authorize the delivery of State Water Project supplies from Strand Ranch into Metropolitan’s service area. IRWD facilitates Metropolitan entering into unbalanced exchanges with other State Water Project contractors. A portion of the water is returned to the partnering State Water Project contractor with the remaining balance delivered to Metropolitan’s service area. MWDOC/IRWD takes delivery of the water through Metropolitan’s distribution system and pays the Metropolitan full-service water rate. Metropolitan can call on stored supplies; in return, Metropolitan is obliged to return an equal amount of water to MWDOC in future years for IRWD’s benefit. This agreement [extends to November 2035 and](#) enhances regional reliability by providing Metropolitan with access to additional supplies.



***San Bernardino Valley Municipal Water District Exchange Program.*** In 2020, Metropolitan signed a coordinated operating and surplus water agreement with SBVMWD. In 2021, in accordance with the terms of such agreement, Metropolitan's Board authorized an agreement with SBVMWD that provides a framework which allows for the exchange of both local and State Water Project supplies. The exchanges are equal if they occur within the same calendar year and up to two-to-one if water is returned in a subsequent calendar year. The agreement, which extends through 2031, provides for improved coordination to respond to outages and emergencies of either party.

In April 2022, Metropolitan and SBVMWD entered into a 2022 exchange agreement that provided for the exchange of both local and State Water Project supplies in 2022. Under the agreement, during calendar year 2022, Metropolitan could request up to 3,000 acre-feet of carryover water stored in San Luis Reservoir and up to 1,000 acre-feet/month of groundwater. The additional supply was to be acquired to assist member agencies within the SWP Dependent Area. Under the agreement, Metropolitan and SBVMWD collaborated to test the feasibility of this exchange. Part of the test required Metropolitan to introduce temporary water at DWR's Devil Canyon Second Afterbay, in Pool 68, and Repayment Reach 26A. The test was completed successfully in August 2022. A similar agreement for 2023 is not currently anticipated.

***San Diego County Water Authority Semitropic Program.*** In 2021, Metropolitan's Board approved an agreement with SDCWA for the purchase by Metropolitan of 4,200 acre-feet and a lease of 5,000 acre-feet of return capacity from SDCWA's Semitropic Program for 2022. Metropolitan and SDCWA are currently negotiating a similar agreement for calendar year 2023. The agreement provides for improved regional reliability and also allows for the exchange of previously stored water with Metropolitan in the future.

***Other Ongoing Activities.*** Metropolitan has been negotiating, and will continue to pursue, water purchase, storage and exchange programs with other agencies in the Sacramento and San Joaquin Valleys. These programs involve the storage of both State Water Project supplies and water purchased from other sources to enhance Metropolitan's dry-year supplies and the exchange of normal year supplies to enhance Metropolitan's water reliability and water quality, in view of dry conditions and potential impacts from the ESA considerations discussed above under the heading "–Endangered Species Act and Other Environmental Considerations Relating to Water Supply– Endangered Species Act Considerations – State Water Project." In April ~~2021~~2022, in light of the persistent dry hydrological conditions, the Board authorized the General Manager to secure up to ~~65,000~~75,000 acre-feet of additional water supplies pursuant to one-year water transfers from water districts located north of the Sacramento-San Joaquin River Delta, at a maximum cost of up to \$4460 million. ~~As a result, approximately 40,000~~Approximately 28,000 acre-feet of transfers were secured that allowed Metropolitan to preserve water stored in surface water reservoirs on the State Water Project system for 2022. ~~In April 2022, in light of the persistent dry hydrological conditions~~purchased pursuant to this authority. In January 2023, the Board authorized the General Manager to secure ~~up to 75,000 acre feet of~~ additional water supplies pursuant to one-year ~~water transfers~~transfer supplies from ~~various water districts located north of the Sacramento-San Joaquin River Delta, and private water purveyors throughout the State~~ at a maximum cost of up to \$60100 million. ~~As part of the Board authorization, the General Manager was granted final decision-making authority to determine whether or not to move forward with such water transfers following completion of any environmental reviews that may be required under CEQA. Metropolitan has in place arrangements for approximately 30,000 to 35,000 acre feet of transfers pursuant to this authority.~~

The Sites Reservoir is 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. The water stored in the proposed project would be diverted from the Sacramento River. As currently proposed, the Sites Reservoir project would have dedicated water storage and yield that would be used for fishery enhancement, water quality, and other environmental purposes. The proposed project could also provide an additional water

supply that could be used for dry-year benefits. Metropolitan is a member of the Sites Reservoir Committee, a group of ~~30~~<sup>22</sup> agencies that are participating in certain planning activities in connection with the proposed development of the project, including the development of environmental planning documents, a federal feasibility report and project permitting. In April 2022, Metropolitan's Board approved \$20 million in funding for Metropolitan's continued participation in such planning activities through the end of 2024. Metropolitan's agreement to participate in the 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.

### **Colorado River Aqueduct Agreements and Programs**

Metropolitan has taken steps to augment its share of Colorado River water through agreements with other agencies that have rights to use such water, including through cooperative programs with other water agencies to conserve and develop supplies and through programs to exchange water with other agencies. These supplies are conveyed through the CRA. Metropolitan determines the delivery schedule of these supplies throughout the year based on changes in the availability of State Water Project and Colorado River water. Under certain of these programs, water may be delivered to Metropolitan's service area in the year made available or in a subsequent year as ICS water from Lake Mead storage. See “Colorado River Aqueduct –Colorado River Operations: Surplus and Shortage Guidelines – *Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead.*”

***IID/Metropolitan Conservation Agreement.*** Under a 1988 water conservation agreement, as amended in 2003 and 2007 (the “1988 Conservation Agreement”) between Metropolitan and IID, 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 has been provided to Metropolitan. As amended, the agreement's initial term has been extended to at least 2041 or 270 days after the termination of the QSA. In 2019, 105,000 acre-feet of conserved water ~~were~~<sup>was</sup> made available by IID to Metropolitan. Under the QSA and related agreements, Metropolitan, at the request of CVWD, forgoes up to 20,000 acre-feet of this water each year for diversion by CVWD from the Coachella Canal. In each of 2018 and 2019, CVWD's requests were for 0 acre-feet, leaving 105,000 acre-feet in 2018 and 2019 for Metropolitan. In December 2019, Metropolitan signed a revised agreement with CVWD in which CVWD will limit its annual request of water from this program to 15,000 acre-feet through 2026. See “Colorado River Aqueduct –Quantification Settlement Agreement.”

***Palo Verde Land Management, Crop Rotation and Water Supply Program.*** In August 2004, Metropolitan and Palo Verde Irrigation District (“PVID”) signed the program agreement for a Land Management, Crop Rotation and Water Supply Program. Under this program, participating landowners in the PVID service area are compensated for reducing water use by not irrigating a portion of their land. This program provides up to 133,000 acre-feet of water to be available to Metropolitan in certain years. The term of the program is 35 years. Following began on January 1, 2005. The following table shows annual volumes of water saved and made available to Metropolitan during the 10 calendar years ~~2012~~<sup>2013</sup> through ~~2021~~<sup>2022</sup> under the Land Management, Crop Rotation and Water Supply Program with PVID:

### **WATER AVAILABLE FROM PVID LAND MANAGEMENT, CROP ROTATION AND WATER SUPPLY PROGRAM**

<b>Calendar Year</b>	<b>Volume (acre-feet)</b>
<del>2012</del>	<del>73,700</del>
2013	32,800
2014	43,000
2015	94,500
2016	125,400
2017	111,800
2018	95,800

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2019	44,500
2020	43,900
2021	38,564 <sup>(+)</sup> 42,305
<u>2022</u>	<u>29,000 (est.)</u>

Source: Metropolitan.

<sup>(+)</sup> Estimate.

***Bard Water District Seasonal Fallowing Program.*** In 2019, Metropolitan entered into agreements with Bard Water District (“Bard”) and farmers within Bard Unit, to provide incentives for land fallowing under the Bard Seasonal Fallowing Program. The program reduces water consumption in Bard and that helps augment Metropolitan’s Colorado River supplies. It incentivizes farmers to fallow their land for four months at \$452 per irrigable acre, escalated annually. Metropolitan estimates water savings of approximately 2.2 acre-feet per fallowed acre. Bard diverts Colorado River water for crop irrigation grown year-round in the warm dry climate. Farmers typically grow high-value crops in the winter (vegetable crops) followed by a lower-value, water-intensive, field crop (such as Bermuda and Sudan grass, small grains, field grains, or cotton) in the spring and summer. Participating farmers will reduce their water consumption through land fallowing of up to 3,000 acres in aggregate annually between April and July. In calendar year 2023, Metropolitan will provide an incentive payment of \$503.29 per irrigable acre fallowed.

***Quechan Tribe of the Fort Yuma Indian Reservation Seasonal Fallowing Pilot Program.*** In 2021, Metropolitan entered into an agreement with the Quechan Tribe of the Fort Yuma Indian Reservation to launch the voluntary Quechan Seasonal Fallowing Pilot Program. Under the pilot program, Metropolitan provides incentives to farmers on Quechan tribal land for land fallowing that reduces water consumption to help augment Metropolitan’s Colorado River supplies. Desert agriculture realizes a market advantage in the winter for high-value vegetables such as lettuce and broccoli. In the hot summer, farmers typically grow lower-value, water-intensive commodities such as grains and grasses. Farmers participating in the pilot program agree to decrease their water consumption through land fallowing of up to 1,600 acres annually during April through July in 2022 and 2023. In calendar year 2022, 118.3 acres were fallowed. In calendar year 2023, Metropolitan will provide an incentive payment of \$472.40503.29 per irrigable acre fallowed. The payment is escalated annually. Metropolitan estimates water savings between 1.5 and 2.0 acre-feet per irrigable acre fallowed, with actual savings to be determined throughout the pilot program.

***Lake Mead Storage Program.*** As described under “–Colorado River Aqueduct –Colorado River Operations: Surplus and Shortage Guidelines – Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead,” Metropolitan has entered into agreements to set forth the guidelines under which ICS water is developed and stored in and delivered from Lake Mead. The amount of water stored in Lake Mead must be created through extraordinary conservation, system efficiency, tributary, imported, or binational conservation methods. Metropolitan has participated in projects to create ICS as described below:

***Drop 2 (Warren H. Brock) Reservoir.*** In 2008, Metropolitan, CAWCD and SNWA provided funding for 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 (officially named the Warren H. Brock Reservoir). Construction was completed in October 2010. The Warren H. Brock Reservoir conserves about 70,000 acre-feet of water per year by capturing and storing water that would otherwise be lost from the system. In return for its funding, Metropolitan received 100,000 acre-feet of water that was stored in Lake Mead for its future use and has the ability to receive up to 25,000 acre-feet of water in any single year. Besides the additional water supply, the addition of the Warren H. Brock reservoir adds to the flexibility of Colorado River operations by storing underutilized Colorado River water orders caused by unexpected canal outages, changes in weather conditions, and high tributary runoff into the Colorado River. As of January 1, ~~2022~~2023, Metropolitan had taken delivery of 35,000 acre-feet of this water and had 65,000 acre-feet remaining in storage.

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International Water Treaty Minutes 319 and 323. In November 2012, as part of the implementation of Treaty Minute 319, Metropolitan executed agreements in support of a program to augment Metropolitan's Colorado River supply between 2013 through 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. In December 2013, Metropolitan and IID executed an agreement under which IID has paid half of Metropolitan's program costs, or \$2.5 million, in return for half of the project supplies, or 23,750 acre-feet. As such, 23,750 acre-feet of Intentionally Created Mexican Allocation was converted to Binational ICS and credited to Metropolitan's binational ICS water account in 2017. See "*Colorado River Aqueduct –Colorado River Operations: Surplus and Shortage Guidelines – Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead.*" In September 2017, as part of the implementation of Treaty Minute 323, Metropolitan agreed to fund additional water conservation projects in Mexico that will yield approximately 27,275 acre-feet of additional supply for Metropolitan by 2026 at a cost of approximately \$3.75 million. In 2020, Metropolitan made the first payment related to Treaty Minute 323 of \$1.25 million, and 9,092 acre-feet of Intentionally Created Mexican Allocation was converted to Binational ICS and credited to Metropolitan's binational ICS water account. The next payment is expected to be made in October 2023.

***Storage and Interstate Release Agreement with Nevada.*** In May 2002, SNWA and Metropolitan entered into an Agreement Relating to Implementation of Interim Colorado River Surplus Guidelines, in which SNWA and Metropolitan agreed to the allocation of unused apportionment as provided in the Interim Surplus Guidelines and on the priority of SNWA for interstate banking of water in Arizona. SNWA and Metropolitan entered into a storage and interstate release agreement on October 21, 2004. Under this agreement, SNWA can request that Metropolitan store unused Nevada apportionment in California. The amount of water stored through 2014 under this agreement was approximately 205,000 acre-feet. In October 2015, SNWA and Metropolitan executed an additional amendment to the agreement under which Metropolitan paid SNWA approximately \$44.4 million and SNWA stored an additional 150,000 acre-feet with Metropolitan during 2015. Of that amount, 125,000 acre-feet have been added to SNWA's storage account with Metropolitan, increasing the total amount of water stored to approximately 330,000 acre-feet. In subsequent years, SNWA may request recovery of the stored water. When SNWA requests the return of any of the stored 125,000 acre-feet, SNWA will reimburse Metropolitan for an equivalent proportion of the \$44.4 million plus inflation based on the amount of water returned. SNWA has not yet requested the return of any of the water stored with Metropolitan and it is not expected that SNWA will request a return of any of the stored water before ~~2023~~2026.

***California ICS Agreement Intrastate Storage Provisions.*** As described under "*Colorado River Aqueduct –Colorado River Operations: Surplus and Shortage Guidelines – Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead,*" in 2007, IID, Metropolitan and other Colorado River contractors in California executed the California ICS Agreement, which divided California's ICS storage space in Lake Mead between Metropolitan and IID. It also allowed IID to store up to 50,000 acre-feet of conserved water in Metropolitan's system. In 2015, the California ICS Agreement was amended to allow IID to store additional amounts of water in Metropolitan's system during 2015 through 2017. Under the 2015 amendment, IID was permitted to store up to 100,000 acre-feet per year of conserved water within Metropolitan's system with a cumulative limit of 200,000 acre-feet, for the three-year term. When requested by IID, Metropolitan has agreed to return to IID the lesser of either 50,000 acre-feet per year, or in a year in which Metropolitan's member agencies are under a shortage allocation, 50 percent of the cumulative amount of water IID has stored with Metropolitan under the 2015 amendment. IID currently has ~~161,000~~158,000 acre-feet of water stored with Metropolitan pursuant to the terms of the California ICS Agreement and its amendment.

In 2018, IID had reached the limit on the amount of water it was able to store in Metropolitan's system under the California ICS Agreement; and entered into discussions with Metropolitan to further amend the agreement, but no such agreement was reached. On December 4, 2020, IID filed a complaint



against Metropolitan alleging that Metropolitan breached the California ICS Agreement, breached the implied covenant of good faith and fair dealing, and that Metropolitan converted IID's intentionally created surplus for its own use. IID's complaint sought the imposition of a constructive trust over 87,594 acre-feet of water in Lake Mead that was received by Metropolitan in 2018.

In October 2021, Metropolitan and IID agreed to settle the dispute. Under the terms of the settlement agreement, Metropolitan will, after applying storage losses, retain approximately 40 percent of the disputed 87,594 acre-feet that Metropolitan received in 2018 and will have stored ~~approximately~~ the remaining approximately 60 percent for IID to be returned to IID in 2026. If Metropolitan does not have sufficient ICS to make a DCP contribution in 2026, Metropolitan may use the remaining stored water to do so. From 2021 through 2026, IID may store up to an additional 25,000 acre-feet per year (with an accumulation limit of an additional 50,000 acre-feet) of conserved water in Metropolitan's Lake Mead ICS account. While IID will still not be a party to the DCP, if Metropolitan is required to make a DCP contribution, IID will assist Metropolitan in making DCP contributions by contributing the lesser of either: (a) three percent of California's DCP contribution; or (b) the amount of water IID has stored with Metropolitan. On December 6, 2021, the lawsuit was dismissed with prejudice. In 2021, IID elected to store 25,000 acre-feet of conserved water in Metropolitan's Lake Mead ICS account. Although a final determination has not yet been made, IID may elect to store an additional 25,000 acre-feet of conserved water in Metropolitan's Lake Mead ICS account for 2022.

### **State Water Project and Colorado River Aqueduct Arrangements**

***Metropolitan/CVWD/Desert Water Agency Amended and Restated Agreement for the Exchange and Advance Delivery of Water.*** Metropolitan has agreements with CVWD and the Desert Water Agency ("DWA") under which Metropolitan exchanges its Colorado River water for the agencies' State Water Project contractual water and other State Water Project water acquisitions on an annual basis. Because CVWD and DWA do not have a physical connection to the State Water Project, Metropolitan takes delivery of CVWD's and DWA's State Water Project supplies and delivers a like amount of Colorado River water to the agencies. In accordance with these agreements, Metropolitan may deliver Colorado River water in advance of receiving State Water Project supplies to these agencies for storage in the Upper Coachella Valley groundwater basin. In years when it is necessary to augment available supplies to meet local demands, Metropolitan may meet the exchange delivery obligation through drawdowns of the advance delivery account, in lieu of delivering Colorado River water in that year. Metropolitan's estimated storage account under the CVWD/DWA program as of January 1, ~~2022~~2023 is shown in the table entitled "Metropolitan's Water Storage Capacity and Water in Storage" under "–Storage Capacity and Water in Storage" below. In addition to the storage benefits of the CVWD/DWA program, Metropolitan receives water quality benefits with increased deliveries of lower salinity water from the State Water Project in lieu of delivering higher saline 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 agreements, CVWD and DWA pay a portion of Metropolitan's water storage management costs in wet years, up to a combined total of \$4 million per year.

***Operational Shift Cost Offset Program.*** In 2021, Metropolitan's Board approved the Operational Shift Cost Offset Program ("OSCOP") to help Metropolitan maximize resources available from Colorado River and State Water Project storage in calendar years 2021 and 2022. In October 2022, Metropolitan's Board extended the OSCOP through the end of calendar year 2023. Metropolitan has and continues to work with member agencies that have service connections to both State Water Project supplies and Colorado River water to shift their points of delivery to meet demands wherever possible to preserve State Water Project storage. Although member agencies can make some shifts in delivery locations, these shifts may result in additional operational costs. Under the OSCOP, Metropolitan offsets costs member agencies may accrue due to shifting deliveries at Metropolitan's request. Metropolitan may offset incurred costs of up to \$359 per acre-foot for shifts in calendar years 2021 and 2022 year 2023. This allows Metropolitan to fully utilize its diverse portfolio and increases reliability for the entire region by improving the availability of State Water Project storage reserves to supplement supplies during dry years.

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## Storage Capacity and Water in Storage

Metropolitan's storage capacity, which includes reservoirs, conjunctive use and other groundwater storage programs within Metropolitan's service area and groundwater and surface storage accounts delivered through the State Water Project or CRA, is approximately 6.0 million acre-feet. In ~~2021~~2022, approximately 750,000 acre-feet of total stored water in Metropolitan's reservoirs and other storage resources was emergency storage. Metropolitan's emergency storage is a regional planning objective established periodically to prevent severe water shortages for the region in the event of supply interruptions from catastrophic earthquakes or similar events (see "METROPOLITAN'S WATER DELIVERY SYSTEM–Seismic Considerations and Emergency Response Measures" in this Appendix A). The current emergency storage ~~target~~objective of 750,000 acre-feet is based on an outage duration of 6 to 12 months, retail water demand reduction of 25 to 35 percent based on achievable conservation actions, and aggregated loss of 10 to 20 percent of local production. Retail demand calculations for purposes of the emergency storage objective were based on a 2015 IRP forecast of demand for the year 2018 under average conditions. Metropolitan replenishes its storage accounts when available imported supplies exceed demands. Metropolitan's ability to replenish water storage, both in the local groundwater basins and in surface storage and banking programs, has been limited by Bay-Delta pumping restrictions under the biological opinions issued for listed species. See "–Endangered Species Act and Other Environmental Considerations Relating to Water Supply –Endangered Species Act Considerations – State Water Project – *Federal ESA-Biological Opinions.*" ~~Metropolitan replenishes its storage accounts when available imported supplies exceed demands.~~ Effective storage management is dependent on having sufficient years of excess supplies to store water so that it can be used during times of shortage. See "CONSERVATION AND WATER SHORTAGE MEASURES–Water Supply Allocation Plan" in this Appendix A. Metropolitan's storage as of January 1, ~~2022~~2023 is estimated to be ~~3.35~~2.99 million acre-feet. The following table shows three years of Metropolitan's water in storage as of January 1, including emergency storage.

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**METROPOLITAN'S WATER STORAGE CAPACITY AND WATER IN STORAGE<sup>(1)</sup>**  
(in Acre-Feet)

Water Storage Resource	Storage Capacity	Water in Storage January 1, 2023	Water in Storage January 1, 2022	Water in Storage January 1, 2021	Water in Storage January 1, 2020
<b><u>Colorado River Aqueduct</u></b>					
DWA / CVWD Advance Delivery Account	800,000	281,000	293,000	313,000	296,000
Lake Mead ICS	1,657,000	<del>1,243,000</del> 1,139,000 <sup>(9)</sup> <del>1,536,000</del> 1,42	1,251,500 <sup>(9)</sup>	1,294,000	<del>980,000</del>
<b>Subtotal</b>	<b>2,457,000</b>	<b>0,000</b>	<b>1,544,500</b>	<b>1,607,000</b>	<b>1,276,000</b>
<b><u>State Water Project</u></b>					
Arvin-Edison Storage Program <sup>(2)</sup>	350,000	119,000	136,000	142,000	143,000
Semitropic Storage Program	350,000	158,000	218,000	261,000	265,000
Kern Delta Storage Program	250,000	137,000	149,000	183,000	194,000
Mojave Storage Program	330,000 <sup>(5)</sup>	19,000 <sup>(5)</sup>	19,000 <sup>(5)</sup>	19,000 <sup>(5)</sup>	19,000 <sup>(5)</sup>
AVEK Storage Program	30,000	27,000	27,000	27,000	27,000
Castaic Lake and Lake Perris <sup>(3)</sup>	219,000	3,000	49,000	219,000	219,000
State Water Project Carryover <sup>(4)</sup>	350,000 <sup>(6)</sup>	31,000	38,000	207,000	331,000
Emergency Storage	381,000	381,000	381,000	381,000	<del>381,000</del>
<b>Subtotal</b>	<b>2,260,000</b>	<b>875,000</b>	<b>1,017,000</b>	<b>1,433,000</b>	<b>1,574,000</b>
<b><u>Within Metropolitan's Service Area</u></b>					
Diamond Valley Lake	810,000	494,000	600,000	704,000	796,000
Lake Mathews	182,000	155,000	140,000	86,000	152,000
Lake Skinner	44,000	39,000	39,000	41,000	<del>38,000</del>
<b>Subtotal<sup>(7)</sup></b>	<b>1,036,000</b>	<b>688,000</b>	<b>779,000</b>	<b>831,000</b>	<b>986,000</b>
<b><u>Member Agency Storage Programs</u></b>					
Conjunctive Use <sup>(8)</sup>	210,000	10,000	16,000	41,000	<del>59,000</del>
<b>Total</b>	<b>5,963,000</b>	<b>3,348,000</b> 2,99 <b>3,000</b>	<b>3,356,500</b>	<b>3,912,000<sup>(8)</sup></b>	<b>3,895,000</b>

Source: Metropolitan.

- (1) Water storage capacity and water in storage are measured based on engineering estimates and are subject to change.
- (2) Metropolitan has suspended the return of groundwater from the Arvin-Edison storage program. Stored supplies can still be recovered via surface water exchange. See "~~METROPOLITAN'S WATER SUPPLY~~–Water Transfer, Storage and Exchange Programs –State Water Project Agreements and Programs – Arvin-Edison/Metropolitan Water Management Program." and See also "METROPOLITAN'S WATER DELIVERY SYSTEM–Water Quality and Treatment" in this Appendix A.
- (3) Flexible storage allocated to Metropolitan under its State Water Contract. Withdrawals must be returned within five years.
- (4) Includes Article 56 Carryover of Metropolitan, Coachella Valley Water District, and Desert Water Agency, prior-year carryover, non-project carryover, and carryover of curtailed deliveries pursuant to Article 14(b) and Article 12(e) of Metropolitan's State Water Contract. See "~~Water Transfer, Storage and Exchange Programs – State Water Project Agreements and Programs – Metropolitan Article 56 Carryover.~~"
- (5) The Mojave storage agreement was amended in 2011 to allow for cumulative storage of up to 390,000 acre-feet. Since January 1, 2011, Metropolitan has stored 60,000 acre-feet, resulting in a remaining balance of storage capacity of 330,000 acre-feet. 41,000 acre-feet of the 60,000 acre-feet stored have been returned, leaving a remaining balance in storage of 19,000 acre-feet. See "~~Water Transfer, Storage and Exchange Programs – State Water Project Agreements and Programs – Mojave Storage Program.~~"

- (6) A capacity of 350,000 acre-feet is estimated to be the practical operational limit for carryover storage considering Metropolitan's capacity to take delivery of carryover supplies before San Luis Reservoir fills.
- (7) Includes 369,000 acre-feet of emergency storage in Metropolitan's reservoirs in ~~2020~~, 2021, 2022, and ~~2022~~2023.
- (8) ~~Cyclic storage water was removed from this line item and is now categorized as a pre delivery.~~ Represents Metropolitan's historical highest level of water in storage.
- (9) This amount does not include water Metropolitan stored for IID in Lake Mead an ICS sub-account.



## CONSERVATION AND WATER SHORTAGE MEASURES

### General

The central objective of Metropolitan's water conservation program is to help ensure adequate, reliable and affordable water supplies for Southern California by actively promoting efficient water use. The importance of conservation to the region has increased in recent years because of drought conditions in the State Water Project watershed and court-ordered restrictions on Bay-Delta pumping, as described under "METROPOLITAN'S WATER SUPPLY-State Water Project -Bay-Delta Proceedings Affecting State Water Project" and "-Endangered Species Act and Other Environmental Considerations Relating to Water Supply -Endangered Species Act Considerations-State Water Project - *Federal ESA-Biological Opinions*" in this Appendix A. Ongoing drought conditions in the Colorado River have further emphasized the need for additional conservation efforts. See "METROPOLITAN'S WATER SUPPLY-Colorado River Aqueduct -Colorado River Operations: Surplus and Shortage Guidelines—~~Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead.~~" See also" and "-Current Water Conditions and Drought Response Actions." in this Appendix A. Conservation reduces the need to import water to deliver to member agencies through Metropolitan's system. Water conservation is an integral component of Metropolitan's IRP, WSDM Plan, and Water Supply Allocation Plan.

Metropolitan's conservation program has largely been developed to assist its member agencies in meeting the conservation goals established by the 2015 IRP Update. See "METROPOLITAN'S WATER SUPPLY-Integrated Water Resources Plan" in this Appendix A. All users of Metropolitan's system benefit from the reduced infrastructure costs and system capacity made available by investments in demand management programs like the Conservation Credits Program. Under the terms of Metropolitan's Conservation Credits Program, Metropolitan administers regional conservation programs and co-funds member agency conservation programs designed to achieve greater water use efficiency in residential, commercial, industrial, institutional and landscape uses. ~~Direct spending~~ Spending by Metropolitan and its member agencies on active conservation incentives, including rebates for water-saving plumbing fixtures, appliances and equipment totaled about ~~\$16.924~~ million in fiscal year ~~2020-21.~~ Conservation efforts undertaken pursuant to the 2015 IRP Update are estimated to have resulted in 2021-22. During fiscal year 2021-22, water savings achieved through new and prior-year conservation investments under Metropolitan's Conservation Credits Program were approximately 131,876,216,000 acre-feet of water being conserved annually in Southern California over the period 2016 through 2021.

Metropolitan has worked proactively with its member agencies to conserve water supplies in its service area, and significantly expanded its water conservation and outreach programs and increased funding for conservation incentive programs. Historically, revenues collected by Metropolitan's Water Stewardship Rate and available grant funds have funded conservation incentives, local resource development incentives, and other water demand management programs. The Water Stewardship Rate was charged on every acre-foot of water conveyed by Metropolitan, except on water delivered to SDCWA pursuant to the Exchange Agreement (see "METROPOLITAN REVENUES-Water Rates" and "-Litigation Challenging Rate Structure" in this Appendix A) in calendar years 2018, 2019, and 2020. The Water Stewardship Rate was not incorporated into Metropolitan's rates and charges for calendar years 2021 and 2022 or 2023 and 2024. See "METROPOLITAN REVENUES-Rate Structure - *Water Stewardship Rate*" in this Appendix A.

In addition to ongoing conservation, Metropolitan has developed a WSDM Plan, which splits resource actions into two major categories: Surplus Actions and Shortage Actions. See "-Water Surplus and Drought Management Plan." Conservation and water efficiency programs are part of Metropolitan's resource management strategy which makes up these surplus and shortage actions.

~~Metropolitan's~~ The Water Supply Allocation Plan allocates Metropolitan's water supplies among its member agencies, based on the principles contained in the WSDM Plan, to reduce water use and drawdowns from water storage reserves. See "-Water Supply Allocation Plan." Metropolitan's member agencies and

retail water suppliers in Metropolitan's service area also can implement water conservation and allocation programs, and some of the retail suppliers in Metropolitan's service area have initiated conservation measures. The success of conservation measures in conjunction with the implementation of the Water Supply Allocation Plan in fiscal years 2009-10, 2010-11, 2011-12 and 2015-16 is evidenced as a contributing factor in the lower than budgeted water transactions during such drought periods.

Legislation approved in November 2009 set a statewide conservation target for urban per capita potable water use of 20 percent reductions (from a baseline per capita use determined utilizing one of four State-approved methodologies) by 2020 (with credits for existing conservation) at the retail level, providing an additional catalyst for conservation by member agencies and retail suppliers. Metropolitan's water transactions projections incorporate an estimate of conservation savings that will reduce retail demands. Current projections include an estimate of additional water use efficiency savings resulting from Metropolitan's 2015 IRP Update goals that included the reduction of overall regional per capita water use by 20 percent by 2020 from a baseline of average per capita water use from 1996-2005 in Metropolitan's service area. As of calendar year 2020, per capita water use in Metropolitan's service area had reached the 20 percent reduction by 2020 target.

### **Water Surplus and Drought Management Plan**

In addition to the long-term planning guidelines and strategy provided by its IRP, Metropolitan has developed its WSDM Plan for the on-going management of its resources and water supplies in response to hydrologic conditions. The WSDM Plan, which was adopted by Metropolitan's Board in April 1999, evolved from Metropolitan's experiences during the droughts of 1976-77 and 1987-92. The WSDM Plan is a planning document that Metropolitan uses to guide inter-year and intra-year storage operations, and splits resource actions into two major categories: surplus actions and shortage actions. The surplus actions emphasize storage of surplus water inside the region, followed by storage of surplus water outside the region. The shortage actions emphasize critical storage programs and facilities and conservation programs that make up part of Metropolitan's response to shortages. Implementation of the plan is directed by a WSDM team, made up of Metropolitan staff, that meets regularly throughout the year and more frequently between November and April as hydrologic conditions develop. The WSDM team develops and recommends storage actions to senior management on a regular basis and provides updates to the Board on hydrological conditions, storage levels and planned storage actions through detailed reports.

### **Water Supply Allocation Plan**

In times of prolonged or severe water shortages, Metropolitan manages its water supplies through the implementation of its Water Supply Allocation Plan. The Water Supply Allocation Plan was originally approved by Metropolitan's Board in February 2008, and has been implemented three times since its adoption, including most recently in April 2015. The Water Supply Allocation Plan provides a formula for equitable distribution of available water supplies in case of extreme water shortages within Metropolitan's service area and if needed is typically approved in April with implementation beginning in July. In December 2014, the Board approved certain adjustments to the formula for calculating member agency supply allocations during subsequent periods of implementation of the Water Supply Allocation Plan. Although the Act gives each of Metropolitan's member agencies a preferential entitlement to purchase a portion of the water served by Metropolitan (see "METROPOLITAN REVENUES-Preferential Rights" in this Appendix A), historically, these rights have not been used in allocating Metropolitan's water. Metropolitan's member agencies and retail water suppliers in Metropolitan's service area also may implement water conservation and allocation programs within their respective service territories in times of shortage. See also "METROPOLITAN'S WATER SUPPLY-Current Water Conditions and Drought Response Actions" in this Appendix A. Based upon Metropolitan's ~~existing~~available storage balances, ~~implementation of the Water Supply Allocation Plan for fiscal year 2022-23 is not expected. However, in response to minimal supplies of~~the Water Supply Allocation Plan has not been implemented for fiscal year 2022-23. However, recognizing the need to preserve remaining storage reserves in light of the challenges

projecting Metropolitan's State Water Project water in 2022 to meet normal demands in areas that cannot be supplied with and Colorado River water, in April 2022, Metropolitan's Board approved the framework of an Emergency Water Conservation Program to reduce demands for State Water Project watersupplies in 2023, Metropolitan's Board adopted a resolution on December 13, 2022, declaring a Regional Drought Emergency for Metropolitan's entire service area and urged all cities and water suppliers to immediately take actions to reduce use of all imported water supplies. The December 2022 resolution also signaled that if drought conditions persist in the coming months, then the Board may consider action in April 2023 to implement mandatory regionwide restrictions on imported water use through the Water Supply Allocation Plan during fiscal year 2023-24. However, due to the improved hydrologic conditions in early 2023, staff does not anticipate a need for a regionwide supply allocation during fiscal year 2023-24. Staff continues to evaluate supply and demand conditions as they develop.

### **Emergency Water Conservation Program for the State Water Project Dependent Area**

As a result of record drought in California and extremely limited State Water Project allocations, Metropolitan anticipates had insufficient supplies in 2022 to meet normal demands in the ~~State Water Project dependent portion of Metropolitan's service area (the "SWP Dependent Area")~~. The SWP Dependent Area is defined as the current portion of the service area that can only receive Metropolitan's supplies through the State Water Project system. These supplies include the annual State Water Project allocation, north of Delta water transfers and previously stored State Water Project supplies such as groundwater banking, carryover, and flexible supplies in Castaic Lake and Lake Perris. The boundaries of the SWP Dependent Area are not static. Metropolitan's drought mitigation actions since 2021 have reduced the SWP Dependent Area by increasing the ability to move more Colorado River and Diamond Valley Lake supplies to greater portions of the service area. However, with critical State Water Project supply conditions experienced in 2022 and the persistent drought that ~~has~~ depleted supplies accessible to the SWP Dependent Area, Metropolitan ~~has~~ determined that it is was imperative to further reduce demands ~~in within~~ the SWP Dependent Area.

Metropolitan's existing Water Supply Allocation Plan was designed to be used when a regionwide shortage exists. Staff determined that the Water Supply Allocation Plan, with its regional focus, would not effectively or efficiently alleviate the circumstances of ~~this current~~ the then existing drought emergency. Instead, an Emergency Water Conservation Program was developed in coordination with affected member agencies to preserve remaining supplies available to the SWP Dependent Area in a more expedient manner.

On April 26, 2022, Metropolitan's Board declared that a Water Shortage Emergency Condition ~~exists~~ existed for the SWP Dependent Area and unanimously adopted the framework of an Emergency Water Conservation Program. Metropolitan's Board also authorized the General Manager to finalize the program within 30 days consistent within the adopted framework. The purpose of the Emergency Water Conservation Program is was to adaptively preserve supplies by reducing non-essential uses of water delivered through the State Water Project system.

The Emergency Water Conservation Program ~~includes~~ began implementation on June 1, 2022, and was authorized through June 30, 2023. The Emergency Water Conservation Program included two paths for affected member agencies to reduce use of Metropolitan's supplies delivered from the State Water Project system. Beginning on June 1, 2022, affected member agencies ~~may could~~ either (i) comply with one day per week enforced watering restrictions, ~~which no earlier than September 1 may be further restricted to zero day per week watering in the event the General Manager determines that such a ban is necessary to preserve SWP supplies, or (ii) achieve compliance with volumetric limits on State Water Project supply based on their equivalent share of human health and safety water available from DWR plus any additional water Metropolitan is able to provide from the State Water Project system shared out to each agency based on proportionate population. Under the agency-specific volumetric limits-based compliance path, member agencies that take delivery of on State Water Project water above their limit would be supply, subject to a volumetric penalty surcharge on the excess water deliveries over their limit, to be accrued and billed on a~~

monthly basis, ~~beginning in~~. For the seven-month period between June 2022, ~~No earlier than~~ and December 2022, ~~at the General Manager's discretion, Metropolitan may implement volumetric limits with associated member agencies under the Emergency Conservation Program were able to achieve compliance and no penalties on all~~ were issued in 2022. In January 2023, the SWP Dependent Area ~~member agencies, including agencies that had previously chosen the outdoor watering restriction compliance path~~ received new volumetric limits for the second phase of the program from January through June 2023. Due to uncertainties in the available water supplies at the beginning of 2023, the volumetric limits set for the first half of 2023 were subject to fluctuation.

Following DWR's initial State Water Project allocation of five percent of contracted amounts for calendar year 2023 announced in December 2022, and as a result of improved hydrologic conditions, DWR increased the annual allocation estimate to 30 percent of contracted amounts in January 2023, and subsequently announced a further increase in the annual allocation estimate to 35 percent of contracted amounts in February 2023, and a further increase to 75 percent of contracted amounts in March 2023. Due to the improved State Water Project water supply conditions that alleviate the acute water shortage in the SWP Dependent Area, on March 14, 2023, Metropolitan's Board removed the Water Shortage Emergency Condition for the SWP Dependent Area and terminated the Emergency Water Conservation Program.

The Emergency Water Conservation ~~Plan is~~ Program was intended as a short-term policy ~~until a more permanent alternative can be provided through ongoing operational, physical, and supply actions in response to remedy the supply~~ severe drought conditions that existed and infrastructure constraints ~~in that severely limited the portion~~ delivery of State Water Project supplies. Metropolitan's ~~service area identified as~~ has committed to providing equitable reliability to the SWP Dependent Area by increasing access to existing supplies and storage, and development of new supplies and storage. In addition, Metropolitan was awarded \$50 million in reimbursement grant funding from the State of California in the State's fiscal year 2022-23 budget for a set of drought emergency mitigation projects to move locally stored water into the SWP Dependent Area .

## REGIONAL WATER RESOURCES

### General

The water supply for Metropolitan's service area is provided in part by Metropolitan and in part by non-Metropolitan sources available to members. Non-Metropolitan sources include water imported by the City of Los Angeles (the "City") from the Owens Valley/Mono Basin east of the Sierra Nevada through the City's Los Angeles Aqueduct to serve customers of the City. See "– Los Angeles Aqueduct." The balance of water within the region is produced locally, from sources that include groundwater and surface water production, recycled water and recovery of contaminated or degraded groundwater, and seawater desalination. Programs to develop these local resources include projects funded by Metropolitan's Local Resources Program (the "LRP"), as well as local agency funded programs. See "–Local Water Supplies."

Based on a ten-year average from ~~2011~~ calendar years 2012 through 2020 ~~2021~~ (the most recent full year information available), non-Metropolitan sources met about 54 percent of the region's water needs. These non-Metropolitan sources of supply fluctuate in response to variations in rainfall. During prolonged periods of below normal rainfall, local water supplies decrease. Conversely, prolonged periods of above-normal rainfall increase local supplies. Sources of groundwater basin replenishment include local precipitation, runoff from the coastal ranges, and artificial recharge with imported water supplies. In addition to runoff, recycled water provides an increasingly important source of replenishment water for the region.

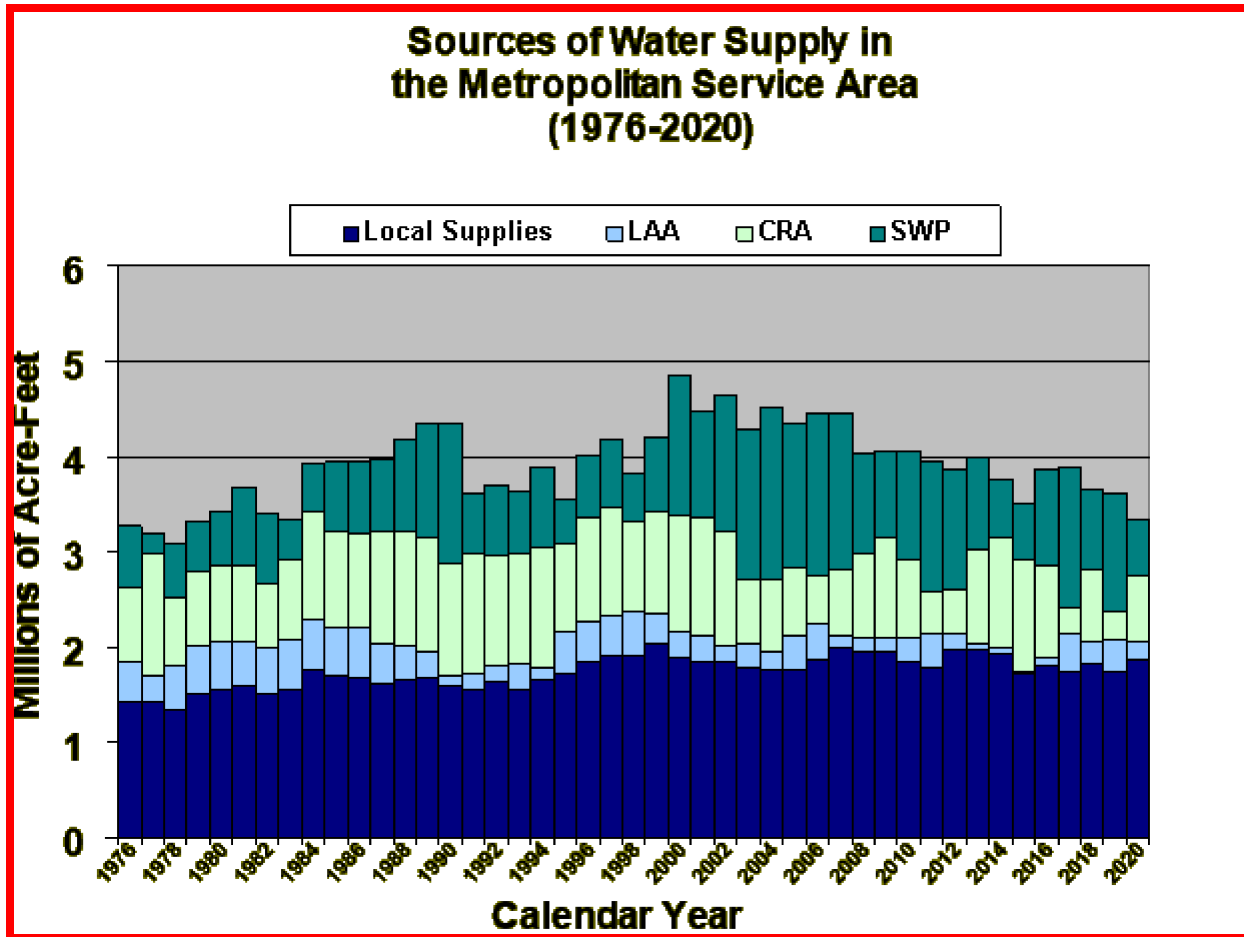
Metropolitan's member agencies are not required to purchase or use any of the water available from Metropolitan. Some agencies depend on Metropolitan to supply nearly all of their water needs, regardless of the weather. Other agencies, with local surface reservoirs or aqueducts that capture rain or snowfall, rely on

Metropolitan more in dry years than in years with heavy rainfall, while others, with ample groundwater supplies, purchase Metropolitan water only to supplement local supplies and to recharge groundwater basins. Consumer demand and locally supplied water vary from year to year, resulting in variability in the volume of Metropolitan's water transactions.

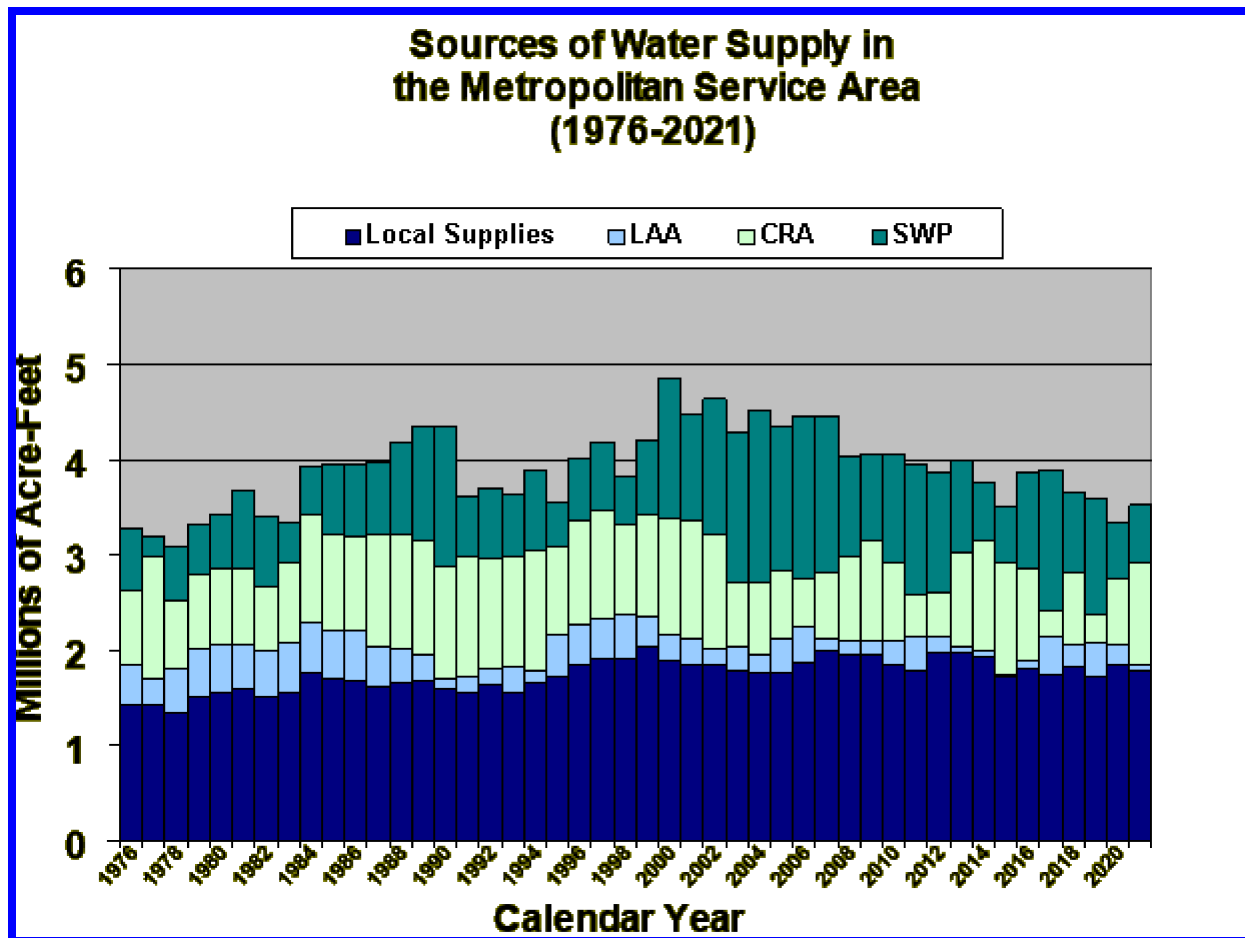
In recent years, supplies and demands have been affected by drought, water use restrictions, economic conditions, weather conditions and environmental laws, regulations and judicial decisions, as described in this Appendix A under "METROPOLITAN'S WATER SUPPLY." The demand for supplemental supplies provided by Metropolitan is dependent on water use at the retail consumer level and the amount of locally supplied and conserved water. See "CONSERVATION AND WATER SHORTAGE MEASURES" in this Appendix A and "Local Water Supplies" below.

Future reliance on Metropolitan supplies will depend on, among other things, current and future local projects that may be developed and the amount of water that may be derived from sources other than Metropolitan. For information on Metropolitan's water revenues, see "METROPOLITAN REVENUES" and "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A.

The following graph shows a summary of the regional sources of water supply for ~~the~~calendar years 1976 to ~~2020~~2021 (the most recent full year information available). In the graph below, LAA refers to the Los Angeles Aqueduct. See "Los Angeles Aqueduct." The graph below includes updated local supply numbers that include Santa Ana River baseflow below Prado Dam, which was previously not included from 1980 through 2009. ~~Additional local supply updates from 2010 through 2018 include changes due to reconciliation from 2020 local supply survey. These values reflect the 2020 Urban Water Management Plan.~~







Source: Metropolitan.

The major sources of water available to some or all of Metropolitan's member agencies in addition to supplies provided by Metropolitan are described below.

### Los Angeles Aqueduct

The City of Los Angeles, through its Department of Water and Power ("LADWP"), operates its Los Angeles Aqueduct system to import water from the Owens Valley and the Mono Basin on the eastern slopes of the Sierra Nevada in eastern California. Water imported by the City on the Los Angeles Aqueduct system comes primarily from surface water rights of the City in eastern Sierra Nevada watersheds along various streams, creeks and rivers in the Mono Basin, Long Valley and Owens Valley, and groundwater resources in the Owens Valley from the City's ownership of approximately 330,000 acres of land and associated water rights. This water supply of the City, which serves LADWP's customers, currently meets about ~~five~~ percent of the region's water needs based on a ten-year average from ~~2011~~ calendar years 2012 through 2020 2021 (the most recent full year information available).

Surface runoff (snowmelt) is subject to substantial annual variability, which influences the amount of water delivered by the Los Angeles Aqueduct. In addition, the City is subject to several environmental commitments in the Mono Basin and Owens Valley which impact the availability of water to the City for import on the Los Angeles Aqueduct. These include: (i) the SWRCB's Mono Lake Basin Water Rights Decision 1631, which limits the City's water exports from the Mono Basin based on Mono Lake's surface elevation; and (ii) the City's legal obligations under a long-term groundwater management plan relating to the City's groundwater resources in the Owens Valley.

Los Angeles Aqueduct water deliveries to the City vary from one year to the next. Since ~~2010~~calendar year 2012, Los Angeles Aqueduct water deliveries to the City have varied from as little as ~~58,000~~33,000 acre-feet in ~~fiscal~~calendar year ~~2014-15~~2015 to as much as ~~313,000~~380,000 acre-feet of water in ~~fiscal~~calendar year ~~2018-19~~2017. Average water deliveries to the City from the Los Angeles Aqueduct were approximately ~~253,000~~247,000 acre-feet per ~~fiscal~~calendar year between ~~fiscal~~calendar years ~~2016-17~~2017 and ~~2020-21~~2021 (meeting approximately 50 percent of the City's annual water supply needs). However, during ~~fiscal~~calendar year ~~2020-21~~2021, water deliveries to the City from the Los Angeles Aqueduct were ~~139,000~~approximately 62,000 acre-feet (meeting approximately ~~27~~13 percent of the City's water supply need for ~~fiscal~~calendar year ~~2020-21~~2021). Consequently, the amount of water purchased by the City from Metropolitan also varies with the fluctuations of Los Angeles Aqueduct supply. During the past five ~~fiscal~~calendar years ~~2016-17~~2017 through ~~2020-21~~2021, the City's water purchases from Metropolitan (billed water transactions) ranged from a low of ~~143,000~~102,000 in ~~fiscal~~calendar year ~~2018-19~~2019 to a high of ~~317,000~~346,000 in ~~fiscal~~calendar year ~~2020-21~~2021.

### Local Water Supplies

Local water supplies are made up of groundwater, groundwater recovery, surface runoff, recycled water, and seawater desalination. Metropolitan supports local resources development through its LRP, which provides financial incentives of up to \$340 per acre-foot of water production (based on actual project unit costs that exceed Metropolitan's water rates) from local water recycling, groundwater recovery, and seawater desalination projects. LRP agreement terms are for 25 years and terminate automatically if construction does not commence within two full fiscal years of agreement execution or if water deliveries are not realized within four full fiscal years of agreement execution. Metropolitan utilizes conjunctive use of groundwater to encourage storage in groundwater basins. Member agencies and other local agencies have also independently funded and developed additional local supplies, including groundwater clean-up, recycled water and desalination of brackish or high salt content water. See also "METROPOLITAN'S WATER DELIVERY SYSTEM-Water Quality and Treatment" in this Appendix A for information regarding certain water quality regulations and developments that impact or may impact certain local groundwater supplies.

Metropolitan's water transaction projections are based in part on projections of locally-supplied water. Projections of future local supplies are based on estimated yields of projects that are currently producing water or are under construction at the time a water transaction projection is made. Estimated yields of projects currently producing water are calculated based on the projects' previous four-year production average. Estimated yields of projects that are under construction at the time a water transaction projection is made are based on data provided by the member agencies. See "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES-Water Transactions Projections" and "METROPOLITAN'S WATER SUPPLY-Integrated Water Resources Plan" in this Appendix A.

**Groundwater.** ~~Demands for about 1.1~~Local groundwater basins are the region's largest source of local supply. Since 2012, approximately 1.15 million acre-feet per year, about one-third of the annual water demands for approximately 19 million residents of Metropolitan's service area, are met ~~from~~through local groundwater production. Local groundwater supplies~~basins~~ are supported by recycled water, ~~which is blended with~~ and imported water ~~and recharged into groundwater basins, and also used for replenishing basins and~~ for creating seawater barriers that protect coastal aquifers from seawater intrusion.

**Member Agency Storage Programs.** Metropolitan has developed a number of local programs to work with its member agencies to increase storage in groundwater basins. Metropolitan has encouraged storage through its cyclic and conjunctive use storage programs. These programs allow Metropolitan to deliver water into a groundwater basin in advance of agency demands. Metropolitan has drawn on dry-year supply from nine contractual conjunctive use storage programs to address shortages from the State Water Project and the CRA.



Cyclic storage agreements allow pre-delivery of imported water for recharge into groundwater basins in excess of an agency's planned and budgeted deliveries making best use of available capacity in conveyance pipelines, use of storm channels for delivery to spreading basins, and use of spreading basins. This water is then purchased at a later time when the agency has a need for groundwater replenishment deliveries.

Conjunctive use agreements provide for storage of imported water that can be called for use by Metropolitan during dry, drought, or emergency conditions. During a dry period, Metropolitan has the option to call water stored in the groundwater basins pursuant to its contractual conjunctive use agreements. At the time of the call, the member agency pays Metropolitan the prevailing rate for that water. Nine conjunctive use projects provide about 210,000 acre-feet of groundwater storage and have a combined extraction capacity of about 70,000 acre-feet per year. See the table entitled "Metropolitan's Water Storage Capacity and Water in Storage" under "METROPOLITAN'S WATER SUPPLY-Storage Capacity and Water in Storage" in this Appendix A.

**Reverse Cyclic Program.** In 2022, Metropolitan's Board authorized the General Manager to enter into reverse-cyclic agreements with participating member agencies to preserve the availability of Metropolitan's State Water Project supplies. Metropolitan's General Manager ~~initiates~~initiated deferrals under the Reverse-Cyclic Program ("RCP") when the General Manager ~~determines~~determined that the supply conditions ~~warrant~~warranted deferring the use of State Water Project supplies due to the risk of shortage of these supplies. Metropolitan executed agreements with Calleguas Municipal Water District, Three Valleys Municipal Water District, and Upper San Gabriel Valley Municipal Water District in 2022. Under these agreements and at Metropolitan's request, participating member agencies ~~agree~~agreed to defer Metropolitan deliveries of 25,000 acre-feet of water (in aggregate) purchased in calendar year 2022 to allow Metropolitan to preserve its State Water Project supplies. Metropolitan ~~would bill~~billed participating member agencies the 2022 full-service rate and applicable treatment charge. In doing so, the participating member agencies avoid paying the projected higher service rate that would be in place when Metropolitan makes the deferred delivery. Metropolitan will deliver water to the participating member agencies no later than December 2027, which is five full calendar years from the date of purchase. ~~Metropolitan is currently drafting agreements with member agencies, with the first agreement expected to be executed in the near future~~This program was not reauthorized for 2023.

**Recovered Groundwater.** Contamination of groundwater supplies is a growing threat to local groundwater production. Metropolitan has been supporting increased groundwater production and improved regional supply reliability by offering financial incentives to agencies for the production and treatment of degraded groundwater since ~~1991~~1989 through the LRP. Metropolitan has executed LRP agreements with local agencies to provide financial incentives to ~~2928~~2928 projects that recover contaminated groundwater with total contract yields of about ~~127,000~~125,000 acre-feet per year. Total groundwater recovery use under executed agreements with Metropolitan is estimated to be approximately 60,000 acre-feet in ~~fiscal~~calendar year ~~2020-21~~2021 and 38,000 acre-feet in calendar year 2022. Additionally, ~~65,000~~60,000 acre-feet of recovered groundwater were produced by local agencies through other independently funded and developed sources.

**Surface Runoff.** Local surface water resources consist of runoff captured in storage reservoirs and diversions from streams. Since ~~1980~~2012, agencies have used an average of ~~110,000~~84,000 acre-feet per calendar year of local surface water. Local surface water supplies are heavily influenced by year to year local weather conditions, varying from a high of ~~188,000~~139,000 acre-feet in calendar year ~~1998~~2012 to a low of ~~37,000~~37,500 acre-feet in calendar year 2016.

Stormwater is another local water supply and is surface runoff that is captured and contained on-site as opposed to captured in storage reservoirs or diverted from streams. In 2020, Metropolitan launched two pilot programs to better understand the costs and benefits of stormwater capture, yield, and use. One

program examines opportunities to capture stormwater for direct use and the other explores stormwater capture for groundwater recharge. The programs accepted applications through December 31, 2021. Together, Metropolitan committed up to \$12.5 million ~~for under~~ these programs. ~~During the application process in 2020, Metropolitan received requests for a total of \$8.8 million~~ The projects funded under these programs are in either the construction or monitoring phase. The pilot programs are expected to last at least five years, including the construction and monitoring phases. The data collected during the pilot programs will assist Metropolitan in evaluating the water supply benefits of stormwater capture and provide guidance for future funding strategies.

***Recycled Water-Local Agency Projects.*** Metropolitan has supported recycled water use to offset water demands and improve regional supply reliability by offering financial incentives to agencies for production and sales of recycled water since 1982 through the LRP. Since the inception of the LRP, Metropolitan has executed agreements with local agencies to provide financial incentives to 88 recycled water projects with total expected contract yields of about ~~360,000~~357,000 acre-feet per year. During fiscal year ~~2020-21~~2021-22, Metropolitan provided incentives for approximately ~~57,900~~56,500 acre-feet of recycled water under these agreements. ~~Total recycled water use under executed agreements with Metropolitan currently in place is estimated to be approximately 118,000 acre-feet annually in fiscal year 2020-21.~~ Additionally, ~~403,000~~393,000 acre-feet of recycled water (including wastewater discharged to the Santa Ana River that percolates into downstream groundwater basins) was produced in fiscal year 2021-22 by local agencies through other independently funded and developed sources. Total recycled water use under executed agreements with Metropolitan currently in place is estimated to be approximately 55,000 acre-feet in calendar year 2021 and 54,000 acre-feet in calendar year 2022

Metropolitan also supports recycled water conversions for property owners through the On-Site Retrofit Program ~~(the “OSRP”).~~ The ~~OSRP~~On-Site Retrofit Program provides a financial incentive of \$195 per acre-foot of estimated offset water for ~~five~~ten years to property owners who convert an imported water demand to a recycled water system. In January 2022, Metropolitan’s Board authorized staff to increase the incentive term from five to ten years (\$195/acre-foot for 10 years) in recognition of the long lifespan of recycled water infrastructure. ~~To date~~As of March 1, 2023, the ~~OSRP~~On-Site Retrofit Program has provided ~~\$11.05~~11.75 million to ~~445~~474 projects that offset approximately ~~12,800~~13,241 acre-feet per year of imported water supplies.

***Recycled Water-Metropolitan ~~Regional Recycled~~ Pure Water Southern California Program.*** Since 2010, Metropolitan has been evaluating the potential and feasibility of implementing a regional recycled water program ~~(the “~~, now referred to as Pure Water Southern California (the “PWSC”) (previously identified as the Regional Recycled Water Program or RRWP”). Chronic drought conditions have resulted in significant reductions in local surface supplies and groundwater production and have increased the need for recharge supplies to groundwater and surface water reservoirs to improve their sustainable yields and operating integrity. In 2015, Metropolitan executed an agreement with the Los Angeles County Sanitation Districts ~~of Los Angeles County (“LACSD”)~~ to implement a demonstration project and to establish a framework of terms and conditions of the ~~RRWP~~PWSC. The objectives of the ~~RRWP~~PWSC are to enable the potential reuse of up to 150 million gallons per day (“mgd”) of ~~treated~~cleaned wastewater effluent from LACSD’s Joint Water Pollution Control Plant (“JWPCP”). Purified water from a new advanced treatment ~~facility~~plant could be delivered through pipelines to the region’s groundwater basins, industrial facilities, and two of Metropolitan’s treatment plants.

Construction of a 0.5-mgd advanced water treatment demonstration plant was approved in 2017 and was completed in September 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. The tertiary membrane bioreactor (“MBR”) first testing phase was completed in 2021 ~~with future testing phases planned that~~and has been followed by secondary MBR testing which will be completed in 2023. The testing will form the basis for the design, operation, and optimization of ~~the advanced treatment plant~~ and will help

inform Metropolitan's Board decision whether to move forward with, a full-scale ~~advanced water treatment facility. Finally~~program.

If implemented, the ~~RRWP, if constructed~~PWSC will have the flexibility to ~~be expanded in the future to implement~~produce purified water suitable for Direct Potable Reuse ("DPR") through raw water augmentation at two of Metropolitan's treatment plants. The SWRCB Division of Drinking Water ("DDW") is in the process of developing regulations for DPR in California, with the ~~current anticipated date for promulgation by the end~~statutorily-mandated deadline of December 31, 2023.

On November 10, 2020, Metropolitan's Board voted to begin environmental planning work on the ~~RRWPPWSC~~. The Notice of Preparation was published on September 2022 with scoping meetings held in October 2022. The draft EIR is scheduled for completion in the first quarter of 2023 with approval anticipated in the fall/winter of 2024.

Metropolitan has been active in pursuing partnerships with other agencies. In November 2020, Metropolitan and LACSD executed an amendment to the existing collaboration agreement to contribute up to approximately \$4.4 million for the environmental planning phase costs. In December 2020, Metropolitan and SNWA executed a funding agreement under which SNWA will contribute up to \$6 million for the environmental planning costs for the ~~RRWPPWSC~~. In the event either SNWA or Metropolitan decides not to proceed or participate in the ~~RRWPPWSC~~ in the future, SNWA's financial contribution to the ~~RRWPPWSC~~'s environmental planning would be returned by Metropolitan. In 2021, Metropolitan signed an agreement with the Arizona Parties (Central Arizona Project and Arizona DWR) for a \$6 million financial contribution similar to the SNWA agreement. Overall, Metropolitan ~~also has a contribution agreement with LACSD for approximately ten~~ letters of interest representing 15 different agencies. In addition, Metropolitan was awarded \$4.680 million in grant funding for the PWSC from the State of California in the State's fiscal year 2022-23 budget.

Environmental planning phase work for the ~~RRWPPWSC~~ began in fiscal year 2020-21 and is expected to continue through fiscal year 2023-24 into fiscal year 2024-25. The fiscal year 2022-23 and 2023-24 biennial budget includes \$20 million for planning costs of the ~~RRWPPWSC~~ as part of the operations and maintenance budget. Metropolitan's financial projections for the fiscal years ending June 30, 2023 through 2027 include approximately \$273 million in fiscal years ~~2025~~2024-25 through ~~2027~~2026-27 for estimated future capital costs associated with a potential full-scale ~~RRWPPWSC~~. If approved, design and construction would be expected to take approximately eight years, with total construction costs estimated at approximately \$3.7 billion.

**Seawater Desalination.** Metropolitan supports seawater desalination as a part of the region's supply portfolio as well as a mechanism to increase regional supply resiliency under different climate change and population growth scenarios.

In 2007, the Board approved Metropolitan's role as a regional facilitator for seawater desalination. This includes supporting local projects during permitting and providing technical assistance when requested. Metropolitan's regional facilitation includes active participation in organizations advocating for desalination and salinity management, including CalDesal and the Southern California Salinity Coalition within California, and the Multi-State Salinity Coalition nationally. Metropolitan also participates in the National Alliance for Water Innovation ("NAWI"). NAWI is a Department of Energy-led, ~~five-year~~, \$100 million research effort focused on accelerating the commercialization of early-stage desalination technologies. New technologies developed by NAWI could reduce cost and environmental barriers to seawater desalination in California.

In October 2014, seawater desalination projects became eligible for funding under Metropolitan's LRP. There ~~are~~is currently ~~two~~one local seawater desalination ~~projects~~project in the permitting ~~stages~~stage

that could receive LRP incentives. ~~These include South Coast Water District's proposed 2,000 to 15,000 acre-feet per year~~ ("South Coast") is proposing a 5-mgd Doheny Ocean Desalination project (the "Doheny Project") in south Orange County ~~and Orange County Water District's proposed 56,000 acre-feet per year.~~ South Coast has obtained key State permits for the Doheny Project and will be initiating the 60 percent design phase in 2023. The 50-mgd Huntington Beach Seawater Desalination project in north Orange County is no longer under development after failing to obtain a coastal development permit. LRP applications for potential projects would be considered by Metropolitan's Board after they are permitted, free of litigation, and authorized to proceed by their developing agencies.

In 2015, Poseidon Resources LLC ("Poseidon") began operating the 56,000 acre-foot per year (50-mgd) Carlsbad Desalination Project and associated pipeline. SDCWA has a purchase agreement with Poseidon for a minimum of 48,000 acre-foot per year with an option to purchase an additional 8,000 acre-foot per year.

## METROPOLITAN'S WATER DELIVERY SYSTEM

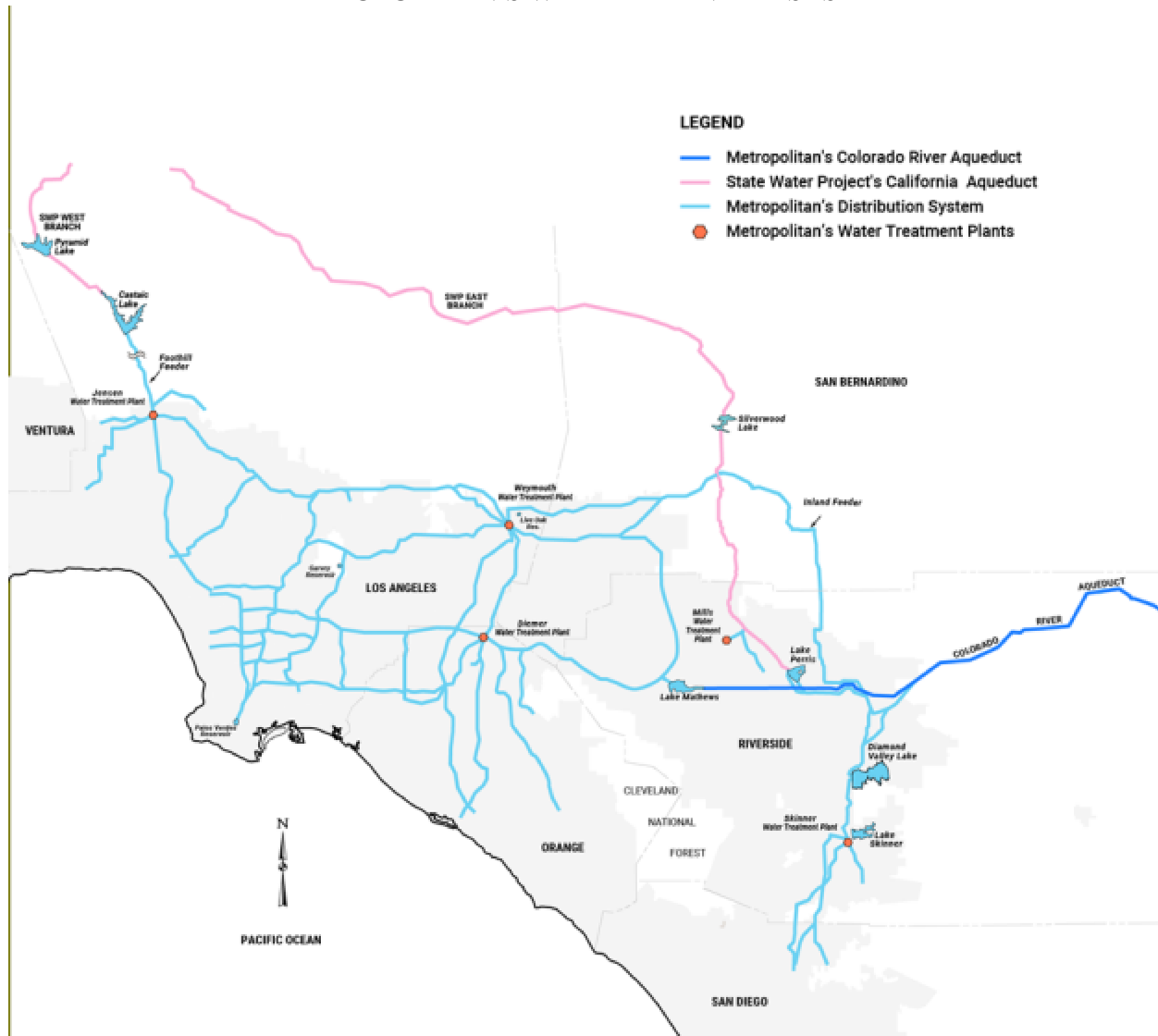
### Primary Facilities and Method of Delivery

Metropolitan's water delivery system is made up of three basic components: the Colorado River Aqueduct (CRA), the California Aqueduct of the State Water Project, and Metropolitan's water distribution system. Metropolitan's delivery system is integrated and designed to meet the differing needs of its member agencies. Metropolitan seeks redundancy in its delivery system to assure reliability in the event of an outage. Improvements are designed to increase the flexibility of the system. Since local sources of water are generally used to their maximum each year, growth in the demand for water is partially met by Metropolitan. The operation of Metropolitan's water system is being made more reliable through the rehabilitation of key facilities as needed, improved preventive maintenance programs and the upgrading of Metropolitan's operational control systems. See "CAPITAL INVESTMENT PLAN" in this Appendix A.

The graphic ~~on the following page~~[that follows](#) depicts Metropolitan's water delivery system, which is further described below.

~~[Remainder of page intentionally left blank.]~~

## METROPOLITAN'S WATER DELIVERY SYSTEM



[Source: Metropolitan.](#)



**Colorado River Aqueduct.** Work on the CRA commenced in 1933 and water deliveries started in 1941. Additional facilities were completed by 1961 to meet additional requirements of Metropolitan's member agencies. The CRA is 242 miles long, starting at the Lake Havasu intake and ending at the Lake Mathews terminal reservoir. Metropolitan owns all the components of the CRA, which include five pumping plants, 64 miles of canal, 92 miles of tunnels, 55 miles of concrete conduits, four reservoirs, and 144 underground siphons totaling 29 miles in length. The pumping plants lift the water approximately 1,617 feet over several mountain ranges to Metropolitan's service area. See "METROPOLITAN'S WATER SUPPLY-Colorado River Aqueduct" in this Appendix A.

**State Water Project.** The initial portions of the State Water Project serving Metropolitan were completed in 1973. The State Water Project, managed and operated by DWR, is one of the largest water supply projects undertaken in the history of water development. The State Water Project facilities dedicated to water delivery consist of a complex system of dams, reservoirs, power plants, pumping plants, canals and aqueducts to deliver water. Water from rainfall and snowmelt runoff is captured and stored in State Water Project conservation facilities and then delivered through State Water Project 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 State Water Project through the main stem of the aqueduct system, the California Aqueduct, which is 444 miles long and includes 381 miles of canals and siphons, 49 miles of pipelines or tunnels and 13 miles of channels and reservoirs.

As described herein, Metropolitan is the largest (in terms of number of people it serves, share of State Water Project water it has contracted to receive, and percentage of total annual payments made to DWR therefor) of ~~twenty-nine~~<sup>29</sup> agencies and districts that have entered into contracts with DWR to receive water from the State Water Project. Contractors pay all costs of the facilities in exchange for participation rights in the system. Thus, Contractors also have the right to use the portion of the State Water Project conveyance system necessary to deliver water to them at no additional cost as long as capacity exists. See "METROPOLITAN'S WATER SUPPLY-State Water Project" in this Appendix A.

**Distribution System.** Metropolitan's distribution system is a complex network of facilities which routes water from the CRA and State Water Project to Metropolitan's member agencies. The water distribution system includes components that were built beginning in the 1930s and through the present. Metropolitan owns all of these components, including nine reservoirs, five regional treatment plants, over 800 miles of transmission pipelines, feeders and canals, and 15 hydroelectric plants with an aggregate capacity of 130 megawatts.

In 2022, Metropolitan committed to equivalent water supply reliability for all member agencies. Based on performance during the 2020-2022 drought, improvements to the distribution system are planned or underway to achieve this commitment.

**Diamond Valley Lake.** Diamond Valley Lake, a man-made reservoir, built, owned and operated by Metropolitan, is located southwest of the city of Hemet, California. Excavation at the project site began in May 1995. Diamond Valley Lake was completed in March 2000, at a total cost of \$2 billion, and was in full operation in December 2001. It covers approximately 4,410 acres and has capacity to hold approximately 810,000 acre-feet or 265 billion gallons of water. Imported water is delivered to Diamond Valley Lake during surplus periods. The reservoir provides more reliable delivery of imported water from the State Water Project during summer months, droughts and emergencies. In addition, Diamond Valley Lake can provide more than one-third of Southern California's water needs from storage for approximately six months after a major emergency (assuming that there has been no impairment of Metropolitan's internal distribution network). See the table entitled "Metropolitan's Water Storage Capacity and Water in Storage" under "METROPOLITAN'S WATER SUPPLY-Storage Capacity and Water in Storage" in this Appendix A for the amount of water in storage at Diamond Valley Lake. Excavation at the project site began in May 1995. Diamond Valley Lake was completed in March 2000, at a total cost of \$2 billion, and was in full operation in December 2001.

***Inland Feeder.*** Metropolitan's Inland Feeder is a 44-mile-long conveyance system that connects the State Water Project to Diamond Valley Lake and the CRA. Construction of the Inland Feeder was completed in September 2009 at a total cost of \$1.14 billion. The Inland Feeder provides greater flexibility in managing Metropolitan's major water supplies and allows greater amounts of State Water Project water to be accepted during wet seasons for storage in Diamond Valley Lake. In addition, the Inland Feeder increases the conveyance capacity from the East Branch of the State Water Project by 1,000 cfs, allowing the East Branch to operate up to its full capacity. ~~Construction of the Inland Feeder was completed in September 2009 at a total cost of \$1.14 billion.~~

***Operations Control Center.*** Metropolitan's water conveyance and distribution system operations are coordinated from the Eagle Rock Operations Control Center (the "OCC") centrally located in Los Angeles County. The OCC plans, balances and schedules daily water and power operations to meet member agencies' demands, taking into consideration the operational limits of the entire system.

## Water Quality and Treatment

***General.*** Metropolitan filters and disinfects water at five water treatment plants: the F.E. Weymouth Treatment Plant in La Verne, the Joseph Jensen Treatment Plant in Granada Hills, the Henry J. Mills Treatment Plant in Riverside, the Robert B. Diemer Treatment Plant in Yorba Linda, and the Robert A. Skinner Treatment Plant in Winchester. In recent years, the plants typically treat between 0.8 billion and 1.0 billion gallons of water per day and have a maximum capacity of approximately 2.4 billion gallons per day. Approximately 50 percent of Metropolitan's water deliveries are treated water.

During 2021, due to the ongoing COVID-19 pandemic, Metropolitan received force majeure notices from certain of its chemical vendors regarding their inability to fulfill orders as a result of competing demand and supply chain issues. Metropolitan's chemical supplies, however, were not impacted. In addition, the COVID-19 pandemic caused labor shortages, resulting in periodic delays in chemical deliveries. This issue ~~is expected to continue~~ continued in 2022. Metropolitan monitors its chemical inventories closely and did not experience interruptions in its supplies. However, limited supplies and inflationary pressures have resulted in cost increases, which are continuing.

Metropolitan is operating in compliance with current ~~state~~ State and federal drinking water regulations and permit requirements.

Federal and state regulatory agencies routinely identify potential contaminants and establish new water quality standards. Metropolitan continually monitors new water quality laws and regulations and frequently comments on new legislative proposals and regulatory rules. New water quality standards could affect the availability of water and impose significant compliance costs on Metropolitan. The federal Safe Drinking Water Act ("SDWA") establishes drinking water quality standards, monitoring, and public notification and enforcement requirements for public water systems. To achieve these objectives, the U.S. Environmental Protection Agency (the "USEPA"), as the lead regulatory authority, promulgates national drinking water regulations and develops the mechanism for individual states to assume primary enforcement responsibilities. The SWRCB DDW, ~~formerly the Drinking Water Program under the California Department of Public Health~~, has primary responsibility for the regulation of public water systems in the State. Drinking water delivered to customers must comply with statutory and regulatory water quality standards designed to protect public health and safety. Metropolitan operates its five water treatment plants under a domestic water supply permit issued by DDW, which is amended, as necessary, such as when significant facility modifications occur. Metropolitan operates and maintains water storage, treatment and conveyance facilities, implements watershed management and protection activities, performs inspections, monitors drinking water quality, and submits monthly and annual compliance reports. In addition, public water system discharges to state and federal waters are regulated under general National Pollutant Discharge Elimination System ("NPDES") permits. These NPDES permits, which the SWRCB issued to Metropolitan, contain numerical effluent limitations, monitoring, reporting, and notification requirements for water discharges from the facilities and pipelines of Metropolitan's water supply and distribution system.

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**Groundwater.** As described herein, Metropolitan has established five groundwater storage programs with other water agencies that allow Metropolitan to store available supplies in the Central Valley for return later. These programs help manage supplies by putting into storage surplus water in years when it is available and converting that to dry year supplies to be returned when needed. These programs can also provide emergency supplies. See “METROPOLITAN’S WATER SUPPLY–Water Transfer, Storage and Exchange Programs –State Water Project Agreements and Programs” and “–Storage Capacity and Water in Storage” in this Appendix A. Generally, water returned to Metropolitan under these groundwater storage programs (“return water”) may be made available in one of two ways: by direct pump back from a groundwater well to the California Aqueduct or, when available, by an exchange with a supply already in the aqueduct. Water quality issues can arise in water returned by direct pumping as a result of the presence of a water quality contaminant in the groundwater storage basin and due to the imposition of stricter water quality standards by federal or State regulation.

In 2017, the SWRCB adopted a regulation setting ~~a Maximum Contaminant Level (“an MCL”)~~ for TCP of ~~five~~ parts per trillion (“ppt”) based upon a running annual average. TCP is a manufactured chemical used as a cleaning and degreasing solvent and has been found at industrial and hazardous waste sites. It is also associated with pesticide products used in agricultural practices. TCP has been recognized by the State of California as a likely human carcinogen. In January 2018, the new regulation went into effect. Under the new regulation, drinking water agencies are required to perform quarterly monitoring of TCP. There have been no detections of this chemical in Metropolitan’s system. However, TCP has been detected above the MCL in groundwater wells of three of Metropolitan’s groundwater storage program partners through monitoring performed by these agencies. Levels detected in groundwater wells of ~~the Arvin-Edison Water Storage District~~ are the highest and impact Metropolitan’s ability to put water into storage and take return water under that program. As noted under “METROPOLITAN’S WATER SUPPLY–Water Transfer, Storage and Exchange Programs –State Water Project Agreements and Programs – Arvin-Edison/Metropolitan Water Management Program” in this Appendix A, Metropolitan has suspended the return of groundwater from ~~the~~this program until the water quality concerns can be further evaluated and managed. When surface water storage is available to Arvin-Edison, it may provide that water to Metropolitan in lieu of groundwater and deduct an equivalent amount from Metropolitan’s groundwater storage account. However, in 2023, Metropolitan will take return of approximately 10,000 to 20,000 acre-feet less of stored water (via surface water exchange) than it would otherwise request due to the elevated levels of TCP present in Arvin-Edison’s groundwater wells. The levels of TCP detected at Metropolitan’s other groundwater storage programs are much lower and impact fewer groundwater wells. Metropolitan is evaluating the effects of TCP on the return capability of those programs.

Possible remediation measures include, for example, return water with other surface water supplies, removal of wells from service, return water by exchange, or treatment. Additional capital and/or operation and maintenance costs could be incurred by Metropolitan in connection with remediation options, but the magnitude of such costs is not known at this time. To the extent return water under one or more groundwater storage programs could not be utilized due to groundwater quality, the available supply of stored water during extended drought or emergency periods would be reduced.

**Perchlorate.** Perchlorate is both a naturally occurring and man-made chemical used in the production of rocket fuel, missiles, fireworks, flares and explosives. It is also sometimes present in bleach and in some fertilizers. Groundwater in the Henderson, Nevada area has been contaminated with perchlorate as a result of two former chemical manufacturing facilities, and there are ongoing remediation programs to mitigate its release into the Las Vegas Wash and the downstream Colorado River. On July 21, 2020, the USEPA withdrew its 2011 determination to regulate perchlorate under the SDWA and issued a new determination that perchlorate does not meet the statutory criteria for regulation, largely because of State MCLs in California, and the reduction of perchlorate entering the Colorado River and reducing the potential exposed population. Thus, there is currently no federal drinking water standard for perchlorate, which could potentially affect remediation efforts at two sites in the Henderson area (described below). Whether the

USEPA should issue a national drinking water standard for perchlorate is the subject of ongoing litigation by the Natural Resources Defense Council, ~~Inc. The case was on hold while~~ (“NRDC”). ~~On January 27, 2023, three judges of the USEPA was reviewing its prior decision not to set a federal MCL for perchlorate. On March 31, 2022, the USEPA concluded that its prior determination not to regulate perchlorate in drinking water is supported by the best available peer reviewed science. The agency will continue to consider: (1) new information on the health effects and occurrence of perchlorate; and (2) if perchlorate should be added to future Contaminant Candidate Lists for possible regulation under the Safe Drinking Water Act. Now that the USEPA~~ U.S. Court of Appeals for the District of Columbia Circuit heard oral argument in NRDC’s lawsuit. The court has concluded not yet issued its review, the Natural Resources Defense Council, Inc. is proceeding with its appeal decision.

California is reviewing its MCL for perchlorate ~~considering~~ in light of a revised Public Health Goal (“PHG”) of 1 µg/L adopted in February 2015. PHGs are established by the California Office of Environmental Health Hazard Assessment (“OEHHA”) and used as the basis for the development of a State regulation setting an MCL. The SWRCB is required to set an MCL for a chemical as close to the PHG as is technologically and economically feasible, placing primary emphasis on the protection of public health. DDW is conducting an in-depth risk management analysis to determine whether to revise the perchlorate MCL of 6 µg/L. The detection limit for purposes of reporting (DLR) for perchlorate was lowered to 2 µg/L in July 2021, and it will further be reduced to 1 µg/L in January 2024. If California’s MCL for perchlorate is revised to a level less than 6 µg/L, it will be important for the oversight agencies, the USEPA and the Nevada Division of Environmental Protection, to ensure that the perchlorate contamination originating at the two former chemical manufacturing facilities in Henderson, Nevada is remediated to a level that minimizes impacts to the Colorado River and that perchlorate concentrations at Metropolitan’s Whitsett Intake at Lake Havasu stay at levels below California’s MCL. Metropolitan was successful in 2022 in convincing the USEPA and the Nevada Division of Environmental Protection to require the Nevada Environmental Response Trust (which is responsible for cleaning up the former site of one of the chemical manufacturers in Henderson, Nevada) to use California’s current MCL of 6 µg/L for perchlorate as an applicable or relevant and appropriate requirement (“ARAR”) and California’s PHG for perchlorate of 1 µg/L as a to-be-considered criterion for remedial action objectives at the California state line. Metropolitan will continue to monitor the cleanup of the two former chemical manufacturing facilities in Henderson, Nevada and to participate in federal and state rulemaking proceedings.

**PFAS.** Per- and poly-fluoroalkyl substances (“PFAS”) are substances widely used in consumer and industrial products such as fabrics, carpets, firefighting foams, food packaging, and nonstick cookware and are known for their nonstick, waterproof, and heat and stain resistant properties. Perfluorooctane sulfonate (“PFOS”) and perfluorooctanoic acid (“PFOA”) are the two most common synthetic organic chemicals in the group of compounds referred to as PFAS. In August 2019, DDW lowered the notification levels (“NLs”) for PFOS from 13 ppt to 6.5 ppt and for PFOA from 14 ppt to 5.1 ppt. NLs are non-regulatory, precautionary health-based measures for concentrations of chemicals in drinking water that warrant notification and further monitoring and assessment. If a chemical concentration is greater than its NL in drinking water that is provided to consumers, DDW recommends that the utility inform its customers and consumers about the presence of the chemical, and about health concerns associated with exposure to it. In February 2020, DDW lowered the response levels (“RLs”) for PFOA and PFOS from 70 ppt for individual or combined concentrations to 10 ppt for PFOA and 40 ppt for PFOS. An RL is set higher than an NL and represents a chemical concentration level at which DDW recommends a water system consider taking a water source out of service or providing treatment if that option is available to them. Legislation which took effect on January 1, 2020 (California Assembly Bill 756) requires that water systems that receive a monitoring order from the SWRCB and detect levels of PFAS that exceed their respective RL must either take a drinking water source out of use or provide specified public notification if they continue to supply water above the RL. In March 2021, DDW issued an NL of 0.5 parts per billion (“ppb”) and an RL of 5 ppb for perfluorobutane sulfonic acid (“PFBS”), another PFAS chemical. In July 2021, OEHHA proposed PHGs for PFOA at 0.007 ppt and PFOS at 1 ppt, the next step in the process of establishing MCLs in drinking water. In October 2022, the

SWRCB issued an NL of 3 ppt and an RL of 20 ppt for perfluorohexane sulfonic acid (“PFHxS”). Also in October 2022, the SWRCB issued a general order requiring select public water systems to monitor for PFAS.

There are currently no federal regulations on the level of PFAS allowed in treated drinking water. The USEPA established non-enforceable and non-regulatory ~~Health Advisories~~ health advisories in 2016 for PFOA and PFOS at single or combined concentrations of 70 ppt in treated drinking water. These advisories indicate the level of drinking water contamination below which adverse health effects are not expected to occur. On January 19, 2021, the USEPA announced that it is considering whether to designate PFOA and PFOS as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (“CERCLA”) and/or hazardous waste under the Resource Conservation and Recovery Act (“RCRA”). On February 22, 2021, the USEPA announced its proposed revisions to the Fifth Unregulated Contaminant Monitoring Rule (“UCMR 5”) for public water systems which includes monitoring for 29 PFAS in drinking water. ~~The proposal would require pre-sampling preparations in 2022, sample collection from 2023-2025, and reporting of final results through 2026.~~ On March 3, 2021, the USEPA published its final regulatory determination to regulate PFOA and PFOS in drinking water. ~~EPA has~~ Following such determination, the USEPA had 24 months to propose maximum contaminant level goals (“MCLGs”) and MCLs for PFOA and PFOS. ~~Following that deadline, EPA has 18 months to publish final MCLGs and MCLs for PFOA and PFOS.~~ On March 14, 2023, the USEPA announced proposed regulations for six PFAS, including PFOA, PFOS, perfluorononanoic acid (“PFNA”), hexafluoropropylene oxide dimer acid (commonly known as “GenX chemicals”), PFHxS, and PFBS. The USEPA is proposing: (1) legally enforceable MCLs of 4 ppt for PFOA and PFOS; (2) non-enforceable health-based MCLGs for PFOS and PFOS at 0; and (3) a hazard index of 1.0 as MCLs and MCLGs for PFNA, PFHxS, PFBS, and/or GenX chemicals and any mixture containing one or more of these four PFAS. The hazard index is a tool used to evaluate health risks from simultaneous exposure to mixtures of certain chemicals. To determine the hazard index for these four PFAS, water systems would monitor and compare the amount of each PFAS in drinking water to its associated Health Based Water Concentration (“HBWC”), which is the level below which no health effects are expected for that PFAS. Water systems would add the comparison values for each PFAS contained within the mixture. If the value is greater than 1.0, it would be an exceedance of the proposed hazard index MCL for PFHxS, GenX chemicals, PFNA, and PFBS. The proposed rule would require public water systems to monitor for these PFAS, notify the public if monitoring detects such PFAS at levels that exceed the proposed regulatory standards, and reduce the levels of such PFAS in drinking water if they exceed the proposed standards. The USEPA is requesting public comment on the proposed regulation. Public comments will be due 60 days after the proposed regulation is published in the Federal Register. The proposed PFAS regulation does not require any action until it is finalized. The USEPA has indicated that it anticipates finalizing the regulation by the end of 2023.

On October 18, 2021, the USEPA published a “PFAS Strategic Roadmap: EPA’s Commitments to Action, 2021-2024” (PFAS Roadmap). The document outlines four main drinking water actions that the USEPA intends to complete from 2021 to 2024: (1) conduct nationwide monitoring for PFAS in drinking water as part of the UCMR 5 process; (2) establish national primary drinking water regulations for PFOA and PFOS by Fall 2023; (3) publish health advisories for GenX chemicals and PFBS by Spring 2022; and (4) publish updates to PFAS analytical methods to monitor drinking water by Fall 2024. On December 27, 2021, the USEPA published the final UCMR 5. ~~On January 10 for public water systems which includes monitoring for 29 PFAS in drinking water. UCMR 5 requires pre-sampling preparations in 2022, sample collection from 2023-2025, and reporting of final results through 2026.~~ On June 15, 2022, the USEPA established new interim, updated drinking water health advisories for PFOA and PFOS to replace the health advisories established in 2016. The non-enforceable and non-regulatory interim, updated lifetime health advisories for PFOA and PFOS in drinking water are established at concentrations of 0.004 ppt and 0.02 ppt, respectively. In its announcement, the USEPA noted that such concentrations are below the ability to detect under current detection methods. On June 15, 2022, the USEPA also established final health advisories for GenX and PFBS of 10 ppt and 2,000 ppt, respectively. On September 6, 2022, the USEPA ~~submitted~~ issued a

proposed rule ~~for review to the White House Office of Management and Budget to designate~~designating PFOA and PFOS as hazardous substances under CERCLA. [Metropolitan provided comments on this proposal and urged USEPA to further evaluate the potentially significant impacts of the proposed CERCLA designation on water and wastewater utilities.](#) Metropolitan will continue to monitor and participate in federal and state rulemaking proceedings.

PFOA and PFBS have not been detected in Metropolitan's imported or treated water supplies. In 2019, 2020, and 2021, Metropolitan detected in its supplies low levels of PFHxA, which is not acutely toxic or carcinogenic and is not currently regulated in California or at the federal level. In 2021, Metropolitan detected for the first time in its supplies low levels of perfluorobutanoic acid ("PFBA"), perfluoropentanoic acid ("PFPeA"), and PFOS. ~~The concentrations detected to date are below the state's reporting values, which means they are considered "not detected."~~ Metropolitan has not identified any specific sources of these PFAS ~~in that have reached~~ its [water](#) supplies, ~~but~~[and the concentrations detected to date are well below the State's required reporting values.](#)

[Although Metropolitan has not identified any specific sources of these PFAS in its supplies,](#) PFHxA is a common PFAS believed to be an impurity that is inadvertently produced during the manufacture of other PFAS. It is also a breakdown product from lubricants, coatings on food packaging, and household products. PFOS is widely used in surface treatments of carpets, textiles, leather, paper, and cardboard, as a surfactant in extinguishing foams, as a mist suppressant in chrome plating, and as a surfactant in the mining and oil industries. PFBA is a breakdown product of other PFAS that are used in stain-resistant fabrics, paper food packaging, and carpets; it is also used for manufacturing photographic film. It has been used as a substitute for longer chain perfluoroalkyl carboxylic acids in consumer products. PFPeA is a breakdown product of stain- and grease-proof coatings on food packaging, couches, and carpets. ~~Metropolitan has not identified any specific sources of PFAS that have reached its water supplies and the concentrations detected to date are well below the State's required reporting values.~~ PFOA and PFOS have also been detected in groundwater wells in the region, including those of certain member agencies. Metropolitan may experience increased demands for its imported water to help offset the potential loss of any affected local supplies.

### Seismic Considerations and Emergency Response Measures

**General.** Metropolitan's system overlays a region of high seismicity. The conveyance and distribution systems traverse numerous faults capable of generating large magnitude earthquakes and some of Metropolitan's treatment plants, pressure control facilities, and other structures have the potential of experiencing high levels of earthquake-induced shaking. To mitigate this risk, Metropolitan routinely assesses the seismic hazards and potential risks to its facilities. It makes strategic investments through projects to limit overall system damage, improve post-earthquake recovery time, and reduce the impacts felt by the population and businesses. Metropolitan's strategy utilizes a defense-in-depth approach to prepare for and respond to the event adequately. Metropolitan's defense-in-depth approach includes the following priorities: (1) ~~Provide~~[provide](#) a diversified water supply portfolio, increase system flexibility, and maintain adequate levels of emergency storage to be able to withstand the potential disruption of imported supplies; (2) ~~Prevent~~[prevent](#) damage to water delivery infrastructure in probable seismic events and limit damage in extreme events through the systematic review and upgrade of facilities for which deficiencies are identified; and (3) ~~Minimize~~[minimize](#) the duration of water delivery interruptions through [a](#) dedicated emergency response and recovery organization, including in-house design, construction, and fabrication capability.

As part of its goal to increase the diversification of the local water portfolio, Metropolitan has provided monetary assistance to member agencies to develop new local water supplies. Increased and improved diversification of local supplies also improves the region's reliability in the event of a significant seismic event. In addition, Metropolitan is evaluating the feasibility of implementing a ~~RRWP~~[regional recycled water program referred to as the PWSC. See "REGIONAL WATER RESOURCES–Local Water Supplies–Recycled Water–Metropolitan Pure Water Southern California Program" in this Appendix A.](#) If completed, it is expected that the ~~RRWP~~[PWSC](#) would provide up to 150 million gallons per day of advanced



treated recycled water for groundwater replenishment. The program, if completed, could provide an additional reliable water source within Metropolitan's service area in the event of an interruption of imported supplies.

In 2000, Metropolitan completed Diamond Valley Lake, an 810,000-acre-foot capacity reservoir located on the coastal side of the San Andreas Fault. With the completion of Diamond Valley Lake, Metropolitan nearly doubled its available in-region surface storage and improved its ability to capture water from Northern California in wet years. Water from Diamond Valley Lake can supply four of Metropolitan's five water treatment plants. [Planned system flexibility improvements currently in design and construction will make it possible to transport water from Diamond Valley Lake throughout Metropolitan's distribution system.](#) Diamond Valley Lake, along with the other in-region reservoirs, are used to maintain a six-month emergency storage reserve outside of the operational storage in case of disruption of the imported water supplies. [See "Primary Facilities and Method of Delivery –Diamond Valley Lake."](#)

Metropolitan has developed a Seismic Upgrade Program to systematically evaluate its above-ground facilities for seismic risk and prioritize its upgrade effort. Structures undergo an initial rapid evaluation and, if a potential deficiency is identified, will then undergo a detailed structural evaluation to assess the required upgrades. Deficient facilities are upgraded to meet current seismic standards based on criticality to the water delivery system. Previous projects include seismic upgrades to the pump plant buildings for the CRA and upgrades to various facilities at Metropolitan's treatment plants, such as wash water tanks, filter basins, and administration buildings. For existing pipelines, seismic resilience will be incorporated as a component of pipeline rehabilitation projects. Metropolitan will evaluate each upgrade individually to balance risk, performance, and cost. Metropolitan is currently implementing a 20-year program to replace or reline its prestressed concrete cylinder pipe with a welded steel pipe. Providing a steel liner insert will improve the seismic performance of these pipelines. In addition, Metropolitan is currently installing earthquake-resistant ductile iron pipe at a location where the CRA crosses the Casa Loma Fault.

Metropolitan has an ongoing surveillance program that monitors the safety and structural performance of its dams and reservoirs permitted by DWR's Division of Safety of Dams. Operating personnel perform regular inspections that include monitoring and analyzing seepage flows and pressures. Engineers responsible for dam safety review the inspection data and monitor each dam's horizontal and vertical movements. Major on-site inspections are performed at least twice each year. Instruments that transmit seismic acceleration time histories for analysis are installed at critical sites when a dam is subjected to strong motion during an earthquake.

Metropolitan has developed an emergency plan that calls for specific response levels appropriate to an earthquake's magnitude and location. Included in this plan are various communication tools, as well as a structured plan of management that varies with the severity of the event. Pre-designated personnel follow detailed steps for field facility inspection and distribution system patrol. Approximately 200 employees are designated to respond immediately if seismic events exceed a certain magnitude. An Emergency Operations Center ("EOC") is maintained at the OCC. The OCC/EOC, specifically designed to be earthquake resistant, contains communication equipment, including a radio transmitter, microwave capability, and a response line linking Metropolitan with its member agencies, and DWR. The OCC/EOC also has the capability of communicating with other utilities, County EOCs, and the State's Office of Emergency Services. Metropolitan also maintains in-house capability to address two major pipeline breaks simultaneously as part of its emergency response plan to restore operation shortly after a significant seismic event.

In conjunction with DWR and LADWP, Metropolitan has formed the Seismic Resilience Water Supply Task Force to collaborate on studies and mitigation measures aimed at improving the reliability of imported water supplies to Southern California. Specific task force goals include revisiting historical assumptions regarding potential aqueduct outages after a seismic event; establishing a common understanding about individual agency aqueduct vulnerability assessments, projected damage scenarios, and

planning assumptions; and discussing ideas for improving the resiliency of Southern California's imported water supplies through multi-agency cooperation. The task force has established multi-year goals and will continue to meet on these issues and develop firm plans for mitigating seismic vulnerabilities.

Metropolitan's resiliency efforts include manufacturing, pipe fabrication, and coating capabilities in La Verne, California. Over \$47 million has been invested and an additional \$25 million is planned over the next ~~two~~three years to enhance and expand Metropolitan's capacity to provide fabrication, manufacturing, and coating services for rehabilitation work, maintenance activities, and capital projects. Metropolitan can also provide manufacturing, coating, and fabrication services upon request through reimbursable agreements to member agencies and DWR. These agreements have enhanced timely and cost-effective emergency response capabilities. Materials to fabricate pipe and other appurtenant fittings are kept on site. In the event of earthquake damage, Metropolitan has taken measures to provide the ~~design and fabrication~~ capacity to design and fabricate pipe and manufacture fittings. Metropolitan is also staffed to perform emergency repairs.

~~The Department of Water Resources~~DWR has in place a seismic assessment program that evaluates the State Water Project's vulnerability to seismic events and makes recommendations for improvements. An example of a recently completed project under this program is the Perris Dam Retrofit. The assessment is important because the California Aqueduct crosses many major faults. The State Water Project delivers water supplies from Northern California that must traverse the Bay-Delta through hundreds of miles of varying levels of engineered levees that are potentially susceptible to significant damage due to flood and seismic risk. In the event of a failure of the Bay-Delta levees, the quality of the Bay-Delta's water could be severely compromised as saltwater comes in from the San Francisco Bay. Metropolitan's supply of State Water Project water would be adversely impacted if pumps that move Bay-Delta water southward to the Central Valley and Southern California are shut down to contain the saltwater intrusion. Metropolitan estimates that stored water supplies, CRA supplies and local water resources that would be available in case of a levee breach or other interruption in State Water Project supplies would meet demands in Metropolitan's service area for approximately six months. See "METROPOLITAN'S WATER SUPPLY-Storage Capacity and Water in Storage" in this Appendix A.

Metropolitan, in cooperation with the other State Water ~~Contractors~~Project contractors, developed recommendations to DWR for emergency preparedness measures to maintain continuity in export water supplies and water quality during seismic and other emergency events. These measures include improvements to emergency construction materials stockpiles in the Bay-Delta, improved emergency contracting capabilities, strategic levee improvements and other structural measures of importance to Bay-Delta water export interests, including development of an emergency freshwater pathway to export facilities in a severe earthquake.

### Wildfires Risk Management Response

Wildfires are an ever-present reality in Southern California. Metropolitan continues to actively prepare for wildfires by collaborating with partner agencies such as the California Department of Forestry and Fire Protection (Cal Fire), DWR, and counties to implement preparedness measures to protect watersheds. Examples of these efforts include removing brush from fire prone areas, as well as removing by-products of large fires such as ash, fire retardant, and other debris that could negatively affect water quality. Metropolitan also collaborates frequently with its member agencies and first-responders from other public agencies. This collaboration includes coordination with local fire departments during and after nearby wildfire events, as well as participating in joint training and exercises throughout the year. Additionally, Metropolitan has a five-year exercise plan that provides member agencies the opportunity to exercise together before a disaster happens. Metropolitan tests its emergency communications processes through regular tests of emergency radio networks, satellite phones, mass-communication alerting systems, and online information sharing systems.

Metropolitan has also implemented measures to protect employees from the impacts of wildfires such as upgrading HVAC systems in control centers to improve the filtration of smoke and other pollutants; and sending emergency notifications to employees to warn them of unhealthy air quality due to nearby fires.

### Security Measures

Metropolitan's water and energy facilities are federally-determined critical infrastructure. Metropolitan deploys multiple layers of physical security and collaborates with federal and state partners to mitigate malevolent threats. It manages a physical security system consisting of electronic access controls, a surveillance and intrusion warning system, and a round-the-clock security watch center. ~~#Metropolitan~~ maintains professional, in-house security specialists and retains a 200+ contract security guard force. It directs a capital improvement program to harden physical infrastructure. ~~#Metropolitan~~ collaborates with key federal and state security partners, which entails on-site consultations, inter-agency mock exercises, real-time monitoring, and first response coordination. It follows the chain-of-custody protocols of the FERC and the North American Electric Reliability Corporation. Finally, ~~#Metropolitan~~ complies with regulations authorized under the Bioterrorism Response Act of 2002, the ~~DHS Chemical Facility Anti-Terrorism Standards~~ Aviation and Transportation Security Act of 2001, and the America's Water Infrastructure Act of 2018.

## CAPITAL INVESTMENT PLAN

### General Description

Metropolitan's current Capital Investment Plan (the "Capital Investment Plan" or "CIP") describes Metropolitan's infrastructure and system reliability projects, either as new assets, upgrades to existing capital assets or replacements and refurbishments of existing facilities. The CIP is Metropolitan's planning document to ensure asset reliability, enhance operational efficiency and flexibility, and ensure compliance with water quality regulations.

Metropolitan's CIP is regularly reviewed and updated. Metropolitan's biennial budget process includes a review of the projected long-term capital needs and the development of a capital expenditure forecast for the ten-year financial forecast, as well as the identification of the capital priorities of Metropolitan over the biennial budget term. The award of major contracts and professional services agreements are subject to approval by Metropolitan's Board. Pursuant to the Administrative Code, following the adoption of the biennial budget, a Board action is presented to (1) appropriate the total amount of approved biennial CIP expenditures and (2) authorize the General Manager to initiate or proceed with work on capital projects identified in the CIP for such biennial period. The amount and timing of borrowings to fund capital expenditures will depend upon the status of construction activity and water demands within Metropolitan's service area, among other factors. From time to time, projects that have been undertaken are delayed, redesigned, or deferred by Metropolitan for various reasons, and no assurance can be given that a project in the CIP will be completed in accordance with its original schedule or that any project will be completed as currently planned. In addition, from time to time, when circumstances warrant, Metropolitan's Board may approve capital expenditures other than or in addition to those contemplated by the CIP at the time of the then current biennial budget.

### Projection of Capital Investment Plan Expenditures

The table below sets forth the projected CIP expenditures by project type for the fiscal years ending June 30, ~~2022~~2023 through ~~2027, as currently projected for fiscal year 2021-22, and~~2028, as reflected in the biennial budget for fiscal years ~~2022-23~~2022-23 and 2023-24 ~~for fiscal years 2022-23 through 2026-27~~. The projection for the current biennium, which covers fiscal years ~~2020-21~~2022-23 and ~~2021-22~~2023-24, is updated ~~every month to reflect the most current changes to~~quarterly. As shown in the table below, planned capital expenditures of \$300 million per year were appropriated for fiscal years 2022-23 and 2023-24. Based upon the last quarterly update, projected capital expenditures for fiscal years 2022-23 and 2023-24 are approximately \$247.2 million and \$319.8 million, respectively. The actual expenditures are subject to change as projects progress or are advanced. The biennial budget is updated every two years as a result of the periodic review and adoption of the capital budget by Metropolitan's Board. See "HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A.

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### CAPITAL INVESTMENT PLAN PROJECTION OF EXPENDITURES<sup>(1)</sup> (Fiscal Years ~~Ended~~Ending June 30 - Dollars in Thousands)

	<u>2022</u>	2023	2024	2025	2026	2027	<u>2028</u>	Total
Infrastructure R&R	<del>\$ 97,004</del>	\$ 86,978	\$ 69,899	\$ 93,869	\$ 90,736	\$ 82,979	<u>\$ 141,007</u>	<del>\$ 521,465</del>
Infrastructure Upgrade	<del>78,557</del>	161,080	162,713	158,939	166,068	181,000	<u>135,296</u>	<del>908,357</del> <u>965,</u>
Regulatory	<del>481</del>	561	0	0	0	0	<u>0</u>	<del>1,042</del> <u>561</u>

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Compliance								
Stewardship	<del>3,753</del>	11,907	6,830	8,568	12,514	21,230	<u>17,300</u>	<del>64,802</del> <u>78,34</u>
Supply Reliability <sup>(2)</sup>	<del>0</del>	4,967	2,697	68,945	63,402	147,995	<u>510,217</u>	<del>288,006</del> <u>798,</u>
System Flexibility	<del>19,444</del>	30,531	41,582	40,566	48,262	42,131	<u>33,920</u>	<del>222,516</del> <u>236,</u>
Water Quality	<del>2,261</del>	3,976	16,279	935	110	0	<u>83</u>	<del>23,561</del> <u>21,38</u>
<b>Total</b>	<del>\$201,500<sup>(2)</sup></del>	\$300,000	\$300,000	\$371,822	\$381,092	\$475,335	<u>\$837,823</u>	<del>\$2,029,749</del> <u>\$</u>

Source: Metropolitan.

- (1) ~~Fiscal year 2021-22 is based on current projections. Fiscal years 2022-23 through 2026-27 are based~~Based on the ten-year financial forecast provided in the biennial budget for fiscal years ~~2022-23~~2022-23 and 2023-24.
- (2) ~~Planned capital expenditures of \$250 million per year were appropriated for fiscal years 2020-21 and 2021-22. Projected capital expenditures for~~starting in fiscal year ~~2021-22 in the table above reflect current projections as to the timing of expenditure of the appropriated funds~~2024-25 include expenditures on the PWSC.

In developing the CIP, projects are reviewed, scored, and prioritized towards the objectives of ensuring the sustainable delivery of reliable, high-quality water, while meeting all regulatory requirements and maintaining affordability. Additional capital costs may arise in the future as a result of, among other things, federal and ~~State~~ water quality regulations, project changes and mitigation measures necessary to satisfy environmental and regulatory requirements, and additional facilities' needs. See "METROPOLITAN'S WATER DELIVERY SYSTEM–Water Quality and Treatment" in this Appendix A.

Construction projects included in the CIP are subject to ordinary construction risks and delays, including but not limited to: inclement weather or natural hazards affecting work and timeliness of completion; contractor claims or nonperformance; work stoppages or slowdowns; unanticipated project site conditions encountered during construction; errors or omissions in contract documents requiring change orders; and/or higher than anticipated construction bids or costs (including as a result of steeper inflationary increases), any of which could affect the costs and availability of, or delivery schedule for, equipment, components, materials, labor or subcontractors, and result in increased CIP costs. The majority of Metropolitan's construction projects over the next five years will be covered by a project labor agreement with labor unions and construction contracts, which will reduce the risk of work stoppages or slowdowns. While the construction schedules for certain Metropolitan projects were initially delayed as a result of the COVID-19 outbreak ~~and, such activity has generally resumed. However,~~ some projects continue to be ~~delayed due to~~ impacted by supply chain issues ~~and other geopolitical conditions~~. Although not currently anticipated, additional delays in the future are possible. See "GOVERNANCE AND MANAGEMENT–COVID-19 Pandemic:" in this Appendix A.

### Capital Investment Plan Financing

The CIP requires debt financing (see "HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A) as well as pay-as-you-go funding. In connection with the biennial budget process and the development of the ten-year financial forecast provided therein, an internal funding objective is established for the funding of capital program expenditures from current revenues. An internal funding objective to fund 45 percent of capital program expenditures from current revenues was established in connection with the adoption of the biennial budget for fiscal years 2022-23 and 2023-24. This objective is updated every two years as a result of the periodic review and adoption of the capital budget by Metropolitan's Board. The remainder of capital program expenditures are expected to be funded through the issuance from time to time of water revenue bonds, which are payable from Net Operating Revenues. However, as in prior years, pay-as-you-go funding or debt financing may be reduced or increased by the Board at any time.

Projections for fiscal years ~~2022-23~~ 2022-23 through ~~2026-27~~ 2027-28 assume the issuance of approximately ~~\$1,040~~ \$1,710 million of additional water revenue bonds over such period to finance the CIP. These revenue bonds may be issued either as Senior Revenue Bonds under the Senior Debt Resolutions or as Subordinate Revenue Bonds under the Subordinate Debt Resolutions (each as defined under "METROPOLITAN EXPENSES–Limitations on Additional Revenue Bonds" in this Appendix A). The cost of these projected bond issues is reflected in the financial projections under "HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A.

### Major Projects of Metropolitan's Capital Investment Plan

**Colorado River Aqueduct Facilities.** As previously noted, deliveries through the CRA began in 1941. Through annual inspections and maintenance activities, the performance and reliability of the various components of the CRA are regularly evaluated. Projects under the CRA facilities program are designed to replace or refurbish facilities and components on the CRA system in order to reliably convey water from the Colorado River to Southern California. The current projected cost estimate for all prior and planned refurbishment or replacement projects under the CRA facilities program from fiscal year 1998-99 through fiscal year ~~2031-32~~ 2032-33 is ~~\$807.2~~ \$865.6 million. Costs through ~~February~~ December 2022 were

~~\$406.8441.5~~ million. Budgeted aggregate capital expenditures for improvements on the CRA for fiscal years ~~2022-23~~2022-23 and 2023-24 are \$76.2 million.

***Distribution System – Prestressed Concrete Cylinder Pipe.*** Metropolitan’s distribution system is comprised of approximately 830 miles of pipelines ranging in diameter from 30 inches to over 200 inches. (See “METROPOLITAN’S WATER DELIVERY SYSTEM” in this Appendix A.) There are 163 miles of the distribution system that is made up of prestressed concrete cylinder pipe (“PCCP”). In response to PCCP failures experienced by several water agencies, Metropolitan initiated the PCCP Assessment Program in December 1996 to evaluate the condition of Metropolitan’s PCCP lines and investigate inspection and refurbishment methods. As part of this program, Metropolitan made improvements to several sections of PCCP. Rather than continue to make spot repairs to the pipe segments, Metropolitan ~~has~~ initiated a long-term capital program to rehabilitate approximately 100 miles of PCCP in five pipelines by relining with a welded steel liner. Significant projects over the next several years include relining of portions of Second Lower and Sepulveda Feeders. Pipeline rehabilitation is prioritized based on the condition of the pipe segment and the criticality of the pipeline. The estimated cost to reline all 100 miles of PCCP is approximately \$4.3 billion. Through ~~February~~December 2022, approximately 11.5 miles have been re-lined and it is expected to take approximately 30 years to complete the remainder of the pipelines. Costs through ~~February~~December 2022 for all PCCP work (including the prior repairs) were ~~\$301.0~~\$322.8 million. Budgeted aggregate capital expenditures for PCCP rehabilitation for fiscal years ~~2022-23~~2022-23 and 2023-24 are \$104.4 million.

***Distribution System – Refurbishments and Improvements.*** In addition to the long-term program to rehabilitate Metropolitan’s PCCP lines, several other components of the distribution system, including dams and reservoirs, are being refurbished and/or improved. Significant projects over the next several years include retrofitting of the distribution system to improve resiliency against earthquake; rehabilitation of reservoirs, relining of pipelines; and refurbishment of pump stations, pressure control structures, hydroelectric plants, and service connections. The projected cost estimate for refurbishment or replacement projects, other than the PCCP relining, from fiscal year 2004-05 through fiscal year ~~2031-32~~2032-33 is ~~\$1.01.1~~ billion. Costs through ~~February~~December 2022 totaled approximately ~~\$452.7~~496.5 million. For fiscal years ~~2022-23~~2022-23 and 2023-24, budgeted aggregate capital expenditures for refurbishing and improvements on the distribution system, other than PCCP rehabilitation, are \$114.0 million.

***Drought Response and System Flexibility.*** In response to the ongoing historic statewide drought, several drought response projects that address decreasing water supplies both in specific parts of Metropolitan’s service area and across the entire ~~Distriet~~district have been added to the CIP. This is in addition to the ongoing projects to increase the system flexibility of Metropolitan’s water supply and delivery infrastructure to meet service demands. Metropolitan continues investigating capital improvements that mitigate drought impacts and more projects are expected to be developed in the coming years. Some of the projects commenced in fiscal year ~~2021-22~~2021-22. Significant projects in this category include Inland Feeder-Rialto Pipeline Intertie, Wadsworth Pump Discharge to Eastside Pipeline Bypass, Badlands Tunnel Surge Tank Facility, Sepulveda Feeder Pump Stations, Sepulveda Feeder West Area Water Supply Reliability Pipeline Improvements, Sepulveda Canyon PCS to Venice PCS Valve Replacements and Perris Valley Pipeline Tunnels. The current projected cost estimate for the prior and planned drought response and system flexibility projects from fiscal year 2004-05 through fiscal year ~~2031-32~~2032-33 is ~~\$631.3~~670.2 million, with ~~\$197.6~~208.0 million spent through ~~February~~December 2022 for improving system flexibility. Budgeted aggregate capital expenditures for drought response and system flexibility projects for fiscal years ~~2022-23~~2022-23 and 2023-24 are \$75.0 million.

***System Reliability.*** System Reliability projects are implemented at facilities throughout Metropolitan’s system to utilize new processes or technologies, to improve safety, or to increase overall reliability. Significant projects in this category include seismic strengthening of Metropolitan’s headquarters building, construction or improvement of operations support facilities, security system enhancements,

control system upgrades, and information technology infrastructure projects. The total estimated cost for all prior and projected system reliability improvements under this program from fiscal year 2004-05 to fiscal year 2031-32 is approximately ~~\$771.0~~797.1 million, with ~~\$295.2~~332.7 million spent through ~~February~~December 2022. Budgeted aggregate capital expenditures for improvements on system reliability projects for fiscal years ~~2022-23~~2022-23 and 2023-24 are \$86.2 million.

**Water Treatment Plant Improvements.** The F. E. Weymouth Water Treatment Plant, which was placed into service in 1941, is Metropolitan's oldest water treatment facility. Four more water treatment plants were constructed throughout Metropolitan's service area with the Henry J. Mills Water Treatment Plant being the newest water treatment facility, which was placed into service in 1978. These plants treat water from the ~~Colorado River Aqueduct~~CRA and/or the State Water Project. These plants have been subsequently expanded since their original construction. Metropolitan has completed numerous upgrades and refurbishment/replacement projects to maintain the plants' reliability and improve efficiency. Significant projects over the next several years include refurbishment of settling basins and strengthening of inlet channels at the Weymouth plant, rehabilitation of filtration system at the Robert B. Diemer Water Treatment Plant, second stage of electrical upgrades at the Mills plant, ozonation system upgrade at the Joseph Jensen Water Treatment Plant, and chemical system rehabilitation at the Robert A. Skinner Plant. The cost estimate for all prior and projected improvements at all five plants, not including the ozone facilities and water treatment capacity expansions, from fiscal year 2004-05 through fiscal year ~~2031-32~~2032-33 is approximately ~~\$1.3~~1.4 billion, with \$1.1 billion spent through ~~February~~December 2022. Budgeted aggregate capital expenditures for improvements at all five plants for fiscal years ~~2022-23~~2022-23 and 2023-24 are \$42.1 million.

## METROPOLITAN REVENUES

### General

Until water deliveries began in 1941, Metropolitan's activities were, by necessity, supported entirely through the collection of *ad valorem* property taxes. Since the mid-1980s, water revenues, which includes revenues from water sales, wheeling and exchanges, have provided approximately 80 percent of total revenues annually. Over that period, *ad valorem* property taxes have accounted for about 9 percent of total revenues, and in the fiscal year ~~2020-21~~2021-22, *ad valorem* property taxes accounted for approximately 9 percent of total revenues. See "–Revenue Allocation Policy and Tax Revenues." The remaining revenues have been derived principally from the sale of hydroelectric power, interest on investments, and additional revenue sources (water standby charges and availability of service charges) beginning in 1992. *Ad valorem* taxes do not constitute a part of Operating Revenues and are not available to make payments with respect to the water revenue bonds issued by Metropolitan.

The basic rate for untreated water service for domestic and municipal uses is ~~\$799~~855 per acre–foot at the Tier 1 level, which became effective January 1, ~~2022~~2023. See "–Rate Structure" and "–Water Rates." The *ad valorem* tax rate for Metropolitan purposes has gradually been reduced from a peak equivalent rate of 0.1250 percent of full assessed valuation in fiscal year 1945-46 to 0.0035 percent of full assessed valuation for fiscal year ~~2021-22~~2022-23. The rates charged by Metropolitan represent the cost of Metropolitan's wholesale water service to its member agencies, and not the cost of water to the ultimate consumer. Metropolitan does not exercise control over the rates charged by its member agencies or their subagencies to their customers.

### Summary of Revenues by Source

The following table sets forth Metropolitan's sources of revenues for the five fiscal years ended June 30, ~~2021~~2022, on a modified accrual basis. All information is unaudited. Audited financial statements for the fiscal years ended June 30, ~~2021~~2022, and June 30, ~~2020~~2021, are included in APPENDIX B–"THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITORS'

REPORT AND BASIC FINANCIAL STATEMENTS FOR FISCAL YEARS ENDED JUNE 30, ~~2021~~2022  
AND JUNE 30, ~~2020~~2021 AND BASIC FINANCIAL STATEMENTS FOR THE ~~NINE~~SIX MONTHS  
ENDED ~~MARCH~~DECEMBER 31, 2022 AND 2021 (UNAUDITED).”

**SUMMARY OF REVENUES BY SOURCE<sup>(1)</sup>**  
**Fiscal Years Ended June 30**  
**(Dollars in Millions)**

	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Water Revenues <sup>(2)</sup>	<del>\$1,151</del>	\$1,285	\$1,149	\$1,188	\$1,405	<u>\$1,515</u>
Taxes, Net <sup>(3)</sup>	<del>116</del>	131	145	147	161	<u>147</u>
Additional Revenue Sources <sup>(4)</sup>	<del>184</del>	172	170	165	165	<u>172</u>
Interest on Investments	4	8	34	20	10	<u>7</u>
Hydroelectric Power Sales	<del>21</del>	24	18	16	19	<u>8</u>
Other Revenues <sup>(5)</sup>	<del>51</del>					<u>39</u>
		<u>28</u>	<u>22</u>	<u>14</u>	<u>14</u>	
Total Revenues	<u><del>\$1,527</del></u>	<u>\$1,648</u>	<u>\$1,538</u>	<u>\$1,550</u>	<u>\$1,774</u>	<u>\$1,888</u>

Source: Metropolitan.

- (1) Does not include any proceeds from the sale of bonded indebtedness.
- (2) Water revenues include revenues from water sales, exchanges, and wheeling.
- (3) *Ad valorem* taxes levied by Metropolitan are applied solely to the payment of outstanding general obligation bonds of Metropolitan and to State Water Contract obligations.
- (4) Includes revenues derived from water standby charges, readiness-to-serve, and capacity charges.
- (5) Includes miscellaneous revenues and Build America Bonds (BABs) subsidy payments of ~~\$9.8 million~~, \$15.0 million, \$12.5 million, \$2.9 million and \$2.9 million in fiscal years ~~2016-17~~ 2017-18 through 2020-21, respectively. All of Metropolitan's BABs were retired as of July 1, 2020. Fiscal years ~~2016-17 and year~~ 2017-18 ~~include \$33 million, and includes~~ \$1 million, ~~respectively~~, of water conservation and supply program expenses, funded from a like amount of funds transferred from the Water Management Fund. Fiscal year 2021-22 includes \$21.0 million of property taxes applied to SWC O&M Costs.

### Revenue Allocation Policy and Tax Revenues

The Board determines the water revenue requirement for each fiscal year after first projecting the *ad valorem* tax levy for that year. The tax levy for any year is subject to limits imposed by the State Constitution, the Act and Board policy and to the requirement under the State Water Contract that in the event that Metropolitan fails or is unable to raise sufficient funds by other means, Metropolitan must levy upon all property within its boundaries not exempt from taxation a tax or assessment sufficient to provide for all payments under the State Water Contract. See "HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A. Beginning with fiscal year 1990-91, the Act limits Metropolitan's tax levy to the amount needed to pay debt service on Metropolitan's general obligation bonds and to satisfy a portion of Metropolitan's State Water Contract obligation. However, Metropolitan has the authority to impose a greater tax levy if, following a public hearing, the Board finds that such revenue is essential to Metropolitan's fiscal integrity. For each fiscal year since 2013-14, the Board has exercised that authority and voted to suspend the tax limit clause in the Act, maintaining the fiscal year 2012-13 *ad valorem* tax rate to pay for a greater portion of Metropolitan's State Water Contract obligations. Any deficiency between tax levy receipts and Metropolitan's State Water Contract obligations is expected to be paid from Operating Revenues, as defined in the Senior Debt Resolutions (defined in this Appendix A under "METROPOLITAN EXPENSES—Limitations on Additional Revenue Bonds").

### Water Revenues

**General; Authority.** Water rates are established by the Board and are not subject to regulation or approval by the California Public Utilities Commission or by any other local, State, or federal agency. In accordance with the Act, water rates must be uniform for like classes of service. Metropolitan, a wholesaler, provides ~~two types~~ one type of ~~services~~ service: full-service water service (treated or untreated) ~~and wheeling service~~. See "—Classes of Water Service."



No member agency of Metropolitan is obligated to purchase water from Metropolitan. However, 21 of Metropolitan's 26 member agencies have entered into 10-year voluntary water supply purchase orders ("Purchase Orders") effective through December 31, 2024. See "Member Agency Purchase Orders." Consumer demand and locally supplied water vary from year to year, resulting in variability in water revenues. See "REGIONAL WATER RESOURCES" in this Appendix A. Metropolitan uses its financial reserves and budgetary tools to manage the financial impact of the variability in revenues due to fluctuations in annual water transactions. See "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A.

**Payment Procedure.** Water is delivered to the member agencies on demand and is metered at the point of delivery. Member agencies are billed monthly and a late charge of one percent of the delinquent payment is assessed for a payment that is delinquent for no more than five business days. A late charge of two percent of the amount of the delinquent payment is charged for a payment that is delinquent for more than five business days for each month or portion of a month that the payment remains delinquent. Metropolitan has the authority to suspend service to any member agency delinquent for more than 30 days. Delinquencies have been rare; in such instances late charges have been collected. No service has been suspended because of delinquencies.

**Water Revenues.** The following table sets forth water transactions (which includes water sales, exchanges, and wheeling) in acre-feet and water revenues (which includes revenues from water sales, exchanges, and wheeling) for the five fiscal years ended June 30, ~~2021~~2022, on a modified accrual basis. As reflected in the table below, water revenues for the fiscal year ended June 30, ~~2021~~2022, aggregated \$~~1,404.71~~1,515.1 million, of which \$~~1,237.71~~1,350.1 million was generated from water sales and \$~~167.0~~165.0 million was generated from exchanges and wheeling. Water revenues of Metropolitan for the fiscal years ended June 30, ~~2021~~2022, and June 30, ~~2020~~2021, on an accrual basis, are shown in Metropolitan's audited financial statements included in Appendix B.

#### SUMMARY OF WATER TRANSACTIONS AND REVENUES Fiscal Years Ended June 30

Fiscal Year	Water Transactions in Acre-Feet <sup>(1)</sup>	Water Revenues <sup>(2)</sup> (in millions)	Dollars Per Acre-Foot	Average Dollars Per 1,000 Gallons
<del>2017</del>	<del>1,540,915</del>	<del>\$1,150.5</del>	<del>\$747</del>	<del>\$2.29</del>
2018	1,610,969	1,285.2	798	2.45
2019	1,418,324	1,148.7	810	2.49
2020	1,419,156	1,188.0	837	2.57
2021	1,573,965	1,404.7	892	2.74
<u>2022</u>	<u>1,645,805</u>	<u>1,515.1</u>	<u>921</u>	<u>2.83</u>

Source: Metropolitan.

- (1) Water Transactions include water sales, exchanges, and wheeling with member agencies and third parties. Starting in fiscal year ended June 30, 2021, Water Transactions do not include third parties.
- (2) Water Revenues include revenues from water sales, exchanges, and wheeling. Water Revenues from wheeling and exchange transactions were ~~\$87.4 million~~, \$96.1 million, \$102.2 million, \$140.1 million, ~~and~~ \$167.0 million, and \$165.0 in the fiscal years ended June 30, ~~2017~~2018 through ~~2021~~2022, respectively.

#### Principal Customers

Total water transactions accrued for the fiscal year ended June 30, ~~2021~~2022, were ~~1.57~~1.65 million acre-feet, generating \$~~1.40~~1.52 billion in water revenues for such period. Metropolitan's ten largest water customers for the year ended June 30, ~~2021~~2022 are shown in the following table, on an accrual basis. SDCWA has filed litigation challenging Metropolitan's rates. See "Litigation Challenging Rate Structure."



**TEN LARGEST WATER CUSTOMERS**  
**Year Ended June 30, ~~2021~~2022**  
**Accrual Basis**

<b>Agency</b>	<b>Water Revenues <sup>(1)</sup> (in Millions)</b>	<b>Percent of Total</b>	<b>Water Transactions in Acre Feet <sup>(2)</sup></b>	<b>Percent of Total</b>
City of Los Angeles <sup>(3)</sup>	<del>\$ 268.2</del> <u>326.5</u>	<del>19.1%</del> <u>21.5%</u>	<del>316,537</del> <u>366,627</u>	<del>20.1%</del> <u>22.3%</u>
San Diego CWA	<del>201.3</del> <u>212.9</u>	<del>14.3%</del> <u>14.1%</u>	<del>335,760</del> <u>335,476</u>	<del>21.3%</del> <u>20.4%</u>
MWD of Orange County	<del>142.7</del> <u>187.6</u>	<del>10.2%</del> <u>12.4%</u>	<del>140,507</del> <u>184,167</u>	<del>8.9%</del> <u>11.2%</u>
West Basin MWD	<del>118.1</del> <u>131.6</u>	<del>8.4%</del> <u>8.7%</u>	<del>108,250</del> <u>117,253</u>	<del>6.9%</del> <u>7.1%</u>
Calleguas MWD	<del>104.0</del> <u>99.5</u>	<del>7.4%</del> <u>6.6%</u>	<del>95,365</del> <u>88,731</u>	<del>6.1%</del> <u>5.4%</u>
Eastern MWD	<del>90.9</del> <u>95.4</u>	<del>6.5%</del> <u>6.3%</u>	<del>91,539</del> <u>95,078</u>	5.8
Western MWD of Riverside County	<del>72.4</del> <u>70.6</u>	<del>5.2%</del> <u>4.7%</u>	<del>74,783</del> <u>71,182</u>	<del>4.8%</del> <u>4.3%</u>
Three Valleys MWD	<del>62.5</del> <u>64.4</u>	<del>4.4%</del> <u>4.2%</u>	<del>66,540</del> <u>65,790</u>	<del>4.2%</del> <u>4.0%</u>
Inland Empire Utilities Agency	<del>54.5</del> <u>51.9</u>	<del>3.9%</del> <u>3.4%</u>	<del>71,347</del> <u>66,187</u>	<del>4.5%</del> <u>4.0%</u>
Upper San Gabriel Valley MWD	<del>47.1</del> <u>42.2</u>	<del>3.4%</del> <u>2.8%</u>	<del>60,036</del> <u>42,110</u>	<del>3.8%</del> <u>2.5%</u>
<b>Total</b>	<del>\$ 1,161.7</del> <u>1,282.6</u>	<del>82.8%</del> <u>84.7%</u>	<del>1,360,664</del> <u>1,432,601</u>	<del>86.4%</del> <u>87.0%</u>
<b>Total Water Revenues <sup>(1)</sup></b>	<del>\$1,404.7</del> <u>\$1,515.1</u>	<b>Total Acre-Feet <sup>(2)</sup></b>	<del>1,573,965</del> <u>1,645,805</u>	

Source: Metropolitan.

<sup>(1)</sup> Water Revenues include revenues from water sales, exchanges, and wheeling.

<sup>(2)</sup> Water Transactions include water sales, exchanges, and wheeling with member agencies.

<sup>(3)</sup> Water sales to the City of Los Angeles from Metropolitan can vary substantially from year-to-year. See “REGIONAL WATER RESOURCES – Los Angeles Aqueduct” in this Appendix A.

### Rate Structure

The following rates and charges are elements of Metropolitan’s unbundled rate structure. [See also “–Water Rates.”](#)

**Tier 1 and Tier 2 Water Supply Rates.** The rate structure recovers supply costs through a two-tiered price structure. The Tier 1 Supply Rate supports a regional approach through the uniform, postage stamp rate. The Tier 1 Supply Rate is calculated as the amount of the total supply revenue requirement that is not covered by the Tier 2 Supply Rate divided by the estimated amount of Tier 1 water sales. The Tier 2 Supply Rate is a volumetric rate that reflects [Metropolitan’s costs of Tier 1 and](#) Metropolitan’s cost of purchasing water transfers north of the Delta. 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~~Pursuant to Board direction in November 2021, all demand management costs comprise a portion of the costs of supply and are collected on the Tier 1 and Tier 2 supply rates. Member agencies are charged the Tier 1 or Tier 2 Water Supply Rate for water purchases, as described under “–Member Agency Purchase Orders” below.

**System Access Rate.** The System Access Rate recovers the cost of the conveyance, distribution, and storage of water on an average annual basis through a uniform, volumetric rate. The System Access Rate is charged for each acre-foot of water transported by Metropolitan, regardless of the ownership of the water being transported. ~~All users (including member agencies and third party wheelers) using Metropolitan’s water system to transport water pay the same~~The System Access Rate is charged for the use of the system conveyance and distribution capacity to meet average annual demands each acre-foot of water transported by Metropolitan to its member agencies and delivered as a full-service water transaction.

**Water Stewardship Rate.** The Water Stewardship Rate was designed to provide a dedicated source of funding for conservation and local resources development through a uniform, volumetric rate. The Water Stewardship Rate was charged on each acre-foot of water delivered by Metropolitan through December 31, 2020, except on SDCWA Exchange Agreement deliveries as explained below, and allocated to Metropolitan’s transportation rates. All users (including member agencies and third-party wheelers) benefitted from avoided system infrastructure costs through conservation and local resources development, and from the system capacity made available by investments in demand management programs like Metropolitan’s Conservation Credits Program and LRP. Therefore, all users paid the Water Stewardship Rate, except on water delivered to SDCWA pursuant to the Exchange Agreement (see “~~METROPOLITAN REVENUES–Water Rates~~” and “–Litigation Challenging Rate Structure” ~~in this Appendix A below~~) in calendar years 2018, 2019, and 2020. The Water Stewardship Rate was not incorporated into Metropolitan’s rates and charges for calendar years 2021 and 2022 or 2023 and 2024 and therefore has not been collected on any water transactions after December 31, 2020. In November 2021, the Board directed staff to allocate all demand management costs as an element of Metropolitan’s supply costs. See also “CONSERVATION AND WATER SHORTAGE MEASURES–General ~~Overview.~~” in this Appendix A.

In 2017, in *San Diego County Water Authority v. Metropolitan Water District of Southern California, et al.* (see “–Litigation Challenging Rate Structure” below), the Court of Appeal held that the administrative record before it for the rates in calendar years 2011 through 2014 did not support Metropolitan’s Water Stewardship Rate full allocation to transportation rates, but the court did not address the allocation in subsequent years based on a different record. On April 10, 2018, the Board suspended the billing and collection of the Water Stewardship Rate on Exchange Agreement deliveries to SDCWA in calendar years 2018, 2019, and 2020, pending Metropolitan’s completion of a cost allocation study of its demand management costs recovered through the Water Stewardship Rate. For calendar year 2018, the suspension was retroactive to January 1, 2018.

Having completed a demand management cost allocation process, on December 10, 2019, Metropolitan’s Board directed staff to incorporate the use of the 2019-20 fiscal year-end balance of the Water Stewardship Fund to fund demand management costs in the proposed biennial budget for fiscal years 2020-21 and ~~2021-22~~2021-22 and to not incorporate the Water Stewardship Rate (or any other rates or charges to recover demand management costs), with the proposed rates and charges for calendar years 2021 and 2022, to allow the Board to consider demand management funding in relation to the 2020 IRP and to undergo a rate structure refinement process.

In 2021, in *San Diego County Water Authority v. Metropolitan Water District of Southern California, et al.*, the Court of Appeal clarified that its Water Stewardship Rate ruling applied to years after 2014 as well. In November 2021, the Board voted to allocate demand management costs to supply rate elements in calendar year 2023 forward. The balance of the Water Stewardship Fund ~~is projected to be~~was

\$~~56~~60.6 million as of June 30, 2022, which will be used to partially offset demand management expenditures in the fiscal year ~~2022-23~~2022-23 and 2023-24 budget.

**System Power Rate.** The System Power Rate recovers the cost of energy required to pump water to Southern California through the State Water Project and CRA. The cost of power is recovered through a uniform, volumetric rate. The System Power Rate is applied to all deliveries of Metropolitan water to member agencies. ~~All wheeling transactions are pursuant to individual contracts, which may typically provide for wheeling parties to pay for the actual cost (not system average) of power needed to move the water. For example, a party wheeling water through the California Aqueduct would pay the variable power cost associated with using the State Water Project transportation facilities.~~

**Treatment Surcharge.** 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. The Treatment Surcharge is charged for all treated water transactions.

The amount of each of these rates since January 1, 2018, is shown in the table entitled “SUMMARY OF WATER RATES” under “–Water Rates” below.

### Member Agency Purchase Orders

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. Under the Purchase Orders, member agencies have the option to purchase a greater amount of water (based on past purchase levels) over the term of the Purchase Order. 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 Metropolitan’s 26 member agencies have Purchase Orders, which commit the member agencies to purchase a minimum amount of supply from Metropolitan (the “Purchase Order Commitment”).

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~~Purchase Order Commitment by the member agency based on the ~~Demand-Base~~demand base period chosen, times ten to reflect the ten-year Purchase Order ~~term~~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~~Commitment obligation; and

- An appeal 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.

### Other Charges

The following paragraphs ~~describes~~summarize the additional charges for the use of Metropolitan's distribution system:

***Readiness-to-Serve Charge.*** The Readiness-to-Serve Charge ("RTS") recovers the cost of the portion of the system that is available to provide emergency service and available capacity during outages and hydrologic variability. 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, except SDCWA Exchange Agreement transactions, are included for purposes of calculating the ten-fiscal year rolling average. The Standby Charge, described below, will continue to be collected at the request of a member agency and applied as a direct offset to the member agency's RTS obligation. The RTS (including RTS charge amounts collected through the Standby Charge described below) generated ~~\$136.5 million in fiscal year 2018-19,~~ \$134.5 million in fiscal year 2019-20, ~~and~~ \$133.0 million in fiscal year 2020-21 and \$135.0 million in fiscal year 2021-22. Based on the adopted rates and charges, the RTS (including RTS charge amounts expected to be collected through the Standby Charge described below) is projected to generate \$~~135.0~~147.0 million in fiscal year ~~2021-22~~2022-23.

***Water Standby Charges.*** The Standby Charge is authorized by the State Legislature and has been levied by Metropolitan since fiscal year 1992-93. Metropolitan will continue to levy the Standby Charge only within the service areas of the member agencies that request that the Standby Charge be utilized to help fund a member agency's RTS obligation. See "– Readiness-to-Serve Charge" above. The Standby Charge for each acre or parcel of less than an acre will vary from member agency to member agency, reflecting current rates, which have not exceeded the rates set in fiscal year 1993-94, and range from \$5 to \$15 for each acre or parcel less than an acre within Metropolitan's service area, subject to specified exempt categories. Standby charges are assessments under the terms of Proposition 218, a State constitutional ballot initiative approved by the voters on November 5, 1996, but Metropolitan's current standby charges are exempt from Proposition 218's procedural requirements. See "–California Ballot Initiatives."

Twenty-two of Metropolitan's member agencies collect their RTS charges through Standby Charges. RTS charges collected by means of such Standby Charges were ~~\$41.7 million in fiscal year 2018-19,~~ \$41.7 million in fiscal year 2019-20, ~~and~~ \$41.9 million in fiscal year 2020-21, and \$42.0 million in fiscal year 2021-22.

***Capacity Charge.*** The Capacity Charge recovers costs incurred to provide peak capacity within Metropolitan's distribution system. The Capacity Charge 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. This results in more efficient utilization of Metropolitan's existing infrastructure and deferring capacity expansion costs. Each member agency will pay the Capacity Charge per 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. The Capacity Charge ~~was \$8,800 per cfs effective as of January 1, 2020 and~~ was \$10,700 per cfs effective as of January 1, 2021. ~~The Capacity Charge was,~~ \$12,200 per cfs effective as of January 1, 2022. ~~The Capacity Charge will be~~ and \$10,600 per cfs effective as of January 1, 2023. The Capacity Charge will be \$11,200 per cfs effective as of January 1, 2024. The Capacity Charge

generated ~~\$33.0 million in fiscal year 2018-19~~, \$30.5 million in fiscal year 2019-20, ~~and~~ \$31.7 million in fiscal year 2020-21, and \$37.0 million in fiscal year 2021-22. Based on the adopted rates and charges, the Capacity Charge is projected to generate ~~\$40.5~~\$38.7 million in fiscal year ~~2021-22~~2022-23.

### Classes of Water Service

Metropolitan, a wholesaler, provides ~~two types~~one type of ~~services~~service: full-service water service (treated or untreated) ~~and wheeling service~~. Metropolitan has one class of customers: its member agencies. On August 18, 2020, the Board of Directors repealed the Administrative Code sections that established the wheeling service it previously made available to its member agencies (short-term wheeling service under one year) and the pre-set wheeling rate for that wheeling service. As a result of the Board's action, short-term wheeling to member agencies is now determined on a case-by-case basis by contract, as has been done for wheeling service for member agencies lasting more than one year and wheeling for third parties. The level of rate unbundling in Metropolitan's rate structure provides transparency to show that rates and charges recover only those functions involved in the applicable service, and that no cross-subsidy of costs exists. Metropolitan's cost of service process and resulting unbundled rate structure ensures that its wholesale customers pay for only those services they elect to receive.

The applicable rate components and fixed charges for each class of water service are shown in the chart below.

## Current Services and Rate Components

Service	Rates & Charges That Apply						
	System Access	Water Stewardship <sup>(1)</sup>	System Power	Tier 1/ Tier 2	Readiness to Serve	Capacity Charge	Treatment Surcharge
Full Service Untreated	Yes	No	Yes	Yes	Yes	Yes	No
Full Service Treated	Yes	No	Yes	Yes	Yes	Yes	Yes
<b>Wheeling Service<sup>(2)</sup></b>	<b>No<sup>(2)</sup></b>	<b>No<sup>(2)</sup></b>	<b>No<sup>(2)(3)</sup></b>	<b>No<sup>(2)</sup></b>	<b>No<sup>(2)</sup></b>	<b>No<sup>(2)</sup></b>	<b>No<sup>(2)</sup></b>

<sup>(1)</sup> As described under “Rate Structure –Water Stewardship Rate,” the Water Stewardship Rate ~~has not been incorporated into Metropolitan’s rates and charges for calendar years 2021 and 2022 and therefore~~ has not been collected on water transactions after December 31, 2020. In November 2021, the Board directed staff to allocate all demand management costs as an element of Metropolitan’s supply costs.

~~<sup>(2)</sup> In August 2020, the Board terminated the pre-set wheeling rate for transactions for a period of up to one year with member agencies, pursuant to Sections 4119 and 4405 of the Metropolitan Administrative Code. This change became effective on January 1, 2021. The price for wheeling to member agencies for transactions of up to one year will be established by contract on a case-by-case basis, as is currently the case for wheeling to member agencies for more than one year and wheeling to third parties.~~

~~<sup>(3)</sup> Under Metropolitan’s prior pre-set wheeling rate for wheeling service under Sections 4119 and 4405 of the Metropolitan Administrative Code, wheeling parties were required to pay for their own cost for power (if such power could be scheduled by Metropolitan) or were required to pay Metropolitan for the actual cost (not system average) of power service utilized for delivery of the wheeled water. In addition, wheeling parties were assessed an administration fee of not less than \$5,000 per transaction.~~

Metropolitan offers ~~three~~five programs that encourage the member agencies to increase groundwater and emergency storage and for which certain Metropolitan charges are inapplicable.

*(1) Conjunctive Use Program.* The Conjunctive Use Program is operated through individual agreements with member and retail agencies for groundwater storage within Metropolitan’s service area. Wet year imported supplies are stored to enhance reliability during dry, drought, and emergency conditions. Metropolitan has the option to call water stored in the groundwater basins for the participating member agency pursuant to its contractual conjunctive use agreement. At the time of the call, the member agency pays the prevailing rate for that water, but the deliveries are excluded from the calculation of the Capacity Charge because Conjunctive Use Program deliveries are made at Metropolitan’s discretion. Conjunctive use programs may also contain cost-sharing terms related to operational costs. See “REGIONAL WATER RESOURCES–Local Water Supplies” in this Appendix A.

*(2) Cyclic Storage Program.* The Cyclic Storage Program refers collectively to the existing Cyclic Storage Program agreements and the Pre-Deliveries Program approved in 2019. The Program is operated through individual agreements with member agencies for groundwater or surface water storage or pre-deliveries within Metropolitan’s service area. Wet-year imported supplies are stored to enhance reliability during dry, drought, and emergency conditions. Deliveries to the cyclic storage accounts are at Metropolitan’s discretion while member agencies have discretion on whether they want to accept the water. At the time the water is delivered from the cyclic storage account, the prevailing full- service rate applies, but deliveries are excluded from the calculation of the Capacity Charge because Cyclic Storage Program deliveries are made at Metropolitan’s discretion. Cyclic agreements may also contain a credit payable to the member agencies under terms approved by the Board in April 2019. See “REGIONAL WATER RESOURCES–Local Water Supplies” in this Appendix A.



(3) Reverse-Cyclic Program. The Reverse-Cyclic Program is operated through individual agreements with member agencies. These agreements allowed member agencies to purchase water in calendar year 2022 for delivery in a future wet year. Metropolitan will deliver the water within five years at its sole discretion. Under the Program, billing occurs before delivery is made at the full-service water rate, plus the treatment surcharge, if applicable, and the purchases are counted towards the member agency's Readiness-to-Serve Charge. However, deliveries are excluded from the calculation of the Capacity Charge because Reverse-Cycle Program deliveries are made at Metropolitan's discretion.

(4) Emergency Storage Program. The Emergency Storage Program is used for delivering water for emergency storage in surface water reservoirs and storage tanks. Emergency Storage Program purposes include initially filling a newly constructed reservoir or storage tank and replacing water used during an emergency. Because Metropolitan could interrupt delivery of this water, Emergency Storage Program Deliveries are excluded from the calculation of the RTS Charge, the Capacity Charge, and the Tier 1 maximum.

(5) Operational Shift Cost Offset Program. The OSCOP is operated through individual agreements with member agencies. Through these agreements, cost-offset credits are offered to member agencies to offset the estimated additional costs and risks incurred by an agency as a result of voluntary operational changes requested by Metropolitan for the purpose of maximizing Metropolitan's water resources. All water delivered under the OSCOP is billed at Metropolitan's applicable full-service rate. Credits are reported as supply program costs.

The applicable rate components and fixed charges applicable for each such program are shown in the following chart.

#### **Current Programs and Rate Components**

Program	Rates & Charges That Apply							Tier 1 Maximum
	Supply	System Access	Water Stewardship <sup>(1)</sup>	System Power	Readiness to Serve	Capacity Charge		
Full Service	Yes	Yes	No	Yes	Yes	Yes	Yes	
Conjunctive Use	Yes	Yes	No	Yes	Yes	No	No	
	Yes						Yes	
Cyclic	Yes	Yes	No	Yes	Yes	No	No	
Reverse-Cyclic	Yes	Yes	Yes	Yes	Yes	No	Yes	
Emergency Storage	Yes	Yes	No	Yes	No	No <sup>(1)</sup>	No <sup>(2)</sup>	
Operational Shift Cost Offset	Yes	Yes	Yes	Yes	Yes	Yes	Yes	

<sup>(1)</sup> ~~As described under "Rate Structure - Water Stewardship Rate," the Water Stewardship Rate has not been incorporated into Metropolitan's rates and charges for calendar years 2021 and 2022 and therefore has not been collected on water transactions after December 31, 2020.~~

<sup>(2)</sup> Emergency Storage Program pays the Tier 1 Supply Rate; purchases under Emergency Storage program do not count towards a member agency's Tier 1 Maximum.



**Water Rates**

The following table sets forth Metropolitan’s water rates by category beginning January 1, 2018. See also “MANAGEMENT’S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES–Water Revenues” in this Appendix A. In addition to the base rates for untreated water sold in the different classes of service, the columns labeled “Treated” include the surcharge that Metropolitan charges for water treated at its water treatment plants. See “–Rate Structure” and “–Classes of Water Service” for descriptions of current rates. See also “–Litigation Challenging Rate Structure” for a description of litigation challenging Metropolitan’s water rates.

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**SUMMARY OF WATER RATES**  
**(Dollars Per Acre-~~Foot~~)**

	<b>SUPPLY RATE</b>		<b>SYSTEM ACCESS RATE</b>	<b>WATER STEWARDSHIP RATE<sup>(1)</sup></b>	<b>SYSTEM POWER RATE</b>	<b>TREATMENT SURCHARGE</b>
	<b>Tier 1</b>	<b>Tier 2</b>				
January 1, 2018	\$209	\$295	\$299	\$55	\$132	\$320
January 1, 2019	\$209	\$295	\$326	\$69	\$127	\$319
January 1, 2020	\$208	\$295	\$346	\$65	\$136	\$323
January 1, 2021	\$243	\$285	\$373	\$--	\$161	\$327
January 1, 2022	\$243	\$285	\$389	\$--	\$167	\$344
January 1, 2023*	\$321	\$530	\$368	\$--	\$166	\$354
January 1, 2024*	\$332	\$531	\$389	\$--	\$182	\$353

	<b>FULL SERVICE TREATED<sup>(2)</sup></b>		<b>FULL SERVICE UNTREATED<sup>(3)</sup></b>	
	<b>Tier 1</b>	<b>Tier 2</b>	<b>Tier 1</b>	<b>Tier 2</b>
January 1, 2018	\$1,015	\$1,101	\$695	\$781
January 1, 2019	\$1,050	\$1,136	\$731	\$817
January 1, 2020	\$1,078	\$1,165	\$755	\$842
January 1, 2021	\$1,104	\$1,146	\$777	\$819
January 1, 2022	\$1,143	\$1,185	\$799	\$841
January 1, 2023*	\$1,209	\$1,418	\$855	\$1,064
January 1, 2024*	\$1,256	\$1,455	\$903	\$1,102

Source: Metropolitan.

\* Rates effective January 1, 2023 and January 1, 2024 were adopted by Metropolitan's Board on April 12, 2022.

(1) As described under "Rate Structure –*Water Stewardship Rate*," the Water Stewardship Rate ~~has not been incorporated into Metropolitan's rates and charges for calendar years 2021 and 2022 and therefore~~ has not been collected on water transactions after December 31, 2020. In November 2021, the Board directed staff to allocate all demand management costs to Metropolitan's supply elements.

(2) Full service treated water rates are the sum of the applicable Supply Rate, System Access Rate, Water Stewardship Rate, System Power Rate and Treatment Surcharge.

(3) Full service untreated water rates are the sum of the applicable Supply Rate, System Access Rate, Water Stewardship Rate and System Power Rate.

### Financial Reserve Policy

Metropolitan's reserve policy provides for a minimum reserve requirement and target amount of unrestricted reserves at June 30 of each year. The minimum reserve requirement at June 30 of each year is equal to the portion of fixed costs estimated to be recovered by water revenues for the 18 months beginning with the immediately succeeding July. Funds representing the minimum reserve requirement are held in the Revenue Remainder Fund. Any funds in excess of the minimum reserve requirement are held in the Water Rate Stabilization Fund. The target amount of unrestricted reserves is equal to the portion of the fixed costs estimated to be recovered by water revenues during the two years immediately following the 18-month period used to calculate the minimum reserve requirement. Funds in excess of the target amount are to be utilized for capital expenditures in lieu of the issuance of additional debt, or for the redemption, defeasance or purchase of outstanding bonds or commercial paper as determined by the Board. Provided that the fixed

charge coverage ratio is at or above 1.2, amounts in the Water Rate Stabilization Fund may be expended for any lawful purpose of Metropolitan, as determined by the Board. See “CAPITAL INVESTMENT PLAN–Capital Investment Plan Financing” in this Appendix A.

At June 30, ~~2021~~2022, unrestricted reserves, which consist of the Water Rate Stabilization Fund and the Revenue Remainder Fund, totaled ~~\$589.6694.9~~ million on a modified accrual basis or ~~\$463.0646.8~~ on a cash basis. As of June 30, ~~2021~~2022, the minimum reserve requirement was ~~\$263.1276.0~~ million, and the target reserve level was ~~\$641.7673.8~~ million.

Due to SDCWA’s litigation challenging Metropolitan’s rates and pursuant to the Exchange Agreement between Metropolitan and SDCWA, Metropolitan is required to set aside funds based on the quantities of exchange water that Metropolitan provides to SDCWA and the amount of charges disputed by SDCWA. In April 2016, Metropolitan transferred these funds from unrestricted financial reserves to a new designated fund, the Exchange Agreement Set-Aside Fund. In 2021, Metropolitan paid to SDCWA the final judgment contract damages amount in the 2010 and 2012 SDCWA v. Metropolitan cases for Water Stewardship Rate payments under the Exchange Agreement in 2011 through 2014, plus interest. Following the 2021 Court of Appeal opinion clarifying that its Water Stewardship Rate ruling applies to later years, Metropolitan paid to SDCWA Water Stewardship Rate payments from 2015 to 2017, plus pre-judgment interest. These payments include all amounts sought related to breach of the Exchange Agreement resulting from the inclusion of the Water Stewardship Rate in the contract price for Exchange Agreement transactions occurring from 2010 until the Water Stewardship Rate was no longer charged in the contract price for Exchange Agreement transactions, beginning in 2018. Accordingly, there are no amounts held in the Exchange Agreement Set-Aside ~~fund~~Fund. See “–Litigation Challenging Rate Structure.”

Metropolitan projects that its unrestricted reserves as of June 30, ~~2022~~2023 will be approximately ~~\$701.0 million on a modified accrual basis or \$597.686~~ million on a cash basis. This projection is based on the assumptions set forth in the table entitled “HISTORICAL AND PROJECTED REVENUES AND EXPENSES” under “HISTORICAL AND PROJECTED REVENUES AND EXPENSES” in this Appendix A. In addition, this projection assumes that Metropolitan’s Board will not authorize the use of any additional amounts in the unrestricted reserves.

### California Ballot Initiatives

Proposition 218, a State ballot initiative known as the “Right to Vote on Taxes Act,” was approved by the voters on November 5, 1996 adding Articles XIIC and XIID to the California Constitution. Article XIID provides substantive and procedural requirements on the imposition, extension or increase of any “fee” or “charge” levied by a local government upon a parcel of real property or upon a person as an incident of property ownership. As a wholesaler, Metropolitan serves water to its member agencies, not to persons or properties as an incident of property ownership. Thus, water rates charged by Metropolitan to its member agencies are not property related fees and charges and therefore are exempt from the requirements of Article XIID. Fees for retail water service by Metropolitan’s member agencies or their agencies are subject to the requirements of Article XIID.

Article XIID also imposes certain procedures with respect to assessments. Under Article XIID, “standby charges” are considered “assessments” and must follow the procedures required for “assessments,” unless they were in existence on the effective date of Article XIID. Metropolitan has imposed its water standby charges since 1992 and therefore its current standby charges are exempt from the Article XIID procedures. Changes to Metropolitan’s current standby charges could require notice to property owners and approval by a majority of such owners returning mail-in ballots approving or rejecting any imposition or increase of such standby charge. Twenty-two of Metropolitan’s member agencies have elected to collect all or a portion of their readiness-to-serve charges through standby charges. See “–Other Charges – Readiness-to-Serve Charge” and “– Water Standby Charges” above. Even if Article XIID is construed to limit the ability of Metropolitan and its member agencies to impose or collect standby charges, the member agencies will continue to be obligated to pay the readiness-to-serve charges.

Article XIII C makes all taxes either general or special taxes and imposes voting requirements for each kind of tax. It also extends the people's initiative power to reduce or repeal previously authorized local taxes, assessments, fees and charges. This extension of the initiative power is not limited by the terms of Article XIII C to fees imposed after November 6, 1996 or to property-related fees and charges and absent other authority could result in retroactive reduction in existing taxes, assessments or fees and charges.

Proposition 26, a State ballot initiative aimed at restricting regulatory fees and charges, was approved by [the a majority of](#) California voters on November 2, 2010. Proposition 26 broadens the definition of "tax" in Article XIII C of the California Constitution to include: levies, charges and exactions imposed by local governments, except for charges imposed for benefits or privileges or for services or products granted to the payor (and not provided to those not charged) that do not exceed their reasonable cost; regulatory fees that do not exceed the cost of regulation and are allocated in a fair or reasonable manner; fees for the use of local governmental property; fines and penalties imposed for violations of law; real property development fees; and assessments and property-related fees imposed under Article XIII D of the California Constitution. Special taxes imposed by local governments including special districts are subject to approval by two-thirds of the electorate. Proposition 26 applies to charges imposed or increased by local governments after the date of its approval. Metropolitan believes its water rates and charges are not taxes under Proposition 26. SDCWA's lawsuit challenging the rates adopted by Metropolitan in April 2012 (part of which became effective January 1, 2013 and part of which became effective January 1, 2014) alleged that such rates violate Proposition 26. On June 21, 2017, the California Court of Appeal ruled that whether or not Proposition 26 applies to Metropolitan's rates, the System Access Rate and System Power Rate challenged by SDCWA in such lawsuit comply with Proposition 26. [SDCWA's lawsuits challenging the rates adopted by Metropolitan in April 2014, April 2016, and April 2018 also alleged that such rates violate Proposition 26.](#) On May 11, 2022, the San Francisco Superior Court ruled that Proposition 26 applies to Metropolitan's rates and charges. See ["Litigation Challenging Rate Structure."](#) [The trial court decision is subject to appeal. Under Proposition 26, the agency holds the burden of proof in a rate or charge challenge. Otherwise, due to the uncertainties of evolving case law and potential future judicial interpretations of Proposition 26, Metropolitan is unable to predict at this time the extent to which Proposition 26, if ultimately determined to apply to Metropolitan's rates and charges, would impose stricter standards on Metropolitan's setting of rates and charges.](#)

Propositions 218 and 26 were adopted as measures that qualified for the ballot pursuant to the State's initiative process. Other initiative measures have been proposed from time to time, ~~including presently,~~ or could be proposed in the future, which if qualified for the ballot, could be adopted, or legislative measures could be approved by the Legislature, which may place limitations on the ability of Metropolitan or its member agencies to increase revenues or to increase appropriations. Such measures may further affect Metropolitan's ability to collect taxes, assessments or fees and charges, which could have an [adverse](#) effect on Metropolitan's revenues.

### **Preferential Rights**

Section 135 of the Act gives each of Metropolitan's member agencies a preferential right to purchase for domestic and municipal uses within the agency a portion of the water served by Metropolitan, based upon a ratio of all payments on tax assessments and otherwise, except purchases of water, made to Metropolitan by the member agency compared to total payments made by all member agencies on tax assessments and otherwise since Metropolitan was formed, except purchases of water. Historically, these rights have not been used in allocating Metropolitan's water. In 2004, the California Court of Appeal upheld Metropolitan's methodology for calculation of the respective member agencies' preferential rights under Section 135 of the Act. SDCWA's litigation challenging Metropolitan's rate structure also challenged Metropolitan's exclusion of payments for Exchange Agreement deliveries from the calculation of SDCWA's preferential right. On June 21, 2017, the California Court of Appeal held that SDCWA's payments under the Exchange Agreement must be included in the preferential rights calculation. See ["Litigation Challenging Rate Structure."](#)

## Litigation Challenging Rate Structure

Through several lawsuits filed by SDCWA since 2010, SDCWA has challenged the rates adopted by Metropolitan's Board in 2010, 2012, 2014, 2016 and 2018. Each of these lawsuits and the status thereof are briefly described below.

***The 2010 and 2012 Cases.*** SDCWA filed *San Diego County Water Authority v. Metropolitan Water District of Southern California, et al.* on June 11, 2010 challenging the rates adopted by the Board on April 13, 2010, which became effective January 1, 2011 and January 1, 2012 (the "2010 Case"). The complaint requested a court order invalidating the rates adopted April 13, 2010, and that Metropolitan be mandated to allocate certain costs associated with the State Water Contract and the Water Stewardship Rate to water supply rates and not to transportation rates.

As described under "METROPOLITAN'S WATER SUPPLY-Colorado River Aqueduct – Metropolitan and San Diego County Water Authority Exchange Agreement" [in this Appendix A](#),<sup>2</sup> the contract price payable by SDCWA under the Exchange Agreement between Metropolitan and SDCWA is Metropolitan's transportation rates. Therefore, SDCWA also alleged that Metropolitan breached the Exchange Agreement by allocating certain costs related to the State Water Contract and the Water Stewardship Rate to its transportation rates because it resulted in an overcharge to SDCWA for water delivered pursuant to the Exchange Agreement.

On June 8, 2012, SDCWA filed a new lawsuit challenging the rates adopted by Metropolitan on April 10, 2012 and effective on January 1, 2013 and January 1, 2014 (the "2012 Case") based on similar claims, and further alleging that Metropolitan's rates adopted in 2012 violated Proposition 26.

Following a trial of both lawsuits in two phases and subsequent trial court ruling, the parties appealed. On June 21, 2017, the California Court of Appeal ruled that Metropolitan may lawfully include its State Water Project transportation costs in the System Access Rate and System Power Rate that are part of the Exchange Agreement's price term, and that Metropolitan may also lawfully include the System Access Rate in its wheeling rate, reversing the trial court decision on this issue. The court held Metropolitan's allocation of the State Water Project transportation costs as its own transportation costs is proper and does not violate the wheeling statutes (Water Code, §1810, *et seq.*), Proposition 26 (Cal. Const., Article XIII C, §1, subd. (e)), whether or not that Proposition applies to Metropolitan's rates, California Government Code section 54999.7, the common law, or the terms of the parties' Exchange Agreement.

The Court of Appeal also ruled that the record did not support Metropolitan's inclusion of its Water Stewardship Rate as a transportation cost in the Exchange Agreement price or the wheeling rate, under the common law and the wheeling statutes. The court noted that its holding does not preclude Metropolitan from including the Water Stewardship Rate in Metropolitan's full-service rate. See also "–Rate Structure – *Water Stewardship Rate*" above.

The Court of Appeal held that because the Water Stewardship Rate was included in the Exchange Agreement price, there was a breach by Metropolitan of the Exchange Agreement in 2011 through 2014 and remanded the case to the trial court for a redetermination of damages in light of its ruling concerning the Water Stewardship Rate. The Court of Appeal also found that the Exchange Agreement may entitle the prevailing party to attorneys' fees for both phases of the case, and directed the trial court on remand to make a new determination of the prevailing party, if any.

On September 27, 2017, the California Supreme Court denied SDCWA's petition for review, declining to consider the Court of Appeal's decision. The Court of Appeal's decision is therefore final.

After tendering payment in 2019 which SDCWA rejected, in [February](#) 2021 Metropolitan paid to SDCWA the same amount previously tendered of \$44.4 million for contract damages for SDCWA's Water

Stewardship Rate payments from 2011 to 2014 and pre-judgment and post-judgment interest. In [September 2021](#), following a 2021 Court of Appeal opinion clarifying that its Water Stewardship Rate ruling applies to later years, Metropolitan paid to SDCWA the amount of \$35.9 million for SDCWA's Water Stewardship Rate payments from 2015 to 2017 and pre-judgment interest. These payments include all amounts sought related to breach of the Exchange Agreement resulting from the inclusion of the Water Stewardship Rate in the contract price for Exchange Agreement transactions occurring from 2010 until the Water Stewardship Rate was no longer charged in the contract price for Exchange Agreement transactions, beginning in 2018 (See "Rate Structure" above). The payment included ~~\$67.4~~[\\$58.1](#) million withdrawn from the Exchange Agreement Set-Aside Fund (See "Financial Reserve Policy" above) and ~~\$12.8~~[\\$22.1](#) million withdrawn from reserves (the remainder of the statutory interest).

The Superior Court also issued an order finding SDCWA is the prevailing party on the contract in the 2010 and 2012 cases and is therefore entitled to its attorneys' fees and costs under the contract, and to statutory costs. On February 25, 2021, Metropolitan appealed both prevailing party determinations. The parties stipulated to \$13,397,575.66 as the amount of SDCWA's attorneys' fees that may be awarded under the Exchange Agreement, in the event Metropolitan's appeal is unsuccessful. On March 17, 2022, the Court of Appeal held that SDCWA is the prevailing party in the 2010 and 2012 cases and is therefore entitled to attorney's fees under the parties' Exchange Agreement and litigation costs. On March 21, 2022, Metropolitan paid to SDCWA \$14,296,864.99 ~~for attorneys' (\$13,397,575.66 fees~~ [award, plus statutory interest](#)) and \$352,247.79 for costs, ~~including (\$326,918.34 costs award, plus statutory interest).~~

[On July 27, 2022, Metropolitan paid SDCWA \\$411,888.36 for attorneys' fees on appeals of post-remand orders.](#)

***The 2014, 2016 and 2018 Cases.*** SDCWA has also filed lawsuits challenging the rates adopted in 2014, 2016 and 2018 and asserting breach of the Exchange Agreement. Metropolitan filed cross-complaints in the three cases, asserting claims relating to rates and the Exchange Agreement, including reformation.

The operative Petitions for Writ of Mandate and Complaints allege the same Water Stewardship Rate claim and breach of the Exchange Agreement as in the 2010 and 2012 cases, but because Metropolitan paid the amounts sought to SDCWA, and the writ in the 2010 and 2012 cases encompasses these claims, these claims and cross-claims are moot. They also claim Metropolitan's wheeling rate fails to provide wheelers a reasonable credit for "offsetting benefits" pursuant to Water Code Section 1810, *et seq.*, and that Metropolitan has breached the Exchange Agreement by failing to reduce the price for an "offsetting benefits" credit. The cases also alleged that in 2020 and 2021, Metropolitan misallocated its California WaterFix costs as transportation costs and breached the Exchange Agreement by including those costs in the transportation rates charged. In April 2022, the parties requested the court's dismissal with prejudice of the claims and cross-claims relating to California WaterFix. The cases also request a judicial declaration that Proposition 26 applies to Metropolitan's rates and charges, and a judicial declaration that SDCWA is not required to pay any portion of a judgment in the litigation. Metropolitan filed cross-complaints in each of these cases, asserting claims ~~against~~ relating to rates and the Exchange Agreement.

The cases were stayed pending resolution of the 2010 and 2012 cases, but the stays have been lifted and the cases have been consolidated in the San Francisco Superior Court. ~~The court set a trial date~~

[Metropolitan and SDCWA each filed motions for summary adjudication of certain issues](#) in the ~~three~~ 2014, 2016 and 2018 cases ~~for May 16 through 27, 2022~~ with the court. [Summary adjudication is a procedure by which a court may determine the merits of a particular claim or affirmative defense, a claim for damages, and/or an issue of duty before trial.](#)

On May 4, 2022, the San Francisco Superior Court issued an order granting Metropolitan's motion for summary adjudication on its cross-claim for declaratory relief that the conveyance facility owner,



Metropolitan, determines fair compensation, including any offsetting benefits; and denying its motion on certain other cross-claims and an affirmative defense.

On May 11, 2022, the San Francisco Superior Court issued an order granting SDCWA's motion for summary adjudication on: Metropolitan's cross-claim in the 2018 case for a declaration with respect to the lawfulness of the Water Stewardship Rate's inclusion in the wheeling rate and transportation rates in 2019-and 2020; certain Metropolitan cross-claims and affirmative defenses on the ground that Metropolitan has a duty to charge no more than fair compensation, which includes reasonable credit for any offsetting benefits pursuant to Water Code section 1811(c), with the court also stating that whether that duty arose and whether Metropolitan breached that duty are issues to be resolved at trial; Metropolitan's affirmative defenses that SDCWA's claims are untimely and SDCWA has not satisfied claims presentation requirements; Metropolitan's affirmative defense in the 2018 case that SDCWA has not satisfied dispute resolution requirements under the Exchange Agreement; SDCWA's claim, Metropolitan's cross-claims, and Metropolitan's affirmative defenses regarding the applicability of Proposition 26, finding that Proposition 26 applies to Metropolitan's rates and charges, with the court also stating that whether Metropolitan violated Proposition 26 is a separate issue; and Metropolitan's cross-claims and affirmative defenses regarding the applicability of Government Code section 54999.7, finding that section 54999.7 applies to Metropolitan's rates. The court denied SDCWA's motion on certain other Metropolitan cross-claims and affirmative defenses.

Damages sought by SDCWA in connection with its claims for offsetting benefits credit under the Exchange Agreement exceed \$334 million for the six years (2015 through 2020) at issue in these cases. In the event that SDCWA were to prevail in a final adjudication of this issue, a determination of offsetting benefits credit due to SDCWA, if any, could impact the Exchange Agreement price in future years.

Trial of the 2014, 2016 and 2018 cases occurred May 16 to July 1, 2022. Subsequent to the July 1, 2022 trial closing date of the 2014, 2016 and 2018 cases, the parties filed post-trial briefs on August 19, 2022. On September 14, 2022, the court granted in part and denied in part SDCWA's motion for partial judgment; the rulings did not resolve any claims or cross-claims. Trial closing arguments were held on September 27, 2022. As directed by the court, the parties filed proposed statements of decision on December 16, 2022.

On December 27, 2022, the court entered the parties' stipulation memorializing the earlier resolution of the Water Stewardship Rate claims in SDCWA's favor, except a cross-claim that Metropolitan withdrew via the stipulation.

On March 14, 2023, the court issued its tentative statement of decision concerning the trial in the 2014, 2016, and 2018 cases. For each claim litigated at trial, the court ruled in favor of Metropolitan or found the claim to be moot based on the rulings in Metropolitan's favor. The court concluded: (1) the duty to charge fair compensation did not arise and Metropolitan did not breach the Exchange Agreement by failing to calculate a reasonable credit for any offsetting benefits; (2) because Metropolitan did not breach the Exchange Agreement, the court need not address damages; (3) Metropolitan's conditional claim for a declaration of its rights and duties under the Wheeling Statutes, if SDCWA prevailed on its claim that the Wheeling Statutes apply to the Exchange Agreement, are moot; (4) SDCWA's rate challenges are rejected; and (5) SDCWA's request for a declaration that it could not be required to contribute to a damages, fees, or costs award in the cases is moot. The decision is tentative, pending SDCWA's statutory right to file an objection.

Also on March 14, 2023, the court issued an amended order on SDCWA's motion for partial judgment to address Metropolitan's request for a declaration on Metropolitan's cost causation obligations when setting rates. The court ruled that Metropolitan cannot demonstrate that a declaration regarding cost causation is the proper subject for declaratory relief.



Metropolitan is unable to assess at this time the likelihood of success of the pending cases, any possible appeals, settlements or any future claims.

### Other Revenue Sources

**Hydroelectric Power Recovery Revenues.** Metropolitan has constructed 15 small hydroelectric plants on its distribution system. The combined generating capacity of these plants is approximately 130 megawatts, and is dependent on available water sources. The plants are located in Los Angeles, Orange, Riverside, and San Diego Counties at existing pressure control structures and other locations. ~~The total capital cost of the 15 facilities is approximately \$176.1 million.~~ Since 2000, annual energy generation sales revenues have ranged between \$7.3 million and nearly \$29.6 million, fluctuating with available water supplies. Hydroelectric power sales revenues from the hydroelectric power plants were ~~\$7.3~~ \$7.7 million in fiscal year ~~2020-21~~ 2021-22.

**CRA Power Sale Revenues.** The power requirements for the CRA are offset, in part, by Metropolitan's hydroelectric power generation entitlements from Hoover and Parker dams. A net revenue stream, referred to as CRA power sales, results when the CRA power needs are less than Metropolitan's Hoover and Parker power entitlements, and in which the excess energy is imported and sold into the California Independent System Operator ("CAISO") market. The total Hoover and Parker dam excess energy sales revenues were ~~\$6.0 million in fiscal year 2019-20 and~~ \$11.4 million in fiscal year 2020-21 and \$3.25 million in fiscal year 2021-22.

**Investment Income.** In fiscal years, ~~2018-19, 2019-20 and~~ 2020-21, and 2021-2022 Metropolitan's earnings on investments, including adjustments for gains and losses and premiums and discounts, including construction account and trust fund earnings, excluding gains and losses on swap terminations, on a cash basis (unaudited) were ~~\$31.3 million, \$18.1 million, \$12.7 million, and \$12.7~~ \$11.3 million, respectively.

### Investment of Moneys in Funds and Accounts

The Board has delegated to the Treasurer the authority to invest funds. All moneys in any of the funds and accounts established pursuant to Metropolitan's water revenue or general obligation bond resolutions are managed by the Treasurer in accordance with Metropolitan's Statement of Investment Policy. All Metropolitan funds available for investment are currently invested in United States Treasury and agency securities, supranationals, commercial paper, negotiable certificates of deposit, banker's acceptances, corporate notes, municipal bonds, government-sponsored enterprise, money market funds, California Asset Management Program ("CAMP") and the California Local Agency Investment Fund ("LAIF"). CAMP is a program created through a joint powers agency as a pooled short-term portfolio and cash management vehicle for California public agencies. CAMP is a permitted investment for all local agencies under California Government Code Section 53601(p). LAIF is a voluntary program created by statute as an investment alternative for California's local governments and special districts. LAIF permits such local agencies to participate in an investment portfolio, which invests billions of dollars, managed by the State Treasurer's Office.

The Statement of Investment Policy provides that in managing Metropolitan's investments, the primary objective shall be to safeguard the principal of the invested funds. The secondary objective shall be to meet all liquidity requirements and the third objective shall be to achieve a return on the invested funds. Although the Statement of Investment Policy permits investments in some government-sponsored enterprise, the portfolio does not include any of the special investment vehicles related to sub-prime mortgages. Metropolitan's current investments comply with the Statement of Investment Policy.

As of ~~March 31~~ February 28, 2022 2023, the total market value (cash-basis) of all Metropolitan invested funds was \$1.41.3 billion, ~~including a bond reserve of \$1.6 million for Metropolitan's 2000 Authorization, Series B-3 Bonds~~. The market value of Metropolitan's investment portfolio is subject to

market fluctuation and volatility and general economic conditions. Over the three years ended ~~March 31, February 28, 2022~~2023, the market value of the month-end balance of Metropolitan's investment portfolio (excluding bond reserve funds) averaged approximately \$~~1.2~~1.3 billion. The minimum month-end balance of Metropolitan's investment portfolio (excluding bond reserve funds) during such period was approximately \$~~831.9~~887.3 million on July 31, ~~2019~~2020. See Note 3 to Metropolitan's audited financial statements in Appendix B for additional information on the investment portfolio.

Metropolitan's ~~administrative code~~Administrative Code requires that (1) the Treasurer provide an annual Statement of Investment Policy for approval by Metropolitan's Board, (2) the Treasurer provide a monthly investment report to the Board and the General Manager showing by fund the description, maturity date, yield, par, cost and current market value of each security, and (3) the General Counsel review as to eligibility the securities invested in by the Treasurer for that month and report his or her determinations to the Board. The Board approved the Statement of Investment Policy for fiscal year ~~2021-22~~2022-23 on June ~~8~~14, ~~2021~~2022.

Subject to the provisions of Metropolitan's water revenue or general obligation bond resolutions, obligations purchased by the investment of bond proceeds in the various funds and accounts established pursuant to a bond resolution are deemed at all times to be a part of such funds and accounts and any income realized from investment of amounts on deposit in any fund or account therein will be credited to such fund or account. The Treasurer is required to sell or present for redemption any investments whenever it may be necessary to do so in order to provide moneys to meet required payments or transfers from such funds and accounts. For the purpose of determining at any given time the balance in any such funds, any such investments constituting a part of such funds and accounts will be valued at the then estimated or appraised market value of such investments.

All investments, including those authorized by law from time to time for investments by public agencies, contain certain risks. Such risks include, but are not limited to, a lower rate of return than expected and loss or delayed receipt of principal. The occurrence of these events with respect to amounts held under Metropolitan's water revenue or general obligation revenue bond resolutions, or other amounts held by Metropolitan, could have a material adverse effect on Metropolitan's finances. These risks may be mitigated, but are not eliminated, by limitations imposed on the portfolio management process by Metropolitan's Statement of Investment Policy.

The Statement of Investment Policy requires that investments have a minimum credit rating of "A-1/P-1/F1" for short-term securities and "A" for longer-term securities, without regard to modifiers, at the time of purchase. If a security is downgraded below the minimum rating criteria specified in the Statement of Investment Policy, the Treasurer shall determine a course of action to be taken on a case-by-case basis considering such factors as the reason for the downgrade, prognosis for recovery, or further rating downgrades, and the market price of the security. The Treasurer is required to note in the Treasurer's monthly report any securities which have been downgraded below Policy requirements and the recommended course of action.

The Statement of Investment Policy also limits the amount of securities that can be purchased by category, as well as by issuer, and prohibits investments that can result in zero interest income. Metropolitan's securities are settled on a delivery versus payment basis and are held by an independent third-party custodian. See Metropolitan's financial statements included in APPENDIX B- "THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITORS' REPORT AND BASIC FINANCIAL STATEMENTS FOR FISCAL YEARS ENDED JUNE 30, ~~2021~~2022 AND JUNE 30, ~~2020~~2021 AND BASIC FINANCIAL STATEMENTS FOR THE ~~NINE~~SIX MONTHS ENDED ~~MARCH~~DECEMBER 31, 2022 AND 2021 (UNAUDITED)" for a description of Metropolitan's investments at June 30, ~~2021~~2022, and ~~March~~December 31, 2022.

~~From July 2018 through January 2021, Metropolitan retained two~~retains an outside investment ~~firms~~firm to manage its core portfolio, a portion of the liquidity portfolio, and the Lake Matthews trust fund. ~~Since February 2021, Metropolitan retains only one outside investment firm.~~ This firm manages approximately ~~\$1.1 billion~~990.2 million in total investments on behalf of Metropolitan as of ~~March 31~~February 28, 20222023. All outside managers are required to adhere to Metropolitan's Statement of Investment Policy.

Metropolitan's Statement of Investment Policy may be changed at any time by the Board (subject to State law provisions relating to authorized investments). There can be no assurance that the State law and/or the Statement of Investment Policy will not be amended in the future to allow for investments that are currently not permitted under State law or the Statement of Investment Policy, or that the objectives of Metropolitan with respect to investments or its investment holdings at any point in time will not change.

## METROPOLITAN EXPENSES

### General

The following table sets forth a summary of Metropolitan's expenses, by major function, for the five years ended June 30, ~~2021~~2022, on a modified accrual basis. All information is unaudited. Expenses of Metropolitan for the fiscal years ended June 30, ~~2021~~2022 and June 30, ~~2020~~2021, on an accrual basis, are shown in Metropolitan's audited financial statements included in Appendix B.

### SUMMARY OF EXPENSES Fiscal Years Ended June 30 (Dollars in Millions)

	<del>2017</del>	2018	2019	2020	2021	<u>2022</u>
Operation and Maintenance Costs <sup>(1)</sup>	<del>\$ 559</del>	\$ 568	\$ 569	\$ 641	\$ 636	<u>\$ 797</u>
Total State Water Project <sup>(2)</sup>	<del>506</del>	527	482	519	547	<u>547</u>
Total Debt Service	<del>330</del>	360	347	285	286	<u>283</u>
Construction Expenses from Revenues <sup>(3)</sup>	<del>132</del>	98	128	39	110	<u>135</u>
Other <sup>(4)</sup>	<del>4</del>	5	6	6	6	<u>55</u>
Total Expenses (net of reimbursements)	<del>\$1,531</del>	<u>\$1,558</u>	<u>\$1,532</u>	<u>\$1,490</u>	<u>\$1,585</u>	<u>\$1,817</u>

Source: Metropolitan.

- (1) Includes operation and maintenance, debt administration, conservation and local resource programs, CRA power, and water supply expenses. Fiscal ~~years 2016-17 and year~~ 2017-18 ~~include \$33 million and~~includes \$1 million, ~~respectively~~, of conservation and supply program expenses funded from transfers from the Water Management Fund.
- (2) Includes operating and capital expense portions and Delta Conveyance.
- (3) At the discretion of the Board, in any given year, Metropolitan may increase or decrease funding available for construction disbursements to be paid from revenues. Does not include expenditures of bond proceeds.
- (4) Includes operating equipment. Fiscal year 2021-22 includes \$51 million for SDCWA litigation payments.

### Revenue Bond Indebtedness and Other Obligations

As of April 1, ~~2022~~2023, Metropolitan had total outstanding indebtedness secured by a lien on Net Operating Revenues of ~~\$3.85~~\$3.66 billion. This indebtedness was comprised of (a) ~~\$2.53~~\$2.45 billion of Senior Revenue Bonds issued under the Senior Debt Resolutions (each as defined below), which includes ~~\$2.20~~\$2.12 billion of fixed rate Senior Revenue Bonds, and \$331.9 million of variable rate Senior Revenue Bonds; and (b) ~~\$1.32~~\$1.21 billion of Subordinate Revenue Bonds issued under the Subordinate Debt Resolutions (each as defined below), which includes ~~\$821.8~~\$712.8 million of fixed rate Subordinate Revenue Bonds, and \$493.4 million of variable rate Subordinate Revenue Bonds. In addition, Metropolitan has ~~\$405.9~~\$372.7 million of fixed-payor interest rate swaps which provides a fixed interest rate hedge to an equivalent amount of variable rate debt. Metropolitan's revenue bonds and other revenue obligations are more fully described below.

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**REVENUE BOND INDEBTEDNESS AND OTHER OBLIGATIONS**  
**(as of April 1, 2023)**

	Variable Rate	Fixed Rate	Total
Senior Lien Revenue Bonds	\$ 331,875,000	<del>\$2,201,320,000</del> <u>2,120,335,000</u>	<del>\$2,533,195,000</del> <u>\$2,488,460,000</u>
Subordinate Lien Revenue Bonds	<u>493,415,000</u>	<del>821,815,000</del> <u>712,770,000</u>	<del>1,315,230,000</del> <u>1,204,585,000</u>
<b>Total</b>	<b>\$ 825,290,000</b>	<b><del>\$3,023,135,000</del> <u>2,833,105,000</u></b>	<b><del>\$3,848,425,000</del> <u>\$3,693,045,000</u></b>
Fixed-Payor Interest Rate Swaps	<del>(405,950,000)</del> <u>(372,690,000)</u>	<del>405,950,000</del> <u>372,690,000</u>	--
<b>Net Amount (after giving effect to Swaps)</b>	<b><del>\$ 419,340,000</del> <u>452,600,000</u></b>	<b><del>\$3,429,085,000</del> <u>3,205,795,000</u></b>	<b><del>\$3,848,425,000</del> <u>\$3,693,045,000</u></b>

Source: Metropolitan.

As described under “–Outstanding Senior Revenue Bonds and Senior Parity Obligations –Senior Parity Obligations,” in ~~May~~June 2022, Metropolitan entered into a ~~short-term~~ revolving credit facility pursuant to which Metropolitan may issue senior lien short-term notes from time-to-time, bearing interest at a variable rate, and payable on parity with Metropolitan’s Senior Revenue Bonds.

#### Limitations on Additional Revenue Bonds

Resolution 8329, adopted by Metropolitan’s Board on July 9, 1991, as amended and supplemented (the “Master Senior Resolution,” and collectively with all such supplemental resolutions, the “Senior Debt Resolutions”), provides for the issuance of Metropolitan’s senior lien water revenue bonds. The Senior Debt Resolutions establish limitations on the issuance of additional obligations payable from Net Operating Revenues. Under the Senior Debt Resolutions, no additional bonds, notes or other evidences of indebtedness payable out of Operating Revenues may be issued having any priority in payment of principal, redemption premium, if any, or interest over any water revenue bonds authorized by the Senior Debt Resolutions (“Senior Revenue Bonds”) or other obligations of Metropolitan having a lien and charge upon, or being payable from, the Net Operating Revenues on parity with such Senior Revenue Bonds (“Senior Parity Obligations”). No additional Senior Revenue Bonds or Senior Parity Obligations may be issued or incurred unless the conditions of the Senior Debt Resolutions have been satisfied.

Resolution 9199, adopted by Metropolitan’s Board on March 8, 2016, as amended and supplemented (the “Master Subordinate Resolution,” and collectively with all such supplemental resolutions, the “Subordinate Debt Resolutions,” and together with the Senior Debt Resolutions, the “Revenue Bond Resolutions”), provides for the issuance of Metropolitan’s subordinate lien water revenue bonds and other obligations secured by a pledge of Net Operating Revenues that is subordinate to the pledge securing Senior Revenue Bonds and Senior Parity Obligations. The Subordinate Debt Resolutions establish limitations on the issuance of additional obligations payable from Net Operating Revenues. Under the Subordinate Debt Resolutions, with the exception of Senior Revenue Bonds and Senior Parity Obligations, no additional bonds, notes or other evidences of indebtedness payable out of Operating Revenues may be issued having any priority in payment of principal, redemption premium, if any, or interest over any subordinate water revenue bonds authorized by the Subordinate Debt Resolutions (“Subordinate Revenue Bonds” and, together with Senior Revenue Bonds, “Revenue Bonds”) or other obligations of Metropolitan having a lien and charge upon, or being payable from, the Net Operating Revenues on parity with the Subordinate Revenue Bonds (“Subordinate Parity Obligations”). No additional Subordinate Revenue Bonds or Subordinate Parity Obligations may be issued or incurred unless the conditions of the Subordinate Debt Resolutions have been satisfied.

The laws governing Metropolitan's ability to issue water revenue bonds currently provide two additional limitations on indebtedness that may be incurred by Metropolitan. The Act provides for a limit on general obligation bonds, water revenue bonds and other evidences of indebtedness of 15 percent of the assessed value of all taxable property within Metropolitan's service area. As of April 1, ~~2022~~2023, outstanding general obligation bonds, water revenue bonds and other evidences of indebtedness in the amount of ~~\$3.873.68~~ billion represented approximately ~~0.11~~0.10 percent of the fiscal year ~~2021-22~~2022-23 taxable assessed valuation of ~~\$3,377.3~~3,624.8 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 such bonds, equals at least 100 percent of the aggregate amount of revenue bonds outstanding following the issuance of such bonds. The net assets of Metropolitan at June 30, ~~2021~~2022 were ~~\$7.197.46~~ billion. The aggregate amount of revenue bonds outstanding as of April 1, ~~2022~~2023 was ~~\$3.85~~3.66 billion. The limitation does not apply to other forms of financing available to Metropolitan. Audited financial statements including the net assets of Metropolitan as of June 30, ~~2021~~2022 and June 30, ~~2020~~2021 are shown in Metropolitan's audited financial statements included in APPENDIX B—"THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITORS' REPORT AND BASIC FINANCIAL STATEMENTS FOR FISCAL YEARS ENDED JUNE 30, ~~2021~~2022 AND JUNE 30, ~~2020~~2021 AND BASIC FINANCIAL STATEMENTS FOR THE ~~NINESIX~~ MONTHS ENDED ~~MARCH~~DECEMBER 31, 2022 AND 2021 (UNAUDITED)."

Metropolitan provides no assurance that the Act's limitations on indebtedness will not be revised or removed by future legislation. Limitations under the Revenue Bond Resolutions respecting the issuance of additional obligations payable from Net Operating Revenues on parity with the Senior Revenue Bonds and Subordinate Revenue Bonds of Metropolitan will remain in effect so long as any Senior Revenue Bonds and Subordinate Revenue Bonds authorized pursuant to the applicable Revenue Bond Resolutions are outstanding, provided however, that the Revenue Bond Resolutions are subject to amendment and supplement in accordance with their terms.

### **Variable Rate Exposure Policy**

As of April 1, ~~2022~~2023, Metropolitan had outstanding \$331.9 million of variable rate obligations issued as Senior Revenue Bonds under the Senior Debt Resolutions (described under "–Outstanding Senior Revenue Bonds and Senior Parity Obligations –Variable Rate and Swap Obligations" below). In addition, as of April 1, ~~2022~~2023, \$493.4 million of Metropolitan's ~~1.321.21~~ billion of outstanding Subordinate Revenue Bonds issued under the Subordinate Debt Resolutions and other Subordinate Parity Obligations were variable rate obligations (described under "–Outstanding Subordinate Revenue Bonds and Subordinate Parity Obligations" below).

As of April 1, ~~2022~~2023, of Metropolitan's \$825.3 million of variable rate obligations, ~~\$405.9~~372.7 million of such variable rate demand obligations are treated by Metropolitan as fixed rate debt, by virtue of interest rate swap agreements (described under "–Outstanding Senior Revenue Bonds and Senior Parity Obligations –Variable Rate and Swap Obligations – *Interest Rate Swap Transactions*" below), for the purpose of calculating debt service requirements. The remaining ~~\$419.4~~452.6 million of variable rate obligations represent approximately ~~10.9~~12.4 percent of total outstanding water revenue secured indebtedness (including Senior Revenue Bonds and Senior Parity Obligations and Subordinate Revenue Bonds and Subordinate Parity Obligations), as of April 1, ~~2022~~2023.

Metropolitan's variable rate exposure policy requires that variable rate debt be managed to limit net interest cost increases within a fiscal year as a result of interest rate changes to no more than \$5 million. In addition, the maximum amount of variable interest rate exposure (excluding variable rate bonds associated with interest rate swap agreements) is limited to 40 percent of total outstanding water revenue bond debt. Variable rate debt capacity will be reevaluated as interest rates change and managed within these parameters.



The periodic payments due to Metropolitan from counterparties under its outstanding interest rate swap agreements are calculated by reference to the London interbank offering rate ("LIBOR"). On July 27, 2017, the Financial Conduct Authority (the "FCA"), the U.K. regulatory body ~~currently~~ responsible for the regulation and supervision of LIBOR, announced that it ~~will~~would no longer persuade or compel banks to submit rates for the calculation of the LIBOR rates after 2021 (the "FCA Announcement"). Following a consultation announced in November 2020 by the Intercontinental Exchange Benchmark Administration ("IBA"), the administrator of LIBOR authorized and regulated by the FCA, with the support of the Federal Reserve Board and the FCA, ~~the IBA~~ made a formal announcement on March 5, 2021 that the date for the cessation of the publication of various tenors of USD LIBOR (or date on which any published USD LIBOR rate for such tenors would cease to be representative) would be: (1) December 31, 2021, for the one-week and two-month USD LIBOR, and (2) June 30, 2023, for all other tenors of USD LIBOR, including the one-month LIBOR and three-month LIBOR, the most widely used tenors of USD LIBOR and which are used to determine the periodic payments due to Metropolitan from swap counterparties. Metropolitan ~~staff is monitoring alternate benchmark rates. As a result of the prospective phasing out of~~currently expects to adopt the terms of the ISDA 2020 IBOR Fallbacks Protocol for its existing swap agreements by June 30, 2023. Under the terms of the ISDA 2020 IBOR Fallbacks Protocol, the floating rate calculations based on a USD LIBOR as a reference rate and transition to an alternate benchmark rate, increased volatility in the reported LIBOR rates may occur. The level of will switch to a term-adjusted Secured Overnight Financing Rate ("SOFR") rate plus a spread adjustment. Metropolitan's ~~LIBOR-based~~ does not expect a material change in its swap payments may also be affected by as a result of the transition to ~~an~~the new SOFR-based alternate benchmark rate ~~when it occurs~~.

## Outstanding Senior Revenue Bonds and Senior Parity Obligations

### Senior Revenue Bonds

The water revenue bonds issued under the Senior Debt Resolutions outstanding as of April 1, ~~2022~~2023 are set forth below:

### Outstanding Senior Revenue Bonds

Name of Issue	Principal Outstanding
<del>Water Revenue Bonds, 2000 Authorization, Series B-3<sup>(4)</sup></del>	<del>\$ 78,900,000</del>
Water Revenue Refunding Bonds, 2011 Series C	<u>\$ 29,315,000</u>
<del>Water Revenue Refunding Bonds, 2012 Series A<sup>(2)</sup></del>	<del>181,180,000</del>
<del>Water Revenue Refunding Bonds, 2012 Series F<sup>(2)</sup></del>	<del>26,540,000</del>
<del>Water Revenue Refunding Bonds, 2012 Series G<sup>(2)</sup></del>	<del>88,230,000</del>
	<u>62,835,000</u> <u>33,91</u>
Water Revenue Refunding Bonds, 2014 Series E	<u>0,000</u>
	<u>199,000,000</u> <u>54,8</u>
Water Revenue Bonds, 2015 Authorization, Series A	<u>80,000</u>
	<u>239,455,000</u> <u>112,</u>
Water Revenue Refunding Bonds, 2016 Series A	<u>415,000</u>
	<u>82,905,000</u> <u>25,32</u>
Special Variable Rate Water Revenue Refunding Bonds, 2016 Series <del>B-1 and</del> B-2 <sup>(1)</sup>	<u>5,000</u>
	<u>80,000,000</u> <u>24,27</u>
Water Revenue Bonds, 2017 Authorization, Series A <sup>(1)</sup>	<u>5,000</u>
<del>Special Variable Water Revenue Refunding Bonds, 2018 Series A-1 and A-2<sup>(4)</sup></del>	<del>90,070,000</del>
	<u>124,525,000</u> <u>119,</u>
Water Revenue Refunding Bonds, 2018 Series B	<u>690,000</u>
Water Revenue Refunding Bonds, 2019 Series A	218,090,000
Water Revenue Bonds, 2020 Series A	207,355,000

Special Variable Rate Water Revenue Refunding Bonds, 2020 Series B <sup>(2)</sup>	271,815,000
	<del>265,680,000</del> 263,230,000
Water Revenue Refunding Bonds, 2020 Series C	230,000
Water Revenue Bonds, 2021 Series A	188,890,000
	<del>98,410,000</del> 87,810,000
Water Revenue Refunding Bonds, 2021 Series B	0,000
Water Revenue Refunding Bonds, 2022 Series A	279,570,000
Water Revenue Refunding Bonds, 2022 Series B	253,365,000
Special Variable Rate Water Revenue Refunding Bonds, 2022 Series C-1 and C-2 <sup>(1)</sup>	282,275,000
	<del>\$2,533,195,000</del>
<b>Total</b>	<b>2,452,210,000</b>

Source: Metropolitan.

(1) Outstanding variable rate obligation.

~~(2) These bonds may be refunded in full or in part by Metropolitan's Water Revenue Refunding Bonds, 2022 Series A.~~

~~(3)~~ Currently in a long mode at a fixed interest rate to April 2, 2024.

### **Variable Rate and Swap Obligations**

As of April 1, ~~2022~~2023, Metropolitan had outstanding \$331.9 million of senior lien variable rate obligations. The outstanding variable rate obligations consist of Senior Revenue Bonds issued under the Senior Debt Resolutions (described under this caption "Variable Rate and Swap Obligations") as variable rate demand obligations in either a daily mode or a weekly mode and supported by standby bond purchase agreements between Metropolitan and various liquidity providers (the "Liquidity Supported Bonds").

***Liquidity Supported Senior Revenue Bonds.*** ~~The interest rates for~~ Metropolitan's outstanding variable rate demand obligations issued under the Senior Debt Resolutions, totaling \$331.9 million as of April 1, ~~2022~~2023, consisted of \$49.6 million principal amount of variable rate Senior Revenue Bonds, the interest rates on which are currently reset on a daily basis. ~~While bearing interest at a daily rate, such variable rate demand obligations,~~ and \$282.3 million principal amount of variable rate Senior Revenue Bonds, the interest rates on which are reset on a weekly basis. The variable rate demand obligations bearing interest at a daily rate are subject to optional tender on any business day with same day notice by the owners thereof and mandatory tender upon specified events. The variable rate demand obligations bearing interest at a weekly rate are subject to optional tender on any business day upon seven days' notice by the owners thereof and mandatory tender upon specified events. Such variable rate demand obligations are supported by standby bond purchase agreements between Metropolitan and liquidity providers that provide for purchase of variable rate bonds by the applicable liquidity provider upon tender of such variable rate bonds and a failed remarketing. Metropolitan has secured its obligation to repay principal and interest advanced under the standby bond purchase agreements as Senior Parity Obligations. A decline in the creditworthiness of a liquidity provider will likely result in an increase in the interest rate of the applicable variable rate bonds, as well as an increase in the risk of a failed remarketing of such tendered variable rate bonds. Variable rate bonds purchased by a liquidity provider ("bank bonds") would initially bear interest at a per annum interest rate equal to, depending on the liquidity facility, either: (a) the highest of (i) the Prime Rate, (ii) the Federal Funds Rate plus one-half of a percent, or (iii) seven and one-half percent (with the spread or rate increasing in the case of each of (i), (ii) and (iii) of this clause (a) by one percent after 60 days); or (b) the highest of (i) the Prime Rate plus one percent, (ii) Federal Funds Rate plus two percent, and (iii) seven percent (with the spread or rate increasing in the case of each of (i), (ii) and (iii) of this clause (b) by one percent after 90 days). To the extent such bank bonds have not been remarketed or otherwise retired as of the earlier of the 60<sup>th</sup> day following the date such bonds were purchased by the liquidity provider or the stated expiration date of the related liquidity facility, Metropolitan's obligation to reimburse the liquidity provider may convert the term of the variable rate bonds purchased by the liquidity provider into a term loan payable under the terms



of the current liquidity facilities in semi-annual installments over a period ending on either the third anniversary ~~or fifth anniversary, depending on the applicable liquidity facility,~~ of the date on which the variable rate bonds were purchased by the liquidity provider. In addition, upon an event of default under any such liquidity facility, including a failure by Metropolitan to perform or observe its covenants under the applicable standby bond purchase agreement, a default in other specified indebtedness of Metropolitan, or other specified events of default (including a reduction in the credit rating assigned to Senior Revenue Bonds issued under the Senior Debt Resolutions by any of Fitch, S&P or Moody's below "A-" or "A3"), the liquidity provider could require all bank bonds to be subject to immediate mandatory redemption by Metropolitan.

The following table lists the current liquidity providers, the current expiration date of each facility, and the principal amount of outstanding variable rate demand obligations covered under each facility as of April 1, ~~2022~~2023.

#### Liquidity Facilities and Expiration Dates

Liquidity Provider	Bond Issue	Principal Outstanding	Facility Expiration
<del>TD Bank, N.A.</del>	<del>2018 Series A-1 and Series A-2</del>	<del>\$ 90,070,000</del>	<del>June 2024</del>
		<del>\$ 82,905,000</del>	<del>June 2024</del>
TD Bank, N.A.	2016 Series B- <del>1 and Series B-2</del>	<u>25,325,000</u>	<u>2024 January 2026</u>
<u>TD Bank, N.A.</u>	<u>2022 Series C-1</u>	<u>147,650,000</u>	<u>January 2026</u>
		<del>\$ 80,000,000</del>	<del>March 2023</del>
PNC Bank, N.A.	2017 Authorization Series A	<u>24,275,000</u>	<u>2026</u>
		<del>\$ 78,900,000</del>	<del>March 2023</del>
PNC Bank, N.A.	<del>2000 Authorization</del> <u>2022</u> Series <del>BC-32</del>	<u>134,625,000</u>	<u>2023 January 2026</u>
<b>Total</b>		<b>\$331,875,000</b>	

Source: Metropolitan.

**Interest Rate Swap Transactions.** By resolution adopted on September 11, 2001, Metropolitan's Board authorized the execution of interest rate swap transactions and related agreements in accordance with a master swap policy, which was subsequently amended by resolutions adopted on July 14, 2009 and May 11, 2010. Metropolitan may execute interest rate swaps if the transaction can be expected to reduce exposure to changes in interest rates on a particular financial transaction or in the management of interest rate risk derived from Metropolitan's overall asset/liability balance, result in a lower net cost of borrowing or achieve a higher net rate of return on investments made in connection with or incidental to the issuance, incurring or carrying of Metropolitan's obligations or investments, or manage variable interest rate exposure consistent with prudent debt practices and Board-approved guidelines. The ~~Chief Financial Officer~~Assistant General Manager, Finance & Administration reports to the Finance ~~and, Audit,~~ Insurance and Real Estate Committee of Metropolitan's Board each quarter on outstanding swap transactions, including notional amounts outstanding, counterparty exposures and termination values based on then-existing market conditions.

Metropolitan currently has one type of interest rate swap, referred to in the table below as "Fixed Payor Swaps." Under this type of swap, Metropolitan receives payments that are calculated by reference to a floating interest rate and makes payments that are calculated by reference to a fixed interest rate.

Metropolitan's obligations to make regularly scheduled net payments under the terms of the interest rate swap agreements are payable on a parity with the Senior Parity Obligations. Termination payments under the 2002A and 2002B interest rate swap agreements would be payable on a parity with the Senior

Parity Obligations. Termination payments under all other interest rate swap agreements would be on parity with the Subordinate Parity Obligations.

The following swap transactions were outstanding as of April 1, ~~2022~~2023:

**FIXED PAYOR SWAPS:**

Designation	Notional Amount Outstanding	Swap Counterparty	Fixed Payor Rate	Metropolitan Receives	Maturity Date
2002 A	\$ <del>45,004,150</del> <u>\$34,553,750</u>	Morgan Stanley Capital Services, Inc.	3.300%	57.74% of one-month LIBOR	7/1/2025
2002 B	<del>46,835,850</del> <u>12,926,250</u>	JPMorgan Chase Bank	3.300	57.74% of one-month LIBOR	7/1/2025
2003	<del>141,150,000</del> <u>1,31,912,500</u>	Wells Fargo Bank	3.257	61.20% of one-month LIBOR	7/1/2030
2003	<del>141,150,000</del> <u>1,31,912,500</u>	JPMorgan Chase Bank	3.257	61.20% of one-month LIBOR	7/1/2030
2004 C	4,672,250	Morgan Stanley Capital Services, Inc.	2.980	61.55% of one-month LIBOR	10/1/2029
2004 C	3,822,750	Citigroup Financial Products, Inc.	2.980	61.55% of one-month LIBOR	10/1/2029
2005	<del>26,657,500</del> <u>26,445,000</u>	JPMorgan Chase Bank	3.360	70% of 3-month LIBOR	7/1/2030
2005	<del>26,657,500</del> <u>26,445,000</u>	Citigroup Financial Products, Inc.	3.360	70% of 3-month LIBOR	7/1/2030
<b>Total</b>	<b><del>\$405,950,000</del> <u>\$372,690,000</u></b>				

Source: Metropolitan.

These interest rate swap agreements entail risk to Metropolitan. One or more counterparties may fail or be unable to perform, interest rates may vary from assumptions, Metropolitan may be required to post collateral in favor of its counterparties and Metropolitan may be required to make significant payments in the event of an early termination of an interest rate swap. Metropolitan seeks to manage counterparty risk by diversifying its swap counterparties, limiting exposure to any one counterparty, requiring collateralization or other credit enhancement to secure swap payment obligations, and by requiring minimum credit rating levels. Initially, swap counterparties must be rated at least “Aa3” or “AA-”, or equivalent by any two of the nationally recognized credit rating agencies; or use a “AAA” subsidiary as rated by at least one nationally recognized credit rating agency. Should the credit rating of an existing swap counterparty drop below the required levels, Metropolitan may enter into additional swaps if those swaps are “offsetting” and risk-reducing swaps. Each counterparty is initially required to have minimum capitalization of at least \$150 million. See Note 5(e) in Metropolitan’s audited financial statements in Appendix B.

Early termination of an interest rate swap agreement could occur due to a default by either party or the occurrence of a termination event (including defaults under other specified swaps and indebtedness, certain acts of insolvency, if a party may not legally perform its swap obligations, or, with respect to Metropolitan, if its credit rating is reduced below “BBB-” by Moody’s or “Baa3” by S&P (under most of the interest rate swap agreements) or below “BBB” by Moody’s or “Baa2” by S&P (under one of the interest rate swap agreements)). As of ~~March~~December 31, 2022, Metropolitan would have been required to pay to ~~some of~~ its counterparties termination payments if its swaps were terminated on that date. Metropolitan’s net exposure to its counterparties for all such termination payments on that date was approximately ~~\$28.2~~29.7

million. Metropolitan does not presently anticipate early termination of any of its interest rate swap agreements due to default by either party or the occurrence of a termination event. However, Metropolitan has previously exercised, and may in the future exercise, from time to time, optional early termination provisions to terminate all or a portion of certain interest rate swap agreements.

Metropolitan is required to post collateral in favor of a counterparty to the extent that Metropolitan's total exposure for termination payments to that counterparty exceeds the threshold specified in the applicable swap agreement. Conversely, the counterparties are required to release collateral to Metropolitan or post collateral for the benefit of Metropolitan as market conditions become favorable to Metropolitan. As of ~~March~~[December](#) 31, 2022, Metropolitan had no collateral posted with any counterparty. The highest, month-end, amount of collateral posted was \$36.8 million, on June 30, 2012, which was based on an outstanding swap notional amount of \$1.4 billion at that time. The amount of required collateral varies from time to time due primarily to interest rate movements and can change significantly over a short period of time. See "METROPOLITAN REVENUES—Financial Reserve Policy" in this Appendix A. In the future, Metropolitan may be required to post additional collateral, or may be entitled to a reduction or return of the required collateral amount. Collateral deposited by Metropolitan is held by the counterparties; a bankruptcy of any counterparty holding collateral posted by Metropolitan could adversely affect the return of the collateral to Metropolitan. Moreover, posting collateral limits Metropolitan's liquidity. If collateral requirements increase significantly, Metropolitan's liquidity may be materially adversely affected. See "METROPOLITAN REVENUES—Financial Reserve Policy" in this Appendix A.

#### **Direct Purchase Long Mode Bonds**

In April 2020, Metropolitan entered into a Bond Purchase Agreement, dated as of April 1, 2020 (the "2020 Direct Purchase Agreement") with Wells Fargo Municipal Capital Strategies, LLC ("WFMCS"), for the purchase by WFMCS and sale by Metropolitan of Metropolitan's \$271.8 million Special Variable Rate Water Revenue Refunding Bonds 2020 Series B (the "2020B Senior Revenue Bonds"). The 2020B Senior Revenue Bonds were issued for the purpose of refunding all of Metropolitan's then outstanding variable rate Senior Revenue Bonds that were designated as self-liquidity bonds as part of Metropolitan's self-liquidity program ("Self-Liquidity Bonds").

The 2020B Senior Revenue Bonds were issued under the Senior Debt Resolutions and are further described in a related paying agent agreement, dated as of April 1, 2020, as amended by the Paying Agent Agreement Amendment No. 1, dated as of April 1, 2021 (together, the "2020B Paying Agent Agreement"), by and between Metropolitan and Wells Fargo Bank, ~~N.A.~~[National Association](#), as paying agent. Pursuant to the 2020B Paying Agent Agreement, the 2020B Senior Revenue Bonds may bear interest from time to time in any one of several interest rate modes at the election of Metropolitan. The 2020B Senior Revenue Bonds currently bear interest in a Long Mode under the 2020B Paying Agent Agreement at a Long Rate equal to 0.46 percent per annum for the Long Period ending on April 2, 2024. If not earlier prepaid or redeemed pursuant to the terms of the 2020 Direct Purchase Agreement and the 2020B Paying Agent Agreement, the 2020B Senior Revenue Bonds are subject to mandatory tender for purchase on April 2, 2024 (the "Mandatory Tender Date"), the last day of the new Long Period. The 2020B Senior Revenue Bonds were initially designated as Self-Liquidity Bonds pursuant to the 2020B Paying Agent Agreement and no standby bond purchase agreement or other liquidity facility is in effect for the purchase of such bonds.

On or before the date 120 days prior to the end of the Long Period, Metropolitan may request WFMCS to purchase the 2020B Senior Revenue Bonds for another Long Period, or Metropolitan may seek to remarket the 2020B Senior Revenue Bonds to another bank or in the public debt markets in a new interest rate mode or at a fixed interest rate. In the event the 2020B Bonds are not purchased by WFMCS for a subsequent Long Period, Metropolitan is obligated under the 2020 Direct Purchase Agreement to cause 2020B Senior Revenue Bonds that have not been converted to another interest rate mode or remarketed to a purchaser or purchasers other than WFMCS ("Unremarketed 2020B Bonds") to be redeemed on the Mandatory Tender Date; provided, that if no default or event of default under the 2020 Direct Purchase

Agreement shall have occurred and be continuing and the representations and warranties of Metropolitan shall be true and correct on the Mandatory Tender Date, then the principal amount of the Unremarketed 2020B Senior Revenue Bonds shall be due and payable on the date that is 30 days following the Mandatory Tender Date and shall accrue interest at the Purchaser Rate, a fluctuating interest per annum equal to, the greatest of the (i) the Prime Rate, (ii) Federal Funds Rate plus one-half of one percent, and (iii) five percent, as specified in the 2020 Direct Purchase Agreement. If no default or event of default under the 2020 Direct Purchase Agreement shall have occurred and be continuing and the representations and warranties of Metropolitan shall be true and correct at the end of such 30-day period, the Unremarketed 2020B Senior Revenue Bonds will continue to bear interest at the Purchaser Rate plus, after 180 days from the Mandatory Tender Date, a spread of one percent, and the principal amount of such Unremarketed 2020B Senior Revenue Bonds may, at Metropolitan's request, instead be subject to mandatory redemption in substantially equal installments payable every six months over an amortization period commencing six months after the Mandatory Tender Date and ending on the third anniversary of the Mandatory Tender Date.

Under the 2020 Direct Purchase Agreement, upon a failure by Metropolitan to pay principal or interest of any 2020B Senior Revenue Bonds, a failure by Metropolitan to perform or observe its covenants, a default in other specified indebtedness of Metropolitan, certain acts of bankruptcy or insolvency, or other specified events of default (including if S&P shall have assigned a credit rating below "BBB-," or if any of Fitch, S&P or Moody's shall have assigned a credit rating below "A-" or "A3," to Senior Revenue Bonds issued under the Senior Debt Resolutions), WFMCS has the right to cause a mandatory tender of the 2020B Senior Revenue Bonds and accelerate (depending on the event, seven days after the occurrence, or for certain events, only after 180 days' notice) Metropolitan's obligation to repay the 2020B Senior Revenue Bonds.

In connection with the execution of the 2020 Direct Purchase Agreement, Metropolitan designated the principal payable on the 2020B Senior Revenue Bonds on the Mandatory Tender Date as Excluded Principal Payments under the Senior Debt Resolutions and thus, for purposes of calculating Maximum Annual Debt Service, included the amount of principal and interest due and payable in connection therewith on a schedule of Assumed Debt Service. This schedule of Assumed Debt Service assumes that Metropolitan will pay the principal of the 2020B Senior Revenue Bonds over a period of 30 years at a fixed interest rate of approximately 5.00 percent.

Metropolitan has previously, and may in the future, enter into one or more self-liquidity revolving credit agreements which may be drawn upon for the purpose of paying the purchase price of any Self-Liquidity Bonds issued by Metropolitan, the repayment obligations of Metropolitan under which may be secured as either Senior Parity Obligations or Subordinate Parity Obligations.

### **Senior Parity Obligations**

**Short-Term Wells Fargo Revolving Credit Facility.** In ~~May~~June 2022, Metropolitan entered into a note purchase and continuing covenant agreement with Wells Fargo Bank, National Association ("Wells Fargo"), for the purchase by Wells Fargo and sale by Metropolitan from time-to-time of short-term ~~variable~~flexible rate revolving notes (the "Wells Fargo Revolving Credit Facility"). Pursuant to the Wells Fargo Revolving Credit Facility, Metropolitan may borrow, pay down and re-borrow amounts, through the issuance and sale from time to time of ~~up~~short-term notes (with maturity dates not exceeding one year from their delivery date), in an aggregate principal amount not to exceed \$225 million ~~of notes~~ (including, subject to certain terms and conditions, notes to refund maturing notes) to be purchased by Wells Fargo during the term of Wells Fargo's commitment to purchase notes thereunder, which commitment currently extends to May ~~—31, 2024~~—31, 2024). As of April 1, 2023, Metropolitan had no short-term notes outstanding under the Wells Fargo Revolving Credit Facility. Metropolitan expects to make a draw on the Wells Fargo Revolving Credit Facility on or ~~before June 30~~about April 27, 20222023 and issue \$35,645,000 principal amount of short-term notes thereunder to ~~provide temporary financing fund an escrow~~ for the ~~refunding purpose~~ of ~~a defeasing and redeeming the~~ portion of its outstanding Subordinate Water Revenue Refunding Bonds, 2017 Series B

maturing on August 1, 2023. A portion of the proceeds of Metropolitan's ~~Water Revenue Refunding 2023A Bonds, 2022 Series A is expected to~~ will be applied on the date of delivery of such bonds to repay and redeem all of the then outstanding notes under the Wells Fargo Revolving Credit Facility. Accrued interest on the notes due on the date of their repayment and redemption will be paid from other funds provided by Metropolitan.

Notes under the Wells Fargo Revolving Credit Facility bear interest at a fluctuating rate of interest per annum equal to: (a) for taxable borrowings, the secured overnight financing rate as administered by the Federal Reserve Bank of New York (or a successor administrator) ("SOFR") as determined in accordance with the Wells Fargo Revolving Credit Facility for each day ("Daily Simple SOFR") plus a spread of 0.28 percent (so long as the current credit ~~rating~~ ratings on Metropolitan's Senior Revenue Bonds issued under the Senior Debt Resolutions ~~is~~ are maintained); and (b) for tax-exempt borrowings, ~~equal to 80 percent of~~ Daily Simple SOFR plus a spread of 0.26 percent (so long as the current credit ~~rating~~ ratings on Metropolitan's Senior Revenue Bonds issued under the Senior Debt Resolutions ~~is~~ are maintained), subject, in each case to an applicable maximum interest rate, which shall not, in any case, exceed 18 percent. Subject to the satisfaction of certain terms and conditions, any future unpaid principal borrowed under the Wells Fargo Revolving Credit Facility remaining outstanding at the May ~~—~~ 31, 2024 stated commitment ~~end~~ expiration date of the Wells Fargo Revolving Credit Facility may be refunded by and exchanged for term notes payable by Metropolitan in approximately equal semi-annual principal installments over a period of approximately three years. Any such term notes will bear interest at a fluctuating rate of interest per annum equal to, for each day, the highest of: (i) the Prime Rate in effect at such time plus one percent; (ii) the Federal Funds Rate in effect at such time plus two percent; or (iii) in the case of taxable term notes, ten percent, and in the case of tax-exempt term notes, seven percent; plus, for each of (i), (ii) or (iii), a spread of two percent.

Under the Wells Fargo Revolving Credit Facility, upon a failure by Metropolitan to pay principal or interest of any note thereunder, a failure by Metropolitan to perform or observe its covenants, a default in other specified indebtedness of Metropolitan, certain acts of bankruptcy or insolvency, or other specified events of default (including if any of Fitch, S&P or Moody's shall have assigned a ~~reduction in the~~ credit rating below "A—" or "A3," or if each of Fitch, S&P and Moody's shall have assigned a credit rating below "BBB—" or "Baa3," to Senior Revenue Bonds issued under the Senior Debt Resolutions ~~by Fitch, S&P or Moody's below "A—" or "A3"), the bank~~), Wells Fargo has the right to terminate its commitments and may accelerate (depending on the event, seven days after the occurrence, or for certain events, only after 180 days' notice, or, in connection with certain acts of bankruptcy or insolvency or in the event of an acceleration of Metropolitan debt by another lender, credit enhancer or swap counterparty, immediately) Metropolitan's obligation to repay its borrowings.

Metropolitan has secured its obligation to pay principal and interest on notes evidencing borrowings under the Wells Fargo Revolving Credit Facility as Senior Parity Obligations.

In connection with the execution of the Wells Fargo Revolving Credit Facility, Metropolitan designated the principal and interest payable on the notes thereunder as Excluded Principal Payments under the Senior Debt Resolutions and thus, for purposes of calculating Maximum Annual Debt Service, included the amount of principal and interest due and payable under the Wells Fargo Revolving Credit Facility on a schedule of Assumed Debt Service. ~~This schedule of Assumed Debt Service assumes that Metropolitan will pay the principal under the Wells Fargo Revolving Credit Facility over a period of 30 years at a fixed interest rate of approximately — percent for any outstanding draws.~~

Metropolitan has previously, and may in the future, enter into one or more other or alternative short-term revolving credit facilities, the repayment obligations of Metropolitan under which may be secured as either Senior Parity Obligations or Subordinate Parity Obligations.



## Outstanding Subordinate Revenue Bonds and Subordinate Parity Obligations

### Subordinate Revenue Bonds

The water revenue bonds issued under the Subordinate Debt Resolutions outstanding as of April 1, ~~2022~~2023, are set forth below:

### Outstanding Subordinate Revenue Bonds

<u>Name of Issue</u>	<u>Principal Outstanding</u>
Subordinate Water Revenue Refunding Bonds, 2017 Series A	<del>\$ 219,215,000</del> <u>\$ 204,760,000</u>
Subordinate Water Revenue Refunding Bonds, 2017 Series B <sup>(2)</sup>	<del>106,930,000</del> <u>71,285,000</u>
Subordinate Water Revenue Bonds, 2017 Series C <sup>(1)</sup>	80,000,000
Subordinate Water Revenue Refunding Bonds, 2017 Series D <sup>(1)</sup>	95,630,000
Subordinate Water Revenue Refunding Bonds, 2017 Series E <sup>(1)</sup>	95,625,000
Subordinate Water Revenue Refunding Bonds, 2018 Series A	<del>49,990,000</del> <u>10,865,000</u>
Subordinate Water Revenue Bonds, 2018 Series B	64,345,000
Subordinate Water Revenue Refunding Bonds, 2019 Series A	<del>228,880,000</del> <u>209,060,000</u>
Subordinate Water Revenue Refunding Bonds, 2020 Series A	152,455,000
Subordinate Water Revenue Refunding Bonds, 2021 Series A <sup>(1)</sup>	<u>222,160,000</u>
<b>Total</b>	<b><del>\$1,315,230,000</del><u>\$ 1,206,185,000</u></b>

Source: Metropolitan.

<sup>(1)</sup> Outstanding variable rate obligation.

<sup>(2)</sup> Metropolitan expects to refund the \$35,645,000 principal amount of these bonds maturing on August 1, ~~2022~~2023 on ~~or after~~ their July 1, ~~2022~~2023 optional call date with proceeds of a draw ~~to be~~ made under its ~~Short Term Wells Fargo Revolving Credit Facility~~. See “~~Outstanding Senior Revenue Bonds and Senior Parity Obligations – Senior Parity Obligations – Wells Fargo~~ Revolving Credit Facility.”

### Variable Rate Bonds

As of April 1, ~~2022~~2023, of the ~~\$1.32~~1.21 billion outstanding Subordinate Revenue Bonds, \$493.4 million were variable rate obligations. The outstanding variable rate obligations include Subordinate Revenue Bonds that are variable rate demand obligations supported by a standby bond purchase agreement between Metropolitan and a liquidity provider (“Liquidity Supported Subordinate Revenue Bonds”) and Subordinate Revenue Bonds that are bonds bearing interest in a SIFMA Index Mode and subject to mandatory tender for purchase by Metropolitan under certain circumstances, including on certain scheduled mandatory tender dates (unless earlier remarketed or otherwise retired) (“Index Tender Bonds”).

**Liquidity Supported Subordinate Revenue Bonds.** As of April 1, ~~2022~~2023, Metropolitan had \$222.16 million of outstanding Liquidity Supported Subordinate Revenue Bonds issued under the Subordinate Debt Resolutions, consisting of Metropolitan’s Variable Rate Subordinate Water Revenue Refunding Bonds, 2021 Series A (Federally Taxable) (the “Subordinate 2021A Bonds”).

The interest rate on Metropolitan’s variable rate Subordinate 2021A Bonds is reset on a weekly basis. While bearing interest at a weekly rate, such variable rate demand obligations are subject to optional tender on any business day upon seven days’ notice by the owners thereof and mandatory tender upon specified events. Such variable rate demand obligations are supported by a standby bond purchase agreement by and between Metropolitan and Bank of America, N.A., as liquidity provider, that provide for the purchase of the variable rate Subordinate 2021A Bonds by the liquidity provider upon tender of such

variable rate Subordinate 2021A Bonds and a failed remarketing. The current expiration date of such liquidity facility is in June 2025. Metropolitan has secured its obligation to repay principal and interest advanced under the standby bond purchase agreement as a Subordinate Parity Obligation. A decline in the creditworthiness of the liquidity provider will likely result in an increase in the interest rate of the variable rate Subordinate 2021A Bonds, as well as an increase in the risk of a failed remarketing of such tendered variable rate Subordinate 2021A Bonds. Variable rate Subordinate 2021A Bonds purchased by the liquidity provider (“bank bonds”) would initially bear interest at a per annum interest rate equal to, the highest of (i) the Prime Rate plus one percent, (ii) Federal Funds Rate plus two percent, and (iii) seven percent (with the spread or rate increasing in the case of each of (i), (ii) and (iii) of this clause (b) by one percent after 90 days). To the extent such bank bonds have not been remarketed or otherwise retired as of the earlier of the 90th day following the date such bonds were purchased by the liquidity provider or the stated expiration date of the related liquidity facility, Metropolitan’s obligation to reimburse the liquidity provider may convert the term of the variable rate bonds purchased by the liquidity provider into a term loan payable under the terms of the liquidity facility in ten equal semi-annual installments over a period ending on the fifth anniversary of the date on which the variable rate Subordinate 2021A Bonds were purchased by the liquidity provider. In addition, upon an event of default under any such liquidity facility, including a failure by Metropolitan to pay principal or interest due to the liquidity provider, failure by Metropolitan to perform or observe its covenants under the standby bond purchase agreement, a default in other specified indebtedness of Metropolitan, or other specified events of default (including a reduction in the credit rating assigned to Senior Revenue Bonds issued under the Senior Debt Resolutions by any of Fitch, S&P or Moody’s below “A-” or “A3,” as applicable<sup>2</sup>), the liquidity provider could require all bank bonds to be subject to immediate mandatory redemption by Metropolitan.

***SIFMA Mode Index Tender Bonds.*** Metropolitan’s Subordinate Water Revenue Bonds, 2017 Series C, Subordinate Water Revenue Refunding Bonds, 2017 Series D and Subordinate Water Revenue Refunding Bonds, 2017 Series E (collectively, the “Subordinate 2017 Series C, D and E Bonds”) bear interest at a rate that fluctuates weekly based on the SIFMA Municipal Swap Index plus a spread. The Subordinate 2017 Series C, D and E Bonds are Index Tender Bonds and are subject to mandatory tender under certain circumstances, including on certain scheduled mandatory tender dates (unless earlier remarketed or otherwise retired). Metropolitan anticipates that it will pay the purchase price of tendered Subordinate 2017 Series C, D and E Bonds from the proceeds of remarketing such Index Tender Bonds or from other available funds. Metropolitan’s obligation to pay the purchase price of any such tendered Subordinate 2017 Series C, D and E Bonds is a special limited obligation of Metropolitan payable solely from Net Operating Revenues subordinate to the Senior Revenue Bonds and Senior Parity Obligations and on parity with the other outstanding Subordinate Revenue Bonds and Subordinate Parity Obligations. Metropolitan has not secured any liquidity facility or letter of credit to support the payment of the purchase price of Subordinate 2017 Series C, D and E Bonds in connection with a scheduled mandatory tender. Failure to pay the purchase price of any Subordinate 2017 Series C, D and E Bonds on a scheduled mandatory tender date for such Index Tender Bonds for a period of five business days following written notice by any Owner of such Subordinate 2017 Series C, D and E Bonds will constitute an event of default under the Subordinate Debt Resolutions, upon the occurrence and continuance of which the owners of 25 percent in aggregate principal amount of the Subordinate Revenue Bonds then outstanding may elect a bondholders’ committee to exercise rights and powers of such owners under the Subordinate Debt Resolutions, including the right to declare the entire unpaid principal of the Subordinate Revenue Bonds then outstanding to be immediately due and payable.

The current mandatory tender dates and related tender periods for the Index Tender Bonds outstanding as of April 1, ~~2022~~2023, are summarized in the following table:

**Index Tender Bonds**

Series	Date of Issuance	Original Principal Amount Issued	Next Scheduled Mandatory Tender Date	Maturity Date
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A-109

4892-2856-4048v10/022764-0023



Subordinate 2017 Series C	July 3, 2017	\$ 80,000,000	May 21, 2024 <sup>(2)</sup>	July 1, 2047
Subordinate 2017 Refunding Series D	July 3, 2017	95,630,000	May 21, 2024 <sup>(2)</sup>	July 1, 2037
Subordinate 2017 Refunding Series E	July 3, 2017	<u>95,625,000</u>	May 21, 2024 <sup>(2)</sup>	July 1, 2037
<b>Total</b>		<b>\$271,255,000</b>		

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*Source: Metropolitan.*

## Other Junior Obligations

Metropolitan currently is authorized to issue up to \$400,000,000 of Commercial Paper Notes payable from Net Operating Revenues on a basis subordinate to both the Senior Revenue Bonds and Senior Parity Obligations and to the Subordinate Revenue Bonds and Subordinate Parity Obligations. Although no Commercial Paper Notes are currently outstanding, the authorization remains in full force and effect and Metropolitan may issue Commercial Paper Notes from time to time.

## General Obligation Bonds

As of April 1, ~~2022~~2023, ~~\$20,175,000~~19,215,000 aggregate principal amount of general obligation bonds payable from *ad valorem* property taxes were outstanding. See “METROPOLITAN REVENUES–General” and “–Revenue Allocation Policy and Tax Revenues” in this Appendix A. Metropolitan’s revenue bonds are not payable from the levy of *ad valorem* property taxes.

General Obligation Bonds	Amount Issued <sup>(1)</sup>	Principal Outstanding
Waterworks General Obligation Refunding Bonds, 2019 Series A	\$16,755,000	<del>\$6,510,000</del> <u>5,550,000</u>
Waterworks General Obligation Refunding Bonds, 2020 Series A	<u>13,665,000</u>	<u>13,665,000</u>
<b>Total</b>	<b>\$30,420,000</b>	<del>\$20,175,000</del> <u>\$19,215,000</u>

Source: Metropolitan.

- <sup>(1)</sup> Voters authorized Metropolitan to issue \$850,000,000 of Waterworks General Obligation Bonds, Election 1966, in multiple series, in a special election held on June 7, 1966. This authorization has been fully utilized. This table lists bonds that refunded such Waterworks General Obligation Bonds, Election 1966.

## State Water Contract Obligations

**General.** As described herein, in 1960, Metropolitan entered into its State Water Contract with DWR to receive water from the State Water Project. All expenditures for capital and operations, maintenance, power and replacement costs associated with the State Water Project facilities used for water delivery are paid for by the 29 Contractors that have executed State water supply contracts with DWR, including Metropolitan. Contractors are obligated to pay allocable portions of the cost of construction of the system and ongoing operating and maintenance costs through at least 2035 (which term has been extended to 2085 as referenced below), regardless of quantities of water available from the project. Other payments are based on deliveries requested and actual deliveries received, costs of power required for actual deliveries of water, and offsets for credits received. In exchange, Contractors have the right to participate in the system, with an entitlement to water service from the State Water Project and the right to use the portion of the State Water Project conveyance system necessary to deliver water to them at no additional cost as long as capacity exists. Metropolitan’s State Water Contract accounts for nearly one-half of the total entitlement for State Water Project water contracted for by all Contractors.

DWR and other State Water ~~Contractors~~Project contractors, including Metropolitan, have ~~reached~~executed an ~~Agreement in Principle~~amendment to extend their State water supply contracts to 2085 and to make certain changes related to the financial management of the State Water Project in the future. See “METROPOLITAN’S WATER SUPPLY–State Water Project – State Water Contract” in this Appendix A.

Metropolitan’s payment obligation for the State Water Project for the fiscal year ended June 30, ~~2021~~2022 was ~~\$521.8~~546.5 million, which amount reflects prior year’s credits of ~~\$52.4~~54.4 million. For the fiscal year ended June 30, ~~2021~~2022, Metropolitan’s payment obligations under the State Water Contract were approximately ~~33~~30.1 percent of Metropolitan’s total annual expenses. A portion of Metropolitan’s

annual property tax levy is for payment of State Water Contract obligations, as described above under “METROPOLITAN REVENUES–Revenue Allocation Policy and Tax Revenues” in this Appendix A. Any deficiency between tax levy receipts and Metropolitan’s State Water Contract obligations is expected to be paid from Operating Revenues, as defined in the Senior Debt Resolutions. See Note 910(a) to Metropolitan’s audited financial statements in Appendix B for an estimate of Metropolitan’s payment obligations under the State Water Contract. See also “–Power Sources and Costs; Related Long-Term Commitments” for a description of current and future costs for electric power required to operate State Water Project pumping systems and a description of litigation involving the federal relicensing of the Hyatt-Thermalito hydroelectric generating facilities at Lake Oroville.

Metropolitan capitalizes its share of the State Water Project capital costs as participation rights in State Water Project facilities as such costs are billed by DWR. Unamortized participation rights essentially represent a prepayment for future water deliveries through the State Water Project system. Metropolitan’s share of system operating and maintenance costs are annually expensed.

DWR and various subsets of the State Water ~~Contractors~~Project contractors have entered into amendments to the State water supply contracts related to the financing of certain State Water Project facilities. The amendments establish procedures to provide for the payment of construction costs financed by DWR bonds by establishing separate subcategories of charges to produce the revenues required to pay all of the annual financing costs (including coverage on the allocable bonds) relating to the financed project. If any affected Contractor defaults on payment under certain of such amendments, the shortfall may be collected from the non-defaulting affected Contractors, subject to certain limitations.

These amendments represent additional long-term obligations of Metropolitan, as described below.

***Devil Canyon-Castaic Contract.*** On June 23, 1972, Metropolitan and five other Southern California public agencies entered into a contract (the “Devil Canyon-Castaic Contract”) with DWR for the financing and construction of the Devil Canyon and Castaic power recovery facilities, located on the aqueduct system of the State Water Project. Under this contract, DWR agreed to build the Devil Canyon and Castaic facilities, using the proceeds of revenue bonds issued by DWR under the State Central Valley Project Act. DWR also agreed to use and apply the power made available by the construction and operation of such facilities to deliver water to Metropolitan and the other contracting agencies. Metropolitan, in turn, agreed to pay to DWR 88 percent of the debt service on the revenue bonds issued by DWR. For calendar year ~~2021~~2022, this represented a payment of ~~\$7.8~~\$8.0 million, ~~and, Metropolitan is expected to pay \$7.97 million in calendar year 2022’s obligations for debt service under the Devil Canyon-Castaic Contract continued until July 1, 2022 when the bonds were fully retired.~~ In addition, Metropolitan agreed to pay 78.5 percent of the operation and maintenance expenses of the Devil Canyon facilities and 96 percent of the operation and maintenance expenses of the Castaic facilities. ~~Metropolitan’s obligations for debt service under the Devil Canyon-Castaic Contract continue until the bonds are fully retired in 2022 even if DWR is unable to operate the facilities or deliver power from these facilities. Metropolitan will continue to be obligated to pay for operation and maintenance expenses following retirement of the bonds.~~

***Off-Aqueduct Power Facilities.*** In addition to system “on-aqueduct” power facilities costs, DWR has, either on its own or by joint venture, financed certain off-aqueduct power facilities. The power generated is utilized by the system for water transportation and other State Water Project purposes. Power generated in excess of system needs is marketed to various utilities and the CAISO. Metropolitan is entitled to a proportionate share of the revenues resulting from sales of excess power. By virtue of a 1982 amendment to the State Water Contract and the other water supply contracts, Metropolitan and the other water Contractors are responsible for paying the capital and operating costs of the off-aqueduct power facilities regardless of the amount of power generated.

***East Branch Enlargement Amendment.*** In 1986, Metropolitan's State Water Contract and the water supply contracts of certain other State Water ~~Contractors~~[Project contractors](#) were amended for the purpose, among others, of financing the enlargement of the East Branch of the California Aqueduct. Under the amendment, enlargement of the East Branch can be initiated either at Metropolitan's request or by DWR finding that enlargement is needed to meet demands. In March 2022, DWR prepared a draft report for East Branch Enlargement cost reallocation methods. The report describes the methods used to determine the East Branch Enlargement cost allocation with the distinction between enlargement and improvement categories and the associated cost recovery methodology.

The amendment establishes a separate subcategory of the Transportation Charge under the State ~~Water Contract~~[water supply contracts](#) for the East Branch Enlargement and provides for the payment of costs associated with financing and operating the East Branch Enlargement. Under the amendment, the annual financing costs for such facilities financed by bonds issued by DWR are allocated among the participating Contractors based upon the delivery capacity increase allocable to each participating Contractor. Such costs include, but are not limited to, debt service, including coverage requirements, deposits to reserves, and certain operation and maintenance expenses, less any credits, interest earnings or other moneys received by DWR in connection with this facility.

If any participating Contractor defaults on payment of its allocable charges under the amendment, among other things, the non-defaulting participating Contractors may assume responsibility for such charges and receive delivery capacity that would otherwise be available to the defaulting participating Contractor in proportion to the non-defaulting Contractor's participation in the East Branch Enlargement. If participating Contractors fail to cure the default, Metropolitan will, in exchange for the delivery capacity that would otherwise be available to the defaulting participating Contractor, assume responsibility for the capital charges of the defaulting participating Contractor.

***Water System Revenue Bond Amendment.*** In 1987, ~~the~~[Metropolitan's](#) State Water Contract and other water supply contracts were amended for the purpose of financing State Water Project facilities through revenue bonds. This amendment establishes a separate subcategory of the Delta Water Charge and the Transportation Charge under the State water supply contracts for projects financed with DWR water system revenue bonds. This subcategory of charge provides the revenues required to pay the annual financing costs of the bonds and consists of two elements. The first element is an annual charge for repayment of capital costs of certain revenue bond financed water system facilities under the existing water supply contract procedures. The second element is a water system revenue bond surcharge to pay the difference between the total annual charges under the first element and the annual financing costs, including coverage and reserves, of DWR's water system revenue bonds.

If any Contractor defaults on payment of its allocable charges under this amendment, DWR is required to allocate a portion of the default to each of the non-defaulting Contractors, subject to certain limitations, including a provision that no non-defaulting Contractor may be charged more than 125 percent of the amount of its annual payment in the absence of any such default. Under certain circumstances, the non-defaulting Contractors would be entitled to receive an allocation of the water supply of the defaulting Contractor.

The following table sets forth Metropolitan's projected costs of State Water Project water based upon DWR's Appendix B to Bulletin 132-20 (an annual report [\(for this purpose, the 2020 report\)](#) produced by DWR setting forth data and computations used by the State in determining State Water ~~Contractors~~[Project contractors](#)' Statements of Charges), Metropolitan's share of the forecasted costs associated with the planning of a single tunnel Bay-Delta conveyance project (see "METROPOLITAN'S WATER SUPPLY-State Water Project-Bay-Delta Proceedings Affecting State Water Project - Bay-Delta Planning Activities" and " - Delta Conveyance" [in this Appendix A](#)), and power costs forecasted by Metropolitan.

The projections for fiscal ~~year 2021-22~~ are revised from the projections adopted in the fiscal year ~~2020-21 and 2021-22 biennial budget and based on results through March 2022 on a modified accrual basis.~~ The projections for fiscal years ~~2022-23~~2022-23 through ~~2026-27~~2027-28 reflect Metropolitan's biennial budget for fiscal years ~~2022-23~~2022-23 and 2023-24, which includes a ten-year financial forecast, and are on a cash basis. See also "HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A. The projections reflect certain assumptions concerning future events and circumstances which may not occur or materialize. Actual costs may vary from these projections if such events and circumstances do not occur as expected or materialize, and such variances may be material.

**PROJECTED COSTS OF METROPOLITAN  
FOR STATE WATER CONTRACT AND DELTA CONVEYANCE  
(Dollars in Millions)**

<b>Year Ending June 30</b>	<b>Capital Costs<sup>(1)</sup></b>	<b>Minimum OMP&amp;R<sup>(1)</sup></b>	<b>Power Costs<sup>(2)</sup></b>	<b>Refunds &amp; Credits<sup>(1)</sup></b>	<b>Delta Conveyance<sup>(3)</sup></b>	<b>Total<sup>(4)</sup></b>
<u>2022</u>	<u>\$193.9</u>	<u>\$288.4</u>	<u>\$120.7</u>	<u>\$(65.5)</u>	<u>\$25.0</u>	<u>\$567.5</u>
2023	<u>\$203.7</u>	<u>\$304.2</u>	<u>\$211.6</u>	<u>\$(67.8)</u>	<u>\$30.0</u>	<u>\$681.7</u>
2024	218.8	305.7	258.6	(56.3)	34.5	761.2
2025	184.6	322.1	289.1	(59.5)	11.6	747.9
2026	191.9	336.7	295.7	(51.2)	--	773.1
2027	201.1	352.0	298.8	(48.5)	--	803.4
<u>2028</u>	<u>238.0</u>	<u>368.1</u>	<u>304.0</u>	<u>(51.2)</u>	<u>--</u>	<u>858.9</u>

Source: Metropolitan.

- (1) Capital Costs, Minimum Operations, Maintenance, Power and Replacement (“OMP&R”) and Refunds and Credits projections are based on DWR’s Appendix B to Bulletin 132-20.
- (2) Power costs are forecasted by Metropolitan based on a ~~15 percent State Water Project allocation in calendar year 2022~~, 40 percent State Water Project allocation in calendar 2023, and a 50 percent State Water Project allocation thereafter. Availability of State Water Project supplies vary, and deliveries may include transfers and storage. All deliveries are based upon availability, as determined by hydrology, water quality and wildlife conditions. See “METROPOLITAN’S WATER SUPPLY–State Water Project” and “–Endangered Species Act and Other Environmental Considerations Relating to Water Supply” in this Appendix A.
- (3) Based on Metropolitan’s share of the forecasted planning costs for a single tunnel project. Does not include any capital costs associated with any future proposed Bay-Delta conveyance project.
- (4) Totals may not add due to rounding.

**Power Sources and Costs; Related Long-Term Commitments**

Current and future costs for electric power required for operating the pumping systems of the CRA and the State Water Project are a substantial part of Metropolitan’s overall expenses. Metropolitan’s power costs include various ongoing fixed annual obligations under its contracts with the U.S. Department of Energy Western Area Power Administration and the Bureau of Reclamation for power from the Hoover Power Plant and Parker Power Plant, respectively. Expenses for electric power for the CRA for the fiscal years ~~2019-20 and~~ 2020-21 and 2021-22 were approximately ~~\$39.6~~\$50.5 million and ~~\$50.5~~\$91.1 million, respectively. Expenses for electric power and transmission service for the State Water Project for fiscal years ~~2019-20 and~~ 2020-21 and 2021-22 were approximately ~~\$134.0~~\$118.3 million and ~~\$118.3~~\$126.5 million, respectively. Electricity markets are subject to volatility and Metropolitan is unable to give any assurance with respect to the magnitude of future power costs.

**Colorado River Aqueduct.** Approximately 50 percent of the annual power requirements for pumping at full capacity (1.25 million acre-feet of Colorado River water) in Metropolitan’s CRA are secured through long-term contracts for energy generated from federal facilities located on the Colorado River (Hoover Power Plant and Parker Power Plant). Payments made under the Hoover Power Plant and Parker Power Plant contracts are operation and maintenance expenses. These contracts provide Metropolitan with reliable and economical power resources to pump Colorado River water to Metropolitan’s service area.

As provided for under the Hoover Power Allocation Act of 2011 (H.R. 470), Metropolitan has executed a 50-year agreement with the Western Area Power Administration for the continued purchase of electric energy generated at the Hoover Power Plant through September 2067, succeeding Metropolitan’s prior Hoover contract that expired on September 30, 2017.



Depending on pumping conditions, Metropolitan can require additional energy in excess of the base resources available to Metropolitan from the Hoover Power Plant and Parker Power Plant. The remaining up to approximately 50 percent of annual pumping power requirements for full capacity pumping on the CRA is obtained through energy purchases from municipal and investor-owned utilities, third party suppliers, or the CAISO markets. Metropolitan is a member of the Western Systems Power Pool (“WSPP”) and utilizes its industry standard form contract to make wholesale power purchases at market cost. The current drought conditions have reduced the water level of Lake Mead and led to declining generation output from Hoover Dam, a condition that is expected to remain for the next several years. This, combined with continued high pumping demand on the CRA, will likely lead to increased reliance on supplemental energy purchases from the WSPP or CAISO markets and continued higher than normal energy costs for the CRA.

Gross diversions of water from Lake Havasu for fiscal years ~~2019-20 and~~ 2020-21 and 2021-22 were approximately ~~552,000~~1,026,000 acre-feet and ~~1,026,000~~1,104,264 acre-feet, respectively, including Metropolitan’s basic apportionment of Colorado River water and supplies from water transfer and storage programs. In fiscal years ~~2019-20 and~~ 2020-21 and 2021-22, Metropolitan sold approximately ~~54,000~~66,800 megawatt-hours and purchased approximately ~~800,000~~1,181,000 megawatt-hours, respectively, of additional energy.

Metropolitan has agreements with the Arizona Electric Power Cooperative (“AEPSCO”) to provide transmission and energy purchasing services to support CRA power operations. The term of these agreements extends to December 31, 2035. AEPSCO’s subsidiary, ACES, provides energy scheduling services for Metropolitan’s share of Hoover and Parker generation and CRA pumping load.

**State Water Project.** The State Water Project’s power requirements are met from a diverse mix of resources, including State-owned hydroelectric generating facilities. DWR has short-term contracts with ~~Metropolitan (hydropower);~~ Kern River Conservation District (hydropower), Northern California Power Agency (natural gas generation), Solar Star California XLIV, LLC (Solar), Dominion Solar Holdings (Solar), and Solverde I, LLC (Solar). The remainder of the State Water Project power needs is met by purchases from the CAISO.

DWR is seeking renewal of the license issued by FERC for the State Water Project’s Hyatt-Thermalito hydroelectric generating facilities at Lake Oroville. A Settlement Agreement containing recommended conditions for the new license was submitted to FERC in March 2006. That agreement was signed by over 50 stakeholders, including Metropolitan and other State Water ~~Contractors~~Project contractors. With only a few minor modifications, FERC staff recommended that the Settlement Agreement be adopted as the condition for the new license. DWR issued a final EIR for the relicensing project on July 22, 2008.

Butte County and Plumas County filed separate lawsuits against DWR challenging the adequacy of the final EIR. This lawsuit also named all of the signatories to the Settlement Agreement, including Metropolitan, as “real parties in interest,” since they could be adversely affected by this litigation. On September 5, 2019, the Court of Appeal ruled that review pursuant to CEQA is preempted in certain respects by the Federal Power Act. The case is now before the California Supreme Court. The case has been fully briefed, ~~but no date for~~ and oral argument ~~been set~~was completed. If the decision is affirmed, the case will be dismissed. If the California Supreme Court finds in favor of the plaintiffs, the case will be remanded to the California Court of Appeal for a determination of sufficiency regarding the merits of the CEQA petition.

Regulatory permits and authorizations are also required before the new license can take effect. In December 2016, NMFS issued a biological opinion setting forth the terms and conditions under which the relicensing project must operate in order to avoid adverse impacts to threatened and endangered species. This was the last major regulatory requirement prior to FERC issuing a new license. Following the 2017 Oroville Dam spillway incident, Butte County, the City of Oroville, and others requested that FERC not



issue a new license until an Independent Forensic Team (“IFT”) delivered their final report to FERC and FERC has had adequate time to review the report. The Final IFT report was delivered on January 5, 2018. DWR submitted a plan to address the findings of the report to FERC on March 12, 2018. See “METROPOLITAN’S WATER SUPPLY–State Water Project –2017 Oroville Dam Spillway Incident,” [in this Appendix A](#) Metropolitan anticipates that FERC will issue the new license; however, the timeframe for FERC approval is not currently known. However, FERC has issued one-year renewals of the existing license since its initial expiration date on January 31, 2007 and is expected to issue successive one-year renewals until a new license is obtained.

~~DWR operational studies for 2022 indicate that the Hyatt Power Plant may have reduced generation in the Fall as water levels in Lake Oroville are projected to go below the operational elevation for the turbines. Generation would resume once lake levels recover. In the event that lake levels remain below the turbine generating elevation, DWR would need to purchase supplemental energy to make up for lost generation which would result in higher energy costs to the State Water Project, and consequentially, higher costs for Metropolitan.~~

DWR receives transmission service from the CAISO. The transmission service providers participating in the CAISO may seek increased transmission rates, subject to the approval of FERC. DWR has the right to contest any such proposed increase. DWR may also be subject to increases in the cost of transmission service as new electric grid facilities are constructed.

~~On September 10,~~ Numerous legislative bills and Executive Orders have been enacted over the years addressing California’s GHG emissions that ultimately affect energy prices. The California Global Warming Solutions Act of 2006 (AB 32, Núñez), required California to reduce its GHG emissions to 1990 levels by 2020. SB 32 (2016, Pavley) extended AB 32 by requiring the state to reduce GHG emissions to 40 percent below 1990 levels by 2030. In 2018, Governor Brown signed SB 100 ~~into law, which took effect on January 1, 2019. SB 100 establishes a goal of providing 100 percent carbon-free electricity~~ (de León) and Executive Order B-55-18, establishing the policy of the State that eligible renewable energy resources and zero-carbon resources supply 100 percent clean energy to all California end-use customers and State agencies by December 31, 2045 ~~and increases. SB 100 also increased~~ the 2030 Renewables Portfolio Standard (“RPS”) requirement for retail electric utilities from 50 percent to 60 percent. ~~Simultaneously, the Governor announced Executive Order B-55-18 directing state agencies to develop a framework to achieve and maintain carbon neutrality by 2045.~~ Metropolitan and DWR are not subject to the RPS requirements. However, as a ~~state~~ State agency, DWR is subject to the Executive Order. DWR has an existing climate action plan in order to achieve carbon neutrality by 2045. ~~Legislation has been proposed in the State Senate that would accelerate~~ SB 1020 (2022, Laird) accelerated the date by which ~~State agencies, including DWR, must procure~~ 100 percent of electricity ~~procured to serve state agencies, including DWR, is to be~~ from eligible renewable energy resources and zero-carbon resources from December 31, 2045 to December 31, ~~2030~~ 2035, and would mandate certain criteria and process requirements that would apply to DWR in connection with its procurement of renewable and zero-carbon resources for the State Water Project. ~~If enacted in its present form, the requirements of such legislation~~ For 2023, two bills (AB 9, Muratsuchi and SB 12, Stern) have proposed changing the State’s 2030 GHG reduction goal from 40 percent below 1990 levels to at least 55 percent below 1990 levels. Taken as a whole, these statutes and Executive Orders may result in higher energy costs to the State Water Project, and consequentially, higher costs for Metropolitan.

On October 9, 2019, Governor Newsom signed SB 49 into law. SB 49 requires Natural Resources, in collaboration with the [California](#) Energy Commission and ~~the Department of Water Resources~~ DWR, to assess by January 1, 2022 the opportunities and constraints for potential operational and structural upgrades to the State Water Project to aid California in achieving its climate and energy goals, and to provide associated recommendations consistent with California’s energy goals. DWR submitted its draft SB 49 report to the Governor’s office for review in April 2022.

### Defined Benefit Pension Plan and Other Post-Employment Benefits

Metropolitan is a member of the California Public Employees' Retirement System ("PERS"), a multiple-employer pension system that provides a contributory defined-benefit pension for substantially all Metropolitan employees. PERS provides retirement and disability benefits, annual cost-of-living adjustments and death benefits to plan members and beneficiaries. PERS acts as a common investment and administrative agent for participating public entities within the State. PERS is a contributory plan deriving funds from employee contributions as well as from employer contributions and earnings from investments. A menu of benefit provisions is established by State statutes within the Public Employees' Retirement Law. Metropolitan selects optional benefit provisions from the benefit menu by contract with PERS.

Metropolitan makes contributions to PERS based on actuarially determined employer contribution rates. The actuarial methods and assumptions used are those adopted by the PERS Board of Administration ("PERS Board"). Employees hired prior to January 1, 2013 are required to contribute 7.00 percent of their earnings (excluding overtime pay) to PERS. Pursuant to the current memoranda of understanding, Metropolitan contributes the requisite 7.00 percent contribution for all employees represented by the Management and Professional Employees Association, the Association of Confidential Employees, Supervisors and Professional Personnel Association and AFSCME Local 1902 and who were hired prior to January 1, 2012. Employees in all four bargaining units who were hired on or after January 1, 2012 but before January 1, 2013, pay the full 7.00 percent contribution to PERS for the first five years of employment. After the employee completes five years of employment, Metropolitan contributes the requisite 7.00 percent contribution. Metropolitan also contributes the entire 7.00 percent on behalf of unrepresented employees. Employees hired on or after January 1, 2013 and who are "new" PERS members as defined by Public Employees' Pension Reform Act of 2013 pay a member contribution of ~~6.00~~8.00 percent in fiscal year ~~2019-20 and 7.25 percent in fiscal years 2020-21 through 2022-23~~2023-24. In addition, Metropolitan is required to contribute the actuarially determined remaining amounts necessary to fund the benefits for its members.

The contribution requirements of the plan members are established by State statute and the employer contribution rate is established and may be amended by PERS. The fiscal year contributions were/are based on the following actuarial reports and discount rates:

Fiscal Year	Actuarial Valuation	Discount Rate
<del>2019-20</del>	<del>June 30, 2017</del>	<del>7.25%</del>
2020-21	June 30, 2018	7.00%
<del>2021-22</del> <u>2021-22</u>	June 30, 2019	7.00%
<del>2022-23</del> <u>2022-23</u>	June 30, 2020	7.00%
<u>2023-24</u>	<u>June 30, 2021</u>	<u>6.80%</u>

The most recent actuarial valuation reports of PERS, as well as other information concerning benefits and other matters, are available on the PERS website at <https://www.calpers.ca.gov/page/employers/actuarial-resources/public-agency-actuarial-valuation-reports>. Such information is not incorporated by reference herein. Metropolitan cannot guarantee the accuracy of such information. Actuarial valuations are "forward-looking" information that reflect the judgment of the fiduciaries of the pension plans, and are based upon a variety of assumptions, one or more of which may not materialize or be changed in the future. Actuarial valuations will change with the future experience of the pension plans.

In July 2021, PERS' Funding Risk Mitigation Policy triggered an automatic discount rate reduction from 7.0% to 6.8% due to the double-digit investment return for fiscal year 2021. In November 2021, PERS Board voted to retain the 6.8% discount rate, which will increase Metropolitan's contribution levels beginning fiscal year 2023-24.

Metropolitan was required to contribute ~~29.97 percent and~~ 32.43 percent and 34.39 percent of annual projected payroll for fiscal years ~~2019-20 and~~ 2020-21 and 2021-22, respectively. Metropolitan's actual contribution for fiscal years ~~2019-20 and~~ 2020-21 and 2021-22 were \$~~77.6~~74.3 million or ~~34.38~~31.59 percent of annual covered payroll and \$~~85.7~~81.5 million or ~~36.42~~33.79 percent of annual covered payroll, respectively. The fiscal years ~~2019-20 and~~ 2020-21 and 2021-22 actual contribution included \$~~11.5 million or 5.10 percent and~~ \$11.4 million or ~~4.85~~4.84 percent and \$11.0 million or 4.56 percent of annual covered payroll, respectively, for Metropolitan's pick-up of the employees' 7.00 percent share. For fiscal years ~~2021-22~~2022-23 and ~~2022-23~~2023-24, Metropolitan is required to contribute ~~34.39 percent and~~ 33.98 percent, respectively, of annual projected payroll, in addition to member contributions paid by Metropolitan.

Metropolitan's required contributions to PERS fluctuate each year and include a normal cost component and a component equal to an amortized amount of the unfunded liability. Many assumptions are used to estimate the ultimate liability of pensions and the contributions that will be required to meet those obligations. The PERS Board has adjusted and may in the future further adjust certain assumptions used in the PERS actuarial valuations, which may increase Metropolitan's required contributions to PERS in future years. Accordingly, Metropolitan cannot provide any assurances that its required contributions to PERS in future years will not significantly increase (or otherwise vary) from any past or current projected levels of contributions.

~~On December 21, 2016, the PERS Board approved lowering the discount rate to 7.00 percent over a three year period. PERS has estimated that with a reduction in the rate of return to 7.00 percent, most employers could expect a rate increase of 1.00 percent to 3.00 percent of normal cost as a percent of payroll for miscellaneous plans and an increase in payments toward unfunded accrued liabilities of between 30 to 40 percent. As a result, required contributions of employers, including Metropolitan, are expected to increase. The change in discount rate is a change in actuarial assumption which is amortized over a 20 year period with a five year ramp up period. The first year of the five year ramp up would have been the rates for fiscal year 2019 (the 2016 valuation) and the last year of the five year ramp up would be fiscal year 2023.~~

~~Beginning with fiscal year 2017-18 PERS began collecting employer contributions towards the plan's unfunded liability as dollar amounts instead of the prior method of contribution rate. This change addresses potential funding issues that could arise from a declining payroll or reduction in the number of active members in the plan.~~

On December 19, 2017, the PERS Board adopted new actuarial assumptions based on the recommendations in the December 2017 CalPERS Experience Study and Review of Actuarial Assumptions. This study reviewed the retirement rates, termination rates, mortality rates, rates of salary increases and inflation assumption for public agencies. These new assumptions were incorporated in the June 30, ~~2017~~2018 actuarial valuation and reflected in the required contribution for fiscal year ~~2019-20~~2020-21. In addition, the Board adopted a new asset portfolio as part of its Asset Liability Management. The new asset mix supports a 7.00 percent discount rate. The ~~reduction of the inflation assumption will be implemented in two steps in conjunction with the decreases in the discount rate. For the June 30, 2017 valuation an inflation rate of 2.625 percent was rate used and for the June 30, 2018 and subsequent valuations, an inflation rate of through June 30, 2020 valuation was~~ 2.50 percent ~~was/will be used.~~

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

~~The impact of COVID-19 on retirement plans is not yet known and CalPERS actuaries will continue to monitor the effects and, where necessary, make future adjustments to actuarial assumptions.~~

On November 17, 2021, the PERS Board adopted new actuarial assumptions based on the November 2021 CalPERS Experience Study and Review of Actuarial Assumptions. This study reviewed the retirement rates, termination rates, mortality rates, rate of salary increases, and inflation assumption for public agencies. The PERS Board also changed the strategic asset allocation, capital market assumptions, and economic assumptions all of which support the new 6.80 percent discount rate. In addition, the PERS Board reduced the inflation assumption from 2.50 percent to 2.30 percent. These changes were incorporated in the June 30, 2021 valuation and will impact Metropolitan's required contribution for fiscal year 2023-24.

The following table shows the funding progress of Metropolitan's pension plan.

Valuation Date	Accrued Liability (\$ in billions)	Market Value of Assets (\$ in billions)	Unfunded Accrued Liability (\$ in billions)	Funded Ratio
<u>6/30/21<sup>(1)</sup></u>	<u>\$2.752</u>	<u>\$2.228</u>	<u>\$(0.524)</u>	<u>81.0%</u>
6/30/20 <sup>(+)</sup>	\$2.625	\$1.848	\$(0.777)	70.4%
6/30/19	\$2.534	\$1.810	\$(0.724)	71.4%
6/30/18	\$2.433	\$1.744	\$(0.689)	71.7%
6/30/17	\$2.269	\$1.651	\$(0.618)	72.7%
6/30/16	\$2.166	\$1.524	\$(0.642)	70.3%
6/30/15	\$2.060	\$1.556	\$(0.504)	75.5%
6/30/14	\$1.983	\$1.560	\$(0.423)	78.7%
6/30/13	\$1.805	\$1.356	\$(0.449)	75.1%

<sup>(+)</sup> ~~Most recent actuarial valuation available.~~

Source: California Public Employees' Retirement System.

(1) Most recent actuarial valuation available.

The market value of assets reflected above is based upon the most recent actuarial valuation as of June 30, 2020. ~~The actuarial valuation as of June 30, 2021 is not expected to be available before summer 2022. The June 30, 2021 valuation report will be used to establish the contribution requirements for fiscal year 2023-24~~2021. Increased volatility has been experienced in the financial markets in recent years. Significant losses in market value or failure to achieve projected investment returns could substantially increase unfunded pension liabilities and future pension costs. ~~However, as noted above, under the amortization policy adopted by PERS, changes in the unfunded accrued liability due to actuarial gains or losses are amortized over a fixed 20-year period with a five-year ramp-up at the beginning and a five-year ramp-down at the end of the amortization period, and as a result the immediate fiscal impact of any one year's negative return on Metropolitan's contribution rates is reduced.~~

The following tables show the changes in Net Pension Liability and related ratios of Metropolitan's pension plan ~~for fiscal years 2020-21 and 2019-20, and for fiscal years 2019-20 and 2018-19.~~

<u>(Dollars in thousands)</u>	<u>06/30/22</u>	<u>6/30/21</u>	<u>Increase/ (Decrease)</u>
<b><u>Total Pension Liability</u></b>	<u>\$2,669,675</u>	<u>\$ 2,578,818</u>	<u>\$ 90,857</u>
<b><u>Plan Fiduciary Net Position</u></b>	<u>2,229,075</u>	<u>1,854,231</u>	<u>374,844</u>
<b><u>Plan Net Pension Liability</u></b>	<u>\$ 440,600</u>	<u>\$ 724,587</u>	<u>(\$283,987)</u>
<u>Plan fiduciary net positions as a % of the total pension liability</u>	<u>83.50%</u>	<u>71.90%</u>	
<u>Covered payroll</u>	<u>\$ 235,294</u>	<u>\$ 225,707</u>	
<u>Plan net pension liability as a % of covered payroll</u>	<u>187.26%</u>	<u>321.03%</u>	

<u>(Dollars in thousands)</u>	<u>06/30/21</u>	<u>6/30/20</u>	<u>Increase/ (Decrease)</u>
<b>Total Pension Liability</b>	\$2,578,818	\$ 2,479,307	\$ 99,511
<b>Plan Fiduciary Net Position</b>	1,854,231	1,810,312	43,919
<b>Plan Net Pension Liability</b>	\$ 724,587	\$ 668,995	\$ 55,592
Plan fiduciary net <del>position</del> <u>positions</u> as a			
% of the total pension liability	71.90%	73.02%	
Covered payroll	\$ 225,707	\$ 212,558	
Plan net pension liability as a % of covered payroll	321.03%	314.74%	

Source: GASB 68 Accounting Report for the respective measurement date prepared for Metropolitan by the California Public Employees' Retirement System.

<u>(Dollars in thousands)</u>	<u>06/30/20</u>	<u>6/30/19</u>	<u>Increase/ (Decrease)</u>
<b><u>Total Pension Liability</u></b>	<u>\$2,479,307</u>	<u>\$2,376,778</u>	<u>\$102,529</u>
<b><u>Plan Fiduciary Net Position</u></b>	<u>1,810,312</u>	<u>1,742,741</u>	<u>67,571</u>
<b><u>Plan Net Pension Liability</u></b>	<u>\$ 668,995</u>	<u>\$ 634,037</u>	<u>\$34,958</u>
<u>Plan fiduciary net positions as a -% of the total pension liability</u>	<u>73.02%</u>	<u>73.32%</u>	
<u>Covered payroll</u>	<u>\$ 212,558</u>	<u>\$ 204,635</u>	
<u>Plan net pension liability as a -% of covered payroll</u>	<u>314.74%</u>	<u>309.84%</u>	

The Net Pension Liability for Metropolitan's Miscellaneous Plan for the fiscal years ended June 30, ~~2020~~2021 and ~~2021~~2022 were measured as of June 30, ~~2019~~2020 and June 30, ~~2020~~2021, respectively, and the Total Pension Liability used to calculate the Net Pension Liability was determined by an annual actuarial valuation as of June 30, ~~2018~~2019 and June 30, ~~2019~~2020, respectively.

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For more information on the plan, see APPENDIX B–“THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITORS’ REPORT AND BASIC FINANCIAL STATEMENTS FOR FISCAL YEARS ENDED JUNE 30, ~~2022 AND JUNE 30, 2021 AND JUNE 30, 2020 AND~~ BASIC FINANCIAL STATEMENTS FOR THE ~~NINE~~SIX MONTHS ENDED ~~MARCH~~DECEMBER 31, 2022 AND 2021 (UNAUDITED).”

Metropolitan currently provides post-employment medical insurance to retirees and pays the post-employment medical insurance premiums to PERS. On January 1, 2012, Metropolitan implemented a longer vesting schedule for retiree medical benefits, which applies to all new employees hired on or after January 1, 2012. Payments for this benefit were ~~\$28.3 million in fiscal year 2019-20 and \$23.2 million in fiscal year 2020-21~~ and \$23.9 million in fiscal year 2021-22. Under Governmental Accounting Standards Board Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*, Metropolitan is required to account for and report the outstanding obligations and commitments related to such benefits, commonly referred to as other post-employment benefits (“OPEB”), on an accrual basis.

The actuarial valuations dated June 30, ~~2017~~2019 and June 30, ~~2019~~2021, were released in ~~March of 2018 and June of 2020~~ and May 2022, respectively. The ~~2017~~2019 valuation indicated that the Actuarially Determined Contribution (“ADC” formerly referred to as the Annual Required Contribution) in fiscal ~~year 2019-20 was~~ years 2020-21 and 2021-22 were ~~\$28.4~~\$23.2 million and ~~\$23.9 million, respectively,~~ and the 20192021 valuation indicated that the ADC ~~was~~will be ~~\$23.2~~\$14.9 million and ~~\$23.6~~\$15.3 million in fiscal years ~~2020-21~~2022-23 and ~~2021-22~~2023-24, respectively. The ADC was based on the entry-age normal actuarial cost method with contributions determined as a level percent of pay.

	<b>June 30, <del>2019</del><u>2021</u></b> <b>Valuation</b>		<b>June 30, <del>2017</del><u>2019</u></b> <b>Valuation</b>
Investment Rate of Return	6.75%		6.75%
Inflation	<del>2.75%</del> <u>2.30%</u>		2.75%
Salary Increases	3.00%		3.00%
Health Care Cost Trends	<u>Medicare – starting at 5.50%, grading down to 3.83% over fifty-four years.</u> <u>Non-Medicare – starting at 7.00%, grading down to 3.83% over fifty-four years</u>	Medicare – starting at <del>6.36.30%</del> , grading down to <del>4.04.00%</del> over fifty-five years. Non-Medicare – starting at 7.25%, grading down to <del>4.04.00%</del> over fifty-five years	<del>Medicare – starting at 6.5%, grading down to 4.0% over fifty-seven years.</del> <del>Non-Medicare – starting at 7.5%, grading down to 4.0% over fifty seven years.</del>
Mortality, Termination, Disability	<u>CalPERS Experience Study adopted in November 2021</u> <u>Mortality projected fully generational with Scale MP-2021</u>	CalPERS 1997-2015 Experience Study Mortality projected fully generational with Scale MP-2019	<del>CalPERS – 1997-2014 Experience Study</del> <del>Mortality projected fully generational with Scale MP-2017</del>
Affordable Care Act (ACA) Excise Tax	<del>Not included. Repealed in December 2019.</del>		<del>2% load on retiree medical premium subsidy</del>

As of June 30, ~~2019~~2021, the date of the most recent OPEB actuarial report, the unfunded actuarial accrued liability was estimated to be ~~\$164.3~~\$94.3 million and projected to be ~~\$156.769.7~~ million at June 30, ~~2020~~2022. The amortization period for the unfunded actuarial accrued liability is 23 years closed ~~with 17~~



~~years remaining as of fiscal year end 2020~~ and the amortization period of actuarial gains and losses is 15 years closed. Adjustments to the ADC include amortization of the unfunded actuarial accrued liability and actuarial gains and losses.

In September 2013, Metropolitan's Board established an irrevocable OPEB trust fund with the California Employers' Retiree Benefit Trust Fund. The market value of assets in the trust as of June 30, ~~2021~~2022 was \$~~377.3~~328.7 million. As part of its biennial budget process, the Board approved the full funding of the ADC for fiscal years ~~2022-23~~2022-23 and 2023-24.

~~As noted above, the COVID-19 pandemic and related economic consequences have contributed to increased volatility in the financial markets. Declines in the market value of the OPEB trust fund or failure to achieve projected investment returns could negatively affect the funding status of the trust fund and increase ADCs in the future. See also "GOVERNANCE AND MANAGEMENT COVID-19 Pandemic."~~

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The following tables show the changes in Net OPEB Liability and related ratios of Metropolitan's OPEB plan ~~for fiscal years 2020-21 and 2019-20, and for fiscal years 2019-20 and 2018-19.~~

<u>(Dollars in thousands)</u>	<u>06/30/22</u>	<u>6/30/21</u>	<u>Increase/ (Decrease)</u>
<b>Total OPEB Liability</b>	<u>\$ 429,603</u>	<u>\$ 452,293</u>	<u>(\$ 22,690)</u>
<b>Plan Fiduciary Net Position</b>	<u>377,321</u>	<u>287,562</u>	<u>89,759</u>
<b>Plan Net OPEB Liability</b>	<u>\$ 52,282</u>	<u>\$ 164,731</u>	<u>(\$112,449)</u>
Plan fiduciary net positions as a % of the total OPEB liability	<u>87.83%</u>	<u>63.58%</u>	
Covered payroll	<u>\$235,294</u>	<u>\$225,707</u>	
Plan net OPEB liability as a % of covered payroll	<u>22.22%</u>	<u>72.98%</u>	

<u>(Dollars in thousands)</u>	<u>06/30/21</u>	<u>6/30/20</u>	<u>Increase/ (Decrease)</u>
<b>Total OPEB Liability</b>	\$452,293	\$434,759	<u>(\$17,534)</u>
<b>Plan Fiduciary Net Position</b>	287,562	266,773	20,789
<b>Plan Net OPEB Liability</b>	\$164,731	\$167,986	<u>(\$3,255)</u>
Plan fiduciary net positions as a % of the total OPEB liability	63.58%	61.36%	
Covered payroll	\$225,707	\$212,558	
Plan net OPEB liability as a % of covered payroll	72.98%	79.03%	

<u>(Dollars in thousands)</u>	<u>06/30/20</u>	<u>6/30/19</u>	<u>Increase/ (Decrease)</u>
<b>Total OPEB Liability</b>	\$434,759	\$468,185	<u>\$(33,426)</u>
<b>Plan Fiduciary Net Position</b>	266,773	239,851	26,922
<b>Plan Net OPEB Liability</b>	\$167,986	\$228,334	<u>\$(60,348)</u>
Plan fiduciary net positions as a % of the total OPEB liability	61.36%	51.23%	
Covered payroll	\$212,558	\$204,635	
Plan net OPEB liability as a % of covered payroll	79.03%	111.58%	

Source: GASB Statement No. 74/75 Report for the respective fiscal year prepared for Metropolitan by its actuary for the Retiree Healthcare Plan..

The ~~Nettotal~~ OPEB ~~Liability for the years ended~~liability used to calculate the net OPEB liability as of June 30, ~~2020~~2022 and 2021 ~~were~~was measured as of June 30, ~~2018~~2021 and ~~June 30, 2019~~2020, respectively, ~~and the Total OPEB Liability used to calculate the Net OPEB Liability as of such dates were~~

~~determined by using~~ an ~~annual~~-actuarial valuation as of June 30, ~~2017~~2021 and ~~June 30~~, 2019, respectively. The actuarial valuation as of June 30, 2019 was rolled forward to the June 30, 2020 measurement date, using standard update procedures.

For more information on the OPEB plan, see APPENDIX B—"THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITORS' REPORT AND BASIC FINANCIAL STATEMENTS FOR FISCAL YEARS ENDED JUNE 30, 2022 AND JUNE 30, 2021 AND BASIC FINANCIAL STATEMENTS FOR THE SIX MONTHS ENDED DECEMBER 31, 2022 AND 2021 (UNAUDITED)."

## HISTORICAL AND PROJECTED REVENUES AND EXPENSES

The "Historical and Projected Revenues and Expenses" table below for fiscal years ~~2018-19~~2019-20 through ~~2020~~2021-21~~22~~, provides a summary of revenues and expenses of Metropolitan prepared on a modified accrual basis. This is consistent with Metropolitan's budgetary reporting for such fiscal years, including the biennial budget for fiscal years 2020-21 and ~~2021-22~~2021-22. Under the modified accrual basis of accounting, revenues are recognized in the fiscal year in which they are earned, and expenses are recognized when incurred. Thus, water revenues are recognized in the month the water transaction occurs and expenses are recognized when goods have been received and services have been rendered.

Metropolitan's accounting method for budgetary purposes ~~will change~~changed from modified accrual basis to cash basis beginning with fiscal year ~~2022-23~~2022-23. Metropolitan's biennial budget for fiscal years ~~2022-23~~2022-23 and 2023-24, which includes a ten-year financial forecast, has been prepared on a cash basis, and financial projections for fiscal years ~~2022-23~~2022-23 through ~~2026-27~~2027-28 prepared from the ten-year financial forecast on a cash basis are set forth in the table below. Under cash basis accounting, water sales revenues are recorded when received (two months after billed) and expenses when paid (approximately one month after invoiced). For comparative purposes only, Metropolitan has provided in the table below its fiscal year ~~2021-22 financial projections~~2021-22 results on both a modified accrual basis and a cash basis. The financial projection for fiscal year ~~2021-22~~2022-23 reflects ~~revised projections based on results through March~~December 2022. ~~As reflected in the table below, the effect of utilizing a cash basis budgetary accounting method results, for presentation purposes, in lower projected Water Revenues (by \$16.0 million) for the period (which are recorded when received approximately two months later on a cash basis) and lower projected Operation and Maintenance Expenses (by \$39.0 million) for the period (which are recorded when paid on a cash basis). As noted, these differences are a function of timing differences for the recognition of revenues and expenses under the two methods when comparing the one fiscal year period to illustrate the change in budgetary accounting basis as a matter of presentation. Metropolitan's actual financial results will be unaffected.~~ The table does not reflect the accrual basis of accounting, which is used to prepare Metropolitan's annual audited financial statements. Under accrual accounting, revenues are recorded when earned and expenses are recorded at the time the liabilities are incurred, regardless of the timing of related cash flows. The change to cash basis accounting is for budgetary purposes. Metropolitan will continue to calculate compliance with its rate covenants, limitations on additional bonds and other financial covenants in the Resolutions in accordance with their terms.

The projections are based on assumptions concerning future events and circumstances that may impact revenues and expenses and represent management's best estimates of results at this time. See the footnotes to the table below entitled "HISTORICAL AND PROJECTED REVENUES AND EXPENSES" and "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES" for relevant assumptions, including projected water transactions and the average annual increase in the effective water rate, and "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES" for a discussion of potential impacts. Some assumptions inevitably will not materialize, and unanticipated events and circumstances may occur. Therefore, the actual results achieved during the projection period will vary from the projections and the variations may be

material. The budget and projection information, and all other forward-looking statements in this Appendix A, are based on current expectations and are not intended as representations of facts or guarantees of future results.

~~The COVID-19 pandemic is still a significant ongoing event with the potential to adversely affect global, national, State, and local economic activity and prospects. Possible future COVID-19 outbreaks may affect actual results achieved. See “GOVERNANCE AND MANAGEMENT COVID-19 Pandemic.”~~

As noted herein, ~~the financial projection for fiscal year 2021-22 reflects revised projections based on results through March 2022. For~~ for comparative purposes in connection with Metropolitan’s change in accounting method for budgetary purposes, financial ~~projections~~ results for fiscal year ~~2021-22~~ 2021-22 are provided on both a modified accrual basis and a cash basis. The ~~financial projection for fiscal year 2022-23 reflects results through December 2022. The~~ financial projections for fiscal years ~~2022-23~~ 2023-24 through ~~2026-27~~ 2027-28 in the table below reflect the biennial budget for fiscal years ~~2022-23~~ 2022-23 and 2023-24 as well as a ten-year financial forecast provided therein on a cash basis. The financial projections include Metropolitan’s share of the forecasted costs associated with the planning of a single tunnel Bay-Delta conveyance project and certain costs associated with the ~~RRWPPWSC~~. See “METROPOLITAN’S WATER SUPPLY–State Water Project –Bay-Delta Proceedings Affecting State Water Project – *Bay-Delta Planning Activities*” and “– *Delta Conveyance*” and “REGIONAL WATER RESOURCES–Local Water Supplies – *Recycled Water-Metropolitan* ~~Regional-Recycled~~ Pure Water Southern California Program” in this Appendix A.

Metropolitan’s resource planning projections are developed using a comprehensive analytical process that incorporates demographic growth projections from recognized regional planning entities, historical and projected data acquired through coordination with local agencies, and the use of generally accepted empirical and analytical methodologies. Due to the unpredictability of future hydrologic conditions, Metropolitan’s projected supplemental wholesale water transactions may vary considerably. Metropolitan’s Water Resource Management provided the projections of the volume of annual water transactions for the fiscal years ~~2022-23~~ 2022-23 and 2023-24 biennial budget and ten-year financial forecast provided therein. The water transactions projections used to determine water rates and charges assume a transition from dry conditions to average year hydrology. Actual water transactions are likely to vary from projections. As shown in the chart entitled “Historical Water Transactions” below, water transactions can vary significantly from average and demonstrates the degree to which Metropolitan’s commitments to meet supplemental demands can impact water transactions. In years when actual transactions exceed projections, the revenues from water transactions during the fiscal year will exceed budget, potentially resulting in an increase in financial reserves. In years when actual transactions are less than projections, Metropolitan uses various tools to manage reductions in revenues, such as reducing expenses below budgeted levels, reducing funding of capital projects from revenues, and drawing on reserves. See “METROPOLITAN REVENUES–Financial Reserve Policy” in this Appendix A. Metropolitan considers actual transactions, revenues and expenses, and financial reserve balances in setting rates for future fiscal years.

~~Projections in the following table reflect revised projections for fiscal year 2021-22 based on results through March 2022. For~~ As described above, for comparative purposes, fiscal year ~~2021-22~~ 2021-22 results are presented on both a modified accrual basis and a cash basis. ~~Projections in the following table reflect results through December 2022 for fiscal year 2022-23.~~ Financial projections for fiscal years ~~2022-23~~ 2023-24 through ~~2026-27~~ 2027-28 reflect the biennial budget for fiscal year ~~2022-23~~ 2022-23 and 2023-24 and ten-year financial forecast provided therein on a cash basis. This includes the issuance of \$~~1,040~~ 1,710 million of bonds for fiscal years ~~2022-23~~ 2022-23 through ~~2026-27~~ 2027-28 to finance the CIP. The projections also assume the issuance of an additional \$133.9 million of bonds in ~~fiscal~~ calendar year ~~2022-23~~ 2023 to finance other capital expenditures of Metropolitan relating to conservation and supply programs. See “MANAGEMENT’S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES” and “CAPITAL INVESTMENT PLAN–Capital Investment Plan Financing” in this Appendix A.

Water transactions with member agencies were ~~1.57~~1.65 million acre-feet in fiscal year ~~2020-21~~2021-22. Water transactions with member agencies are projected to be ~~1.65 million acre-feet for fiscal year 2021-22~~, 1.59 million acre-feet for fiscal year ~~2022-23~~2022-23, 1.54 million acre-feet for fiscal years 2023-24, and 2024-25, 1.51 million acre-feet for fiscal year 2025-26, and 1.53 million acre-feet for fiscal ~~year~~years 2026-27 and 2027-28. Rates and charges increased by ~~4.0~~5.0 percent on January 1, ~~2022~~2023. Rates and charges are projected to increase 5.0 percent for ~~each of~~ calendar ~~years 2023 and~~year 2024, 7.0 percent for calendar year 2025, and 6.0 percent for each of calendar years 2026 ~~and~~, 2027, and 2028. Actual rates and charges to be effective in calendar year 2025 and thereafter are subject to adoption by Metropolitan's Board.

The projections were prepared by Metropolitan and have not been reviewed by independent certified public accountants or any entity other than Metropolitan. Dollar amounts are rounded.

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**FINANCIAL STATEMENTS AND**

(In Millions) June 30 AND		Actual					Projected					2023
		Modified Accrual				Cash Basis						
		2019	2020	2021	2022	2022	2023	2024	2025	2026	2027	
Water Revenues <sup>(b)</sup>	<del>\$1,149</del>	\$1,188	\$1,405	<del>\$1,531</del>	\$1,515	<del>\$1,523</del>	<del>\$1,503</del>	\$1,522	\$1,606	\$1,677	\$1,804	<del>\$1,926</del>
Additional Revenue Sources <sup>(c)</sup>	<del>170</del>	165	165	172	<del>171</del>	186	196	206	210	213	222	<del>222</del>
Total Operating Revenues	<del>1,319</del>	1,353	1,570	<del>1,703</del>	<del>1,694</del>	<del>1,671</del>	<del>1,689</del>	1,718	1,812	1,887	2,017	<del>2,148</del>
O&M, CRA Power and Water Transfer Costs <sup>(d)</sup>	<del>(569)</del>	(642)	(636)	<del>(823)</del>	<del>(820)</del>	<del>(824)</del>	(803)	(792)	(818)	(863)	(903)	<del>(945)</del>
Total SWC OMP&R and Power Costs <sup>(e)</sup>	<del>(347)</del>	(384)	(393)	<del>(417)</del>	<del>(41)</del>	(374)	(521)	(595)	(575)	(597)	(620)	<del>(668)</del>
Total Operation and Maintenance	<del>(916)</del>	(1,026)	(1,029)	<del>(1,237)</del>	<del>(1,198)</del>	<del>(1,324)</del>	(1,387)	(1,393)	(1,460)	(1,523)	(1,613)	<del>(1,613)</del>
Net Operating Revenues	<del>\$ 403</del>	\$ 327	\$ 541	<del>466</del>	<del>487</del>	<del>536</del>	\$ 331	\$ 419	\$ 427	\$ 494	<del>535</del>	
Miscellaneous Revenue <sup>(f)</sup>	<del>22</del>	14	14	<del>17</del>	<del>18</del>	<del>22</del>	47	41	42	44	40	<del>40</del>
Transfer from Reserve Funds	<del>—</del>	--	--	--	--	--	--	--	--	--	--	<del>—</del>
Sales of Hydroelectric Power <sup>(g)</sup>	<del>18</del>	16	19	<del>8</del>	<del>10</del>	<del>10</del>	17	14	16	16	16	<del>16</del>
Interest on Investments <sup>(h)</sup>	<del>34</del>	20	10	<del>7</del>	<del>6</del>	<del>10</del>	6	10	13	16	19	<del>20</del>
Adjusted Net Operating Revenues <sup>(i)</sup>	<del>477</del>	377	584	<del>486</del>	<del>500</del>	<del>528</del>	<del>433</del>	401	489	501	574	<del>611</del>
Senior and Subordinate Obligations <sup>(j)</sup>	<del>(333)</del>	(272)	(279)	(275)	(275)	(283)	(296)	(300)	(319)	(333)	(352)	<del>(352)</del>
Funds Available from Operations	<del>\$ 144</del>	\$ 105	\$ 305	<del>211</del>	<del>224</del>	<del>253</del>	\$ 149	\$ 105	\$ 189	\$ 182	\$ 240	<del>\$ 259</del>
Debt Service Coverage on all Senior and Subordinate Bonds <sup>(k)</sup>	<del>1.43</del>	1.39	2.09	<del>1.81</del>	<del>1.92</del>	1.53	1.35	1.63	1.57	1.72	1.73	<del>1.73</del>
Funds Available from Operations	<del>\$ 144</del>	\$ 105	\$ 305	<del>224</del>	<del>253</del>	<del>2</del>	\$ 149	\$ 105	\$ 189	\$ 182	\$ 240	<del>\$ 259</del>
Other Revenues (Expenses)	<del>(6)</del>	(6)	(6)	<del>(4)</del>	<del>(7)</del>	<del>(4)</del>	(9)	(9)	(9)	(9)	(10)	<del>(10)</del>
Pay-As-You Go Construction	<del>(128)</del>	(39)	(110)	(135)	(135)	(135)	(135)	(175)	(175)	(175)	(175)	<del>(175)</del>
Pay-As-You Go Funded from Replacement & Refurbishment Fund Reserves	<del>—</del>	1	--	<del>1</del>	<del>1</del>	--	--	--	--	--	--	<del>--</del>
Total SWC Capital Costs Paid from Current Year Operations	<del>(4)</del>	(1)	--	--	--	--	--	--	--	--	--	<del>--</del>
Remaining Funds Available from Operations	<del>6</del>	60	189	<del>73</del>	<del>82</del>	<del>110</del>	5	(39)	5	(2)	55	<del>74</del>
Fixed Charge Coverage <sup>(l)</sup>	<del>1.42</del>	1.38	2.09	<del>1.77</del>	<del>1.92</del>	1.53	1.35	1.63	1.57	1.72	1.73	<del>1.73</del>
Property Taxes	<del>145</del>	147	161	<del>168</del>	<del>158</del>	<del>158</del>	<del>138</del>	<del>164</del>	<del>127</del>	<del>143</del>	<del>155</del>	<del>193</del>
General Obligation Bonds Debt Service Paid from Property Taxes	<del>(14)</del>	(13)	(7)	(8)	(8)	(2)	(2)	(2)	(2)	(2)	(2)	<del>(2)</del>
SWC Capital Costs Paid from Property Taxes	<del>(131)</del>	(134)	<del>(131)</del>	<del>(141)</del>	<del>(13)</del>	<del>(139)</del>	<del>(136)</del>	<del>(162)</del>	<del>(163)</del>	(125)	(141)	<del>(187)</del>
SWC O&M Costs Paid from Property Taxes	--	(23)	(21)	(13)	(25)	(4)	(48)	(48)	(36)	(31)	(31)	
Net Funds Available from Current Year	<del>\$ 6</del>	\$ 60	\$ 189	<del>82</del>	<del>110</del>	\$ 5	\$ (39)	\$ 5	\$ (2)	\$ 55	<del>\$ 74</del>	

Source: Metropolitan.

| (Footnotes [to table](#) on next page)

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(Footnotes to table on prior page)

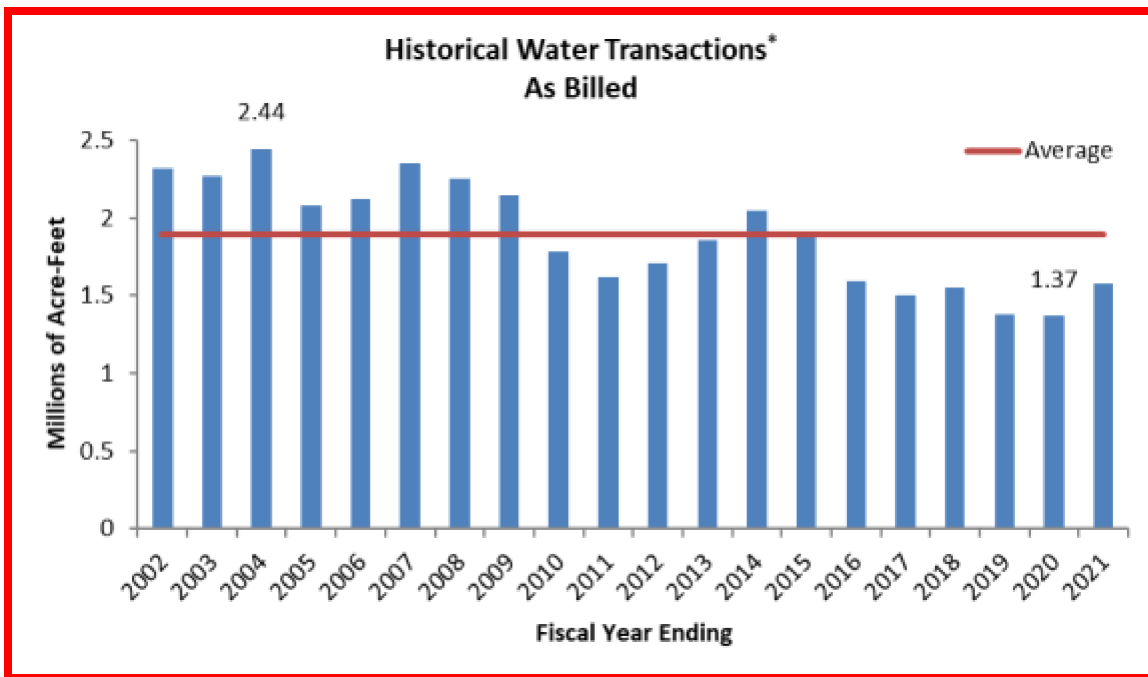
- (a) Unaudited. Prepared on a modified accrual basis through fiscal year ~~2021-22~~2021-22 and prepared and projected on a cash basis fiscal year ~~2022-23~~2021-22 forward. Projected revenues and expenses in fiscal year ~~2021-22~~2022-23 are based on results through ~~March~~December 2022 ~~and revised from the projections provided in the adopted biennial budget for fiscal years 2020-21 and 2021-22~~. Projections for fiscal year ~~2022-23~~2023-24 through fiscal year ~~2026-27~~2027-28 are based on assumptions and estimates used in the biennial budget for fiscal years ~~2022-23~~2022-23 and 2023-24 and ten-year financial forecast provided therein and reflect the projected issuance of additional bonds. See “MANAGEMENT’S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES” in this Appendix A.
- (b) Water Revenues include revenues from water sales, exchanges, and wheeling. During the fiscal years ended June 30, ~~2018~~2020 through June 30, ~~2024~~2022, annual water transactions with member agencies (in acre-feet) were ~~1.55~~1.37 million, ~~1.37 million, 1.37 million, and~~ 1.57 million, ~~and~~ 1.65 million, respectively. See the table entitled “Summary of Water Transactions and Revenues” under “METROPOLITAN REVENUES–Water Revenues” in this Appendix A. The water transactions projections (in acre-feet) are ~~1.65 million acre-feet for fiscal year 2021-22~~, 1.59 million acre-feet for fiscal year ~~2022-23~~2022-23, 1.54 million acre-feet for fiscal years 2023-24 and 2024-25, 1.51 million acre-feet for fiscal year 2025-26, and 1.53 million acre-feet for fiscal ~~year~~years 2026-27 ~~and~~ 2027-28. Projections reflect adopted overall rate and charge increase of ~~4.0 percent effective on January 1, 2022 and~~ 5.0 percent for each of the calendar years 2023 and 2024. Rates and charges are projected to increase 7.0 percent for calendar year 2025, and 6.0 percent for each of the calendar years 2026 ~~and~~, 2027, ~~and~~ 2028, subject to adoption by Metropolitan’s Board. See “MANAGEMENT’S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES” in this Appendix A.
- (c) Includes revenues from water standby, readiness-to-serve, and capacity charges. The term Operating Revenues excludes *ad valorem* taxes. See “METROPOLITAN REVENUES–Other Charges” in this Appendix A.
- (d) Water Transfer Costs and ~~RRWP~~PWSC planning costs (described under “REGIONAL WATER RESOURCES–Local Water Supplies – *Recycled Water-Metropolitan Regional Recycled Pure Water Southern California Program*” in this Appendix A) are included in operation and maintenance expenses for purposes of calculating the debt service coverage on all Obligations. For fiscal year ~~2021-22~~2021-22, operation and maintenance expenses also include \$24.0 million in payments to SDCWA in connection with the litigation challenging Metropolitan’s rates (of the total \$50.5 million paid, with the balance paid from the Exchange Agreement Set-~~aside~~Aside Fund). See METROPOLITAN REVENUES–Litigation Challenging Rate Structure” in this Appendix A.
- (e) Includes on- and off-aqueduct power and operation, maintenance, power and replacement costs payable under the State Water Contract and Delta Conveyance planning costs. See “METROPOLITAN EXPENSES–State Water Contract Obligations” in this Appendix A. See also “METROPOLITAN’S WATER SUPPLY–State Water Project –Bay-Delta Proceedings Affecting State Water Project – *Bay-Delta Planning Activities*” and “– *Delta Conveyance*” in this Appendix A.
- (f) May include lease and rental net proceeds, net proceeds from sale of surplus property, reimbursements, and historically, federal interest subsidy payments for Build America Bonds.
- (g) Includes CRA power sales.
- (h) Does not include interest applicable to Bond Construction Funds, the Excess Earnings Funds, other trust funds and the Deferred Compensation Trust Fund. Includes net gain or loss on investments.
- (i) Adjusted Net Operating Revenues is the sum of all available revenues that the revenue bond resolutions specify may be considered by Metropolitan in setting rates and issuing additional Senior Revenue Bonds and Senior Parity Obligations and Subordinate Revenue Bonds and Subordinate Parity Obligations.
- (j) Includes debt service on outstanding Senior Revenue Bonds, Senior Parity Obligations, Subordinate Revenue Bonds, Subordinate Parity Obligations, and additional Revenue Bonds (projected). Assumes the issuance of approximately ~~\$303.9~~330.0 million in aggregate in additional Revenue Bonds ~~in for~~ fiscal year ~~2022-23~~, approximately ~~\$160 million in~~ fiscal ~~year~~years 2022-23 and 2023-24, CIP expenditures, approximately \$200 million in fiscal year 2024-25, approximately \$210 million in fiscal year 2025-26 ~~and~~, approximately \$300 million in fiscal year 2026-27. ~~Fiscal year 2018-19 debt service is reduced by, and approximately \$15.3670 million for debt service prepaid through bond refunding transactions in June 2018, rather than on July 1, 2018. Fiscal year 2018-19 debt service increased by in fiscal year 2027-28. Also assumes the issuance of approximately \$28.5133.9 million of bonds for debt service prepaid other capital expenditures relating to conservation and supply programs in calendar year 2023. Fiscal year 2019-20 debt service was reduced by \$28.5 million due to the prepayment of \$28.5 million in June 2019, rather than of debt service due on July 1, 2019 and, as such the payment was reflected in fiscal year 2019-20 debt service is therefore reduced by \$28.5 million 2018-19.~~ See “CAPITAL INVESTMENT PLAN–Capital Investment Plan Financing” in this Appendix A. See also “METROPOLITAN WATER SUPPLY–Water Transfer, Storage and Exchange Programs –State Water Project Agreements and Programs – *Antelope Valley-East Kern High Desert Water Bank Program*” in this Appendix A.

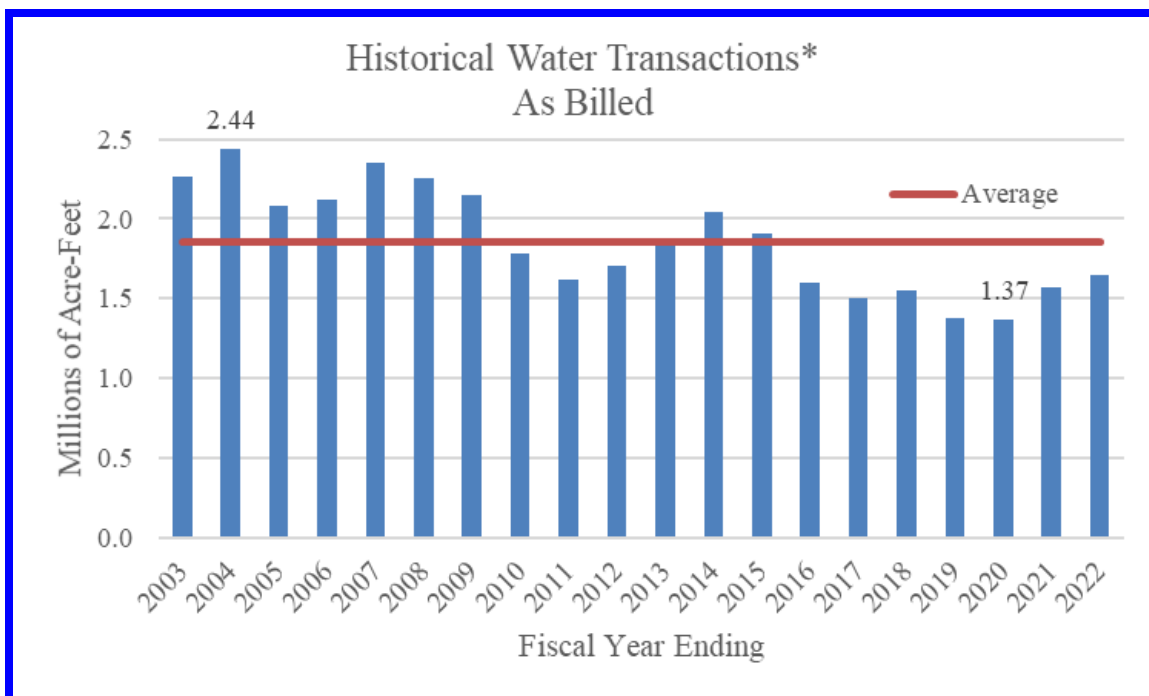
- (k) Adjusted Net Operating Revenues, divided by the sum of debt service on outstanding Senior Revenue Bonds, Senior Parity Obligations, Subordinate Revenue Bonds and Subordinate Parity Obligations and additional Revenue Bonds (projected). See “METROPOLITAN EXPENSES—Outstanding Senior Revenue Bonds and Senior Parity Obligations” and “—Outstanding Subordinate Revenue Bonds and Subordinate Parity Obligations” in this Appendix A.
- (l) Adjusted Net Operating Revenues, divided by the sum of State Water Contract capital costs paid from current year operations and debt service on outstanding Senior Revenue Bonds, Senior Parity Obligations, Subordinate Revenue Bonds and Subordinate Parity Obligations, and additional Revenue Bonds (projected).

## MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES

### Water Transactions Projections

The water transactions with member agencies in the table above for fiscal year ~~2020-21~~ 2021-22 were ~~1.57~~ 1.65 million acre-feet. The water transactions forecast for fiscal year ~~2021-22 is 1.65 million acre-feet (reflecting the revised projections based on results through March 2022), and 23 is~~ 1.59 million acre-feet ~~for fiscal year 2022-23~~, 1.54 million acre-feet for fiscal years 2023-24 and 2024-25, 1.51 million acre-feet for fiscal year 2025-26, and 1.53 million acre-feet for fiscal ~~year~~ years 2026-27 and 2027-28, consistent with the biennial budget and ten-year financial forecast. For purposes of comparison, Metropolitan's highest level of water transactions during the past 20 fiscal years was approximately 2.44 million acre-feet in fiscal year 2003-04 and the lowest was 1.37 million acre-feet in fiscal year 2019-20. The chart below shows the volume of water transactions with member agencies over the last 20 fiscal years.





\* Water transactions include sales, exchanges, and wheeling with member agencies.

## Water Revenues

Metropolitan relies on revenues from water transactions for about 80 percent of its total revenues. In adopting the budget and rates and charges for each fiscal year, Metropolitan's Board reviews the anticipated revenue requirements and projected water transactions to determine the rates necessary to produce the required revenues to be derived from water transactions during the fiscal year. Metropolitan sets rates and charges estimated to provide operating revenues sufficient, with other sources of funds, to provide for payment of its expenses. See "HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A.

Metropolitan's Board has adopted annual increases in water rates each year beginning with the rates effective January 1, 2004. See "METROPOLITAN REVENUES—Rate Structure" and "—Classes of Water Service" in this Appendix A. ~~On April 14, 2020, the Board adopted average increases in rate and charges of 3.0 percent, to become effective on January 1, 2021, and 4.0 percent, to become effective on January 1, 2022.~~ On April 12, 2022, the Board adopted average increases in rates and charges of 5.0 percent, to become effective on January 1, 2023 and January 1, 2024. Rates and charges are projected to increase 7.0 percent for calendar year 2025, and 6.0 percent for each of calendar years 2026 ~~and~~, 2027, and 2028. Actual rates and charges to be effective in calendar year 2025 and thereafter are subject to adoption by Metropolitan's Board.

## Projected Fiscal Year ~~2021-22~~2022-23 Financial Results

Projections for fiscal year ~~2021-22~~2022-23, in the table above (on a ~~modified accrual~~cash basis), are ~~revised from the projections adopted in the fiscal year 2020-21 and 2021-22 biennial budget and~~ based on results through ~~March~~December 2022. Operation and maintenance expenses in fiscal year ~~2021-22~~2022-23 are projected to be ~~\$1,237~~\$1,324 million, which represents approximately ~~68.3~~69.2 percent of total costs. These expenses include the costs of labor, electrical power, materials and supplies of both Metropolitan and its contractual share of the State Water Project. ~~For fiscal year 2021-22, operation and maintenance expenses also include \$24.0 million in payments to SDCWA in connection with the litigation challenging Metropolitan's rates (of the total \$50.5 million paid, with the balance paid from the Exchange Agreement~~

~~Set-aside Fund). See METROPOLITAN REVENUES Litigation Challenging Rate Structure” in this Appendix A.~~ Metropolitan’s operation and maintenance expenses are projected to be ~~\$25 million under~~ on budget in fiscal year ~~2021-22~~2022-23. Comparatively, operations and maintenance expenditures in fiscal year ~~2020-21~~2021-22 were ~~\$1,029~~1,234 million ~~(on a modified accrual basis)~~, which represents approximately ~~65.4~~67.9 percent of total costs. Overall, projected ~~expenses~~expenditures for the twelve months ending June 30, ~~2022~~2023 are ~~\$1.8~~1.9 billion. ~~This, which is \$35 million, or 1.9 percent, less than budgeted expenses on budget.~~

Fiscal year ~~2021-22~~2022-23 revenue bond debt service coverage (on a ~~modified accrual~~cash basis) is projected to be ~~1.84~~1.53x and fixed charge coverage to be ~~1.84~~1.53x. Fiscal year ~~2021-22~~2022-23 capital expenditures, ~~currently~~ estimated at ~~\$201.5~~300.0 million, will be partially funded by the proceeds of bonds issued for ~~Fiscal Year 2021-22~~fiscal year 2022-23 for such purpose and the remainder from pay-as-you-go funding. Metropolitan’s unrestricted reserves are projected to be approximately ~~\$701~~686 million on a ~~modified accrual~~cash basis at June 30, ~~2022~~2023. See “METROPOLITAN REVENUES–Financial Reserve Policy” in this Appendix A. ~~This amount does not include funds held in the Exchange Agreement Set Aside Fund.~~

Financial projections for fiscal years ~~2022-23~~2023-24 through ~~2026-27~~2027-28 are reflected in the fiscal year ~~2022-23~~2022-23 and 2023-24 biennial budget and ten-year financial forecast provided therein. The fiscal year ~~2022-23~~2022-23 and 2023-24 biennial budget and rates set the stage for predictable and reasonable rate increases over the ten-year planning period, with Board adopted overall rate increases of 5.0 percent for each of calendar years 2023 and 2024. The fiscal year ~~2022-23~~2022-23 and 2023-24 biennial budget and ten-year financial forecast includes rate increases of 7.0 percent for calendar year 2025, and 6.0 percent for calendar years ~~2026-and~~, 2027, and 2028. Actual rates and charges to be effective in calendar year 2025 and thereafter are subject to adoption by Metropolitan’s Board as part of the biennial budget process, at which point the ten-year forecast will be updated as well. Increases in rates and charges reflect the impact of reduced water transactions projections, increasing operations and maintenance costs, and increasing State Water Project costs, when compared to prior fiscal years.

Metropolitan’s financial results during the fiscal years ~~2021-22~~2022-23 through ~~2026-27~~2027-28 may be impacted by current and subsequent developments relating to the ~~COVID-19~~ pandemic, the effects of the ongoing drought, as well as other unforeseen events.

See also the “Management’s Discussion and Analysis” contained in APPENDIX B– “THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITORS’ REPORT AND BASIC FINANCIAL STATEMENTS FOR FISCAL YEARS ENDED JUNE 30, 2022 AND JUNE 30, 2021 AND ~~JUNE 30, 2020-AND~~ BASIC FINANCIAL STATEMENTS FOR THE ~~NINE~~SIX MONTHS ENDED ~~MARCH~~DECEMBER 31, 2022 AND 2021 (UNAUDITED).”

Document comparison by Workshare Compare on Thursday, April 6, 2023  
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Document 2 ID	netdocuments://4892-2856-4048/10
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Rendering set	Standard

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Moved to	43
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Format changes	0
Total changes	3890



## Finance, Audit, Insurance and Real Property Committee Meeting

# Approve and Authorize the Distribution of Appendix A for Use in the Issuance and Remarketing of Metropolitan Bonds

Item # 7-8

April 11, 2023



# Appendix A is a key component of Metropolitan's Bond Disclosure

Finance staff anticipates up to \$740 million in debt issuance in 2023

- Last year, on May 9, 2022, the Board was provided training on disclosure responsibilities related to Appendix A
- Three Potential Bond Issuances Anticipated in 2023
  - The first financing is a combination of new money and refunding bonds
  - Preliminary OS distributed in early May 2023, for pricing in mid May 2023
- Provides Investors with Material Information
- Enables Active Pre-Marketing Period to obtain broad investor interest

# Appendix A describes a 360-degree view of Metropolitan

Appendix A  
provides a  
comprehensive  
description of  
Metropolitan

- Service Area
- Governance and Management
- Sources of Water Supply and Current Conditions
- Capital Projects and Expenditures
- Revenues, Expenses and Long-term Obligations
- Litigation and Legislation

Our process follows regulatory guidance and industry best practice, MWD engages both in-house and external expertise to meet our disclosure obligations

## Appendix A Update Process Involves a Broad Constituency

- Disclosure Working Group
  - Treasury Debt Management staff
  - Legal
  - Disclosure Counsel
- Broader Metropolitan Staff Review
- Executive Management Review
- Board Review and Approval

# Board Review and Approval Process

The Board is routinely provided updates (or reports) on various topics addressed in Appendix A

- Receive Periodic Management Reports
- Receive Board Training
- Review Draft Appendix A
- Proper Disclosure - May NOT
  - Contain an untrue statement of a material fact
  - Omit material facts

# Appendix A Update Highlights

The entire  
Appendix A was  
reviewed and  
updated

- Significant Updates Since May 2022 include:
  - Water Supply Conditions
  - Conservation and Water Shortage Measures
  - Litigation
  - Metropolitan's Water Delivery System
  - Metropolitan's Finances

# Future Updates to Appendix A

- Biannual Updates
  - Unless there are no financial transactions
- Interim Updates
  - Material changes will be provided to the Board for review and comment

Appendix A is not a static document, and requires constant review to ensure we meet our disclosure obligations

In response to an inquiry by San Diego County Water Authority, staff recommends two modifications to language in the draft Appendix A distributed to the Board

## Modifications to Appendix A

- On page A-10:

As of March 6, 2023, the Bureau of Reclamation is projecting a supply of Colorado River water in calendar year 2023 of 909,000 acre-feet, which includes approximately 277,700 acre feet pursuant to the Exchange Agreement, to be available to Metropolitan. Additional Colorado River supply tends to be available from higher priority water users as the year progresses. Based on recent higher priority water use, Metropolitan expects final Colorado River supplies to be approximately 991,000 acre-feet. In the event that actual supply is less than Metropolitan's projection, Metropolitan expects to augment such supply with water stored in Lake Mead to meet local water demands.

- On page A-24:

Prior to 2003, Metropolitan could divert over 1.25 million acre-feet in any year. Since 2003, Metropolitan's net diversions of Colorado River water have ranged from a low of 537,607 acre-feet in 2019 to a high of approximately 1,179,000 acre-feet in 2015. Average annual net diversions for 2013 through 2022 (based on preliminary estimates) were 948,682 acre-feet, with annual volumes dependent primarily on programs to augment supplies, including transfers of conserved water from agriculture and water made available to and owned by Metropolitan pursuant to the Exchange Agreement, in exchange for which Metropolitan delivers a like amount to SDCWA from any Metropolitan supply.



Appendix A is  
required to execute  
the bond financings  
anticipated in  
CY 2023

## Board Options for Consideration

- Option #1
  - Approve the draft Appendix A (Attachment I) attached to the board letter;
  - Authorize the General Manager, or other designee of the Ad Hoc Committee, to finalize, with changes approved by the General Manager and General Counsel, Appendix A; and
  - Authorize distribution of Appendix A, finalized by the General Manager or other designee of the Ad Hoc Committee, in connection with the sale or remarketing of bonds.

# Board Options for Consideration

Metropolitan will  
not be able to issue  
bonds to fund  
board approved  
projects or refund  
outstanding bonds  
if Appendix A is not  
approved

- Option #2
  - Do not approve the Option #1



# Questions







• **Board of Directors**

***Finance, Audit, Insurance, and Real Property Committee***

4/11/2023 Board Meeting

7-9

**Subject**

Adopt resolutions fixing and adopting a Readiness-to-Serve Charge and a Capacity Charge for calendar year 2024; the General Manager has determined the proposed action is exempt or otherwise not subject to CEQA

**Executive Summary**

This letter recommends adoption of the resolutions to fix and adopt a Readiness-to-Serve (RTS) Charge and a Capacity Charge effective January 1, 2024, based on the budget, rates, and charges adopted by the Board on April 12, 2022.

**Details**

**Background**

On April 12, 2022, Metropolitan's Board adopted its biennial budget for fiscal years (FYs) 2022/23 and 2023/24, rates for calendar years (CYs) 2023 and 2024, and charges for CY 2023. However, since the RTS and Capacity Charge are applied to the member agencies based on historic data with a one year lag, the charges can only be calculated one year ahead. In April 2022, the volumetric rates were approved for two years, but the RTS and Capacity Charge have only been approved for one year (CY 2023), effective on January 1, 2023.

In meetings and workshops held from February through April 2022, Metropolitan's Board, the Finance and Insurance (F&I) Committee of the Board, and Metropolitan's member agencies reviewed and evaluated the biennial budget and revenue requirements, and the rates and charges necessary to support the revenue requirements. A public hearing was held on March 8, 2022. All documents provided to the Board in connection with its April 2022 Board action were posted online, along with other supporting and background material, at: [https://www.mwdh2o.com/media/apajoynz/fy-2022\\_23-fy2023\\_24-biennial-budget-book-final-approved.pdf](https://www.mwdh2o.com/media/apajoynz/fy-2022_23-fy2023_24-biennial-budget-book-final-approved.pdf) and <https://www.mwdh2o.com/media/15878/resolution-9268-determination-re-section-1245-av-tax-rate-limitation.pdf>. The documents remain available in support of the charges proposed in this letter.

The RTS Charge is set to recover capital costs of the portion of Metropolitan's system that is available to provide emergency storage and available capacity during outages and hydrologic variability. The Capacity Charge is set to recover peaking capacity costs on Metropolitan's distribution system. In adopting the biennial budget on April 12, 2022, the Board determined the amount of revenue to be raised by the RTS Charge and the Capacity Charge, collectively, would be \$188.2 million in CY 2023, and \$203.1 million in CY 2024. At that meeting, the Board approved the resolutions to adopt the RTS and Capacity Charges for CY 2023. Staff now proposes to the Board resolutions to adopt the RTS Charge (**Attachment 1**) and the Capacity Charge (**Attachment 2**) for CY 2024 at the amounts previously determined by the Board through its approval of the biennial budget, rates, and charges on April 12, 2022. The revenue to be collected from the Capacity Charges for CY 2024 is estimated to be approximately \$2 million higher than the budgeted estimate due to higher-than-projected peaks by member agencies during the applicable months. The proposed resolutions provide an estimate of each member agency's share of the RTS and Capacity Charge in 2024 and include an Engineer's Report that also supports the continuation of the Standby Charge that some agencies have elected to use to pay their RTS Charge obligations.

The continuation of the Standby Charge will be presented to the Board for consideration at its regular May meeting. The notice to member agencies of the proposed adoption of the RTS and Capacity Charges for 2024 and

continuation of the Standby Charge for the fiscal year 2023/24 (**Attachment 3**) was provided to member agencies via email on February 3, 2023.

## **Policy**

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Metropolitan Water District Act Section 61: Ordinances, Resolutions, and Orders

Metropolitan Water District Act Section 133: Fixing of Water Rates

Metropolitan Water District Act Section 134: Adequacy of Water Rates; Uniformity of Rates

Metropolitan Water District Act Section 134.5: Water Standby or Availability of Service Charge

Metropolitan Water District Administrative Code Section 4301(a): Cost of Service and Revenue Requirement

Metropolitan Water District Administrative Code Section 4304: Apportionment of Revenues and Setting of Water Rates

By Minute Item 52790, dated April 12, 2022, the Board approved the biennial budget for fiscal years 2022/23 and 2023/24.

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

## **California Environmental Quality Act (CEQA)**

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### **CEQA determination for Option #1:**

The proposed action is not defined as a project under CEQA (Public Resources Code Section 21065, State CEQA Guidelines Section 15378) because it involves continuing administrative activities, such as general policy and procedure making will not cause either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment (Section 15378(b)(2) of the State CEQA Guidelines). In addition, the proposed action is not defined as a project under CEQA because it involves the creation of government funding mechanisms or other government fiscal activities, which do not involve any commitment to any specific project which may result in a potentially significant physical impact on the environment (Section 15378(b)(4) of the State CEQA Guidelines).

### **CEQA determination for Option #2:**

None required

## **Board Options**

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### **Option #1**

Adopt resolutions fixing and adopting a Readiness-to-Serve Charge and a Capacity Charge for calendar year 2024.

**Fiscal Impact:** Revenues from fixed charges of \$205 million in calendar year 2024.

**Business Analysis:** Collection of fixed revenues of \$205 million from the RTS Charge and the Capacity Charge in calendar year 2024 would support fiscal integrity for Metropolitan, as all other revenue collected from member agencies is volumetric based. Foregoing the collection of the approximately \$205 million from the proposed charges would create a deficit in the budget.

**Option #2**

Do not adopt resolutions fixing and adopting a Readiness-to-Serve Charge and a Capacity Charge for calendar year 2024. Direct staff to set a process to revisit FY 2023/24 of the biennial budget and the water rates for CY 2024 to address the resulting deficit and report back on the proposed process to the Board at its regular May 2023 meeting.


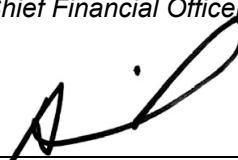
**Fiscal Impact:** Net revenue deficit will depend on any revised budget and water charges.

**Business Analysis:** This option would result in the loss of fixed revenues which were reflected in the adopted budget for FY 2023/24 and the water rates for CY 2024. Loss of the budgeted fixed revenue would require staff to revisit the current budget and water rates to ensure such rates will result in revenue that will pay the expenses of Metropolitan.

**Staff Recommendation**

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Option #1

	3/30/2023
Katano Kasaine	Date
Assistant General Manager/ Chief Financial Officer	
	4/3/2023
Adel Hagekhalil	Date
General Manager	

**Attachment 1 – Resolution Fixing and Adopting a Readiness-to-Serve Charge Effective January 1, 2024**

**Attachment 2 – Resolution Fixing and Adopting a Capacity Charge Effective January 1, 2024**

**Attachment 3 – Notice to Member Agencies of Proposed Adoption of Readiness-to-Serve Charge and Capacity Charge for 2024 and Continuation of Standby Charge**

Ref# cfo12688284



THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA

RESOLUTION \_\_\_\_

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**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, 2024**

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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 expenditures 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 8322, adopted by the Board on May 14, 1991, 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 revenue bonds, subordinate revenue bonds, short-term certificates and commercial paper; 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 2024 to be \$167,000,000, 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 11, 2023, to adopt Metropolitan's RTS Charge for calendar year 2024 was given to each of Metropolitan's member agencies; and

16. The RTS Charge for calendar year 2024 applicable to each member agency is reflected in the Engineer's Report dated April 2023 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, 2024 through December 31, 2024.

**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, 2024 through and including December 31, 2024 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, 2024 through and including December 31, 2024 shall also be as specified in Section 4.

**Section 4.** That the RTS Charge for January 1, 2024 through and including December 31, 2024 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, 2022. 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, 2024, 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 2024 RTS Charge			
Member Agency	Rolling Ten-Year Average Firm Deliveries (Acre-Feet) FY2012/13 - FY2021/22	RTS Share	12 months @ \$167 million per year (1/24-12/24)
Anaheim	21,455.1	1.51%	\$ 2,525,249
Beverly Hills	10,205.1	0.72%	1,201,132
Burbank	12,718.9	0.90%	1,497,005
Calleguas MWD	95,178.2	6.71%	11,202,402
Central Basin MWD	33,127.5	2.33%	3,899,082
Compton	179.0	0.01%	21,068
Eastern MWD	98,347.5	6.93%	11,575,426
Foothill MWD	8,584.8	0.61%	1,010,424
Fullerton	6,943.1	0.49%	817,198
Glendale	16,034.1	1.13%	1,887,201
Inland Empire Utilities Agency	54,931.6	3.87%	6,465,407
Las Virgenes MWD	20,371.3	1.44%	2,397,686
Long Beach	29,143.9	2.05%	3,430,215
Los Angeles	289,217.7	20.38%	34,040,703
Municipal Water District of Orange County	194,843.4	13.73%	22,932,920
Pasadena	19,240.7	1.36%	2,264,616
San Diego County Water Authority	195,939.0	13.81%	23,061,871
San Fernando	85.4	0.01%	10,052
San Marino	1,020.4	0.07%	120,100
Santa Ana	9,104.1	0.64%	1,071,546
Santa Monica	4,511.6	0.32%	531,012
Three Valleys MWD	64,396.5	4.54%	7,579,419
Torrance	15,339.7	1.08%	1,805,471
Upper San Gabriel Valley MWD	34,238.2	2.41%	4,029,810
West Basin MWD	114,036.4	8.04%	13,421,997
Western MWD	69,677.5	4.91%	8,200,989
<b>MWD Total</b>	<b>1,418,870.7</b>	<b>100.00%</b>	<b>\$ 167,000,000</b>

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, 2024, 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 9, 2023 (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 2023/24 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 11, 2023.

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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, 2024,  
INCLUDING LOCAL OPTION TO CONTINUE COLLECTING A STANDBY CHARGE,  
DURING FISCAL YEAR 2023/24**

**April 2023**

**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 2023/24. **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 2023 was adopted by Metropolitan's Board on April 12, 2022 and the RTS Charge for 2024 will be considered by the Board on April 11, 2023. The Board will consider the continuation of the Standby Charge for fiscal year 2023/24 on May 9, 2023.

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 2023/24 is \$160.5 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. The most recent update was adopted in 2016. In 2022, Metropolitan's Board adopted the 2020 IRP Regional Needs Assessment that incorporated scenario planning to address wide-ranging uncertainties rather than focusing on a single set of assumptions as in the past. 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 to most areas of 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. The 2020 IRP Needs Assessment, however, identified reliability risks faced by member agencies that depend predominantly on SWP supplies served by Metropolitan.

As the 2007 Integrated Area Study (IAS) emphasized, regional system flexibility is a key component of overall reliability.<sup>1</sup> Today, system flexibility continues to be essential to the availability of Metropolitan's services.<sup>2</sup> 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.)

Metropolitan's intent in the 2007 Integrated Area Study was to provide equitable reliability across its service area through a balanced combination of infrastructure, storage, demand management, and water supply programs. In the context of climate change, historical hydrology proved an inadequate guide to supplies available from the State Water Project and the Colorado River. From 2020 through 2022, imported supply losses outstripped the ability of Metropolitan's portfolio to compensate. Further, Metropolitan could not provide equitable service to all member agencies. As such, Metropolitan's board in August 2022 adopted a resolution that committed to three new policy statements:

1. All member agencies must receive equivalent water supply reliability through an interconnected and robust system of supplies, storage, and programs.
2. Metropolitan will reconfigure and expand its existing portfolio and infrastructure to provide sufficient access to the integrated system of water sources, conveyance and distribution, storage, and programs to achieve equivalent levels of reliability to all member agencies.
3. Metropolitan will eliminate disparate water supply reliability through a One Water integrated planning and implementation approach to manage finite water resources for long-term resilience and reliability, meeting both community and ecosystem needs

Operational flexibility is being increased by creating an interconnected regional delivery network integrating the SWP and the CRA conveyance systems with the Distribution System. This integrated network will fully allow 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.

Metropolitan's integrated conveyance, distribution and storage assets contributes to regional system reliability, with a structural limitation that became starkly evident in the 2020-2022 drought. 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 and newly identified system flexibility projects because they all benefit from regional system reliability.

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<sup>1</sup> 2007 Integrated Area Study, Report No. 1317, pg. 2-10.

<sup>2</sup> 2023 Annual Operating Plan, pg. 5-15

### State Water Project Description and Benefits

One of Metropolitan's two major sources of water is the SWP.<sup>3</sup> 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.

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<sup>3</sup> 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 132-19 dated December 2022 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. The original term of the water supply contract was 75 years. In 2022, a contract extension was authorized which extended the original term by another 50 years to 2085. 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—when available--can be distributed to all member agencies. As described above, the 2020-2022 drought led Metropolitan's board to recommit itself to equitable water supply reliability and to direct staff to identify and pursue solutions to prevent a reoccurrence. 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 2023/24 is \$92.6 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 \$352.9 million system costs, representing 12% 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 2023/24 is \$77.0 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 \$352.9 million system costs, representing 12% of the total system costs.

**Figure 2. Colorado River Aqueduct**



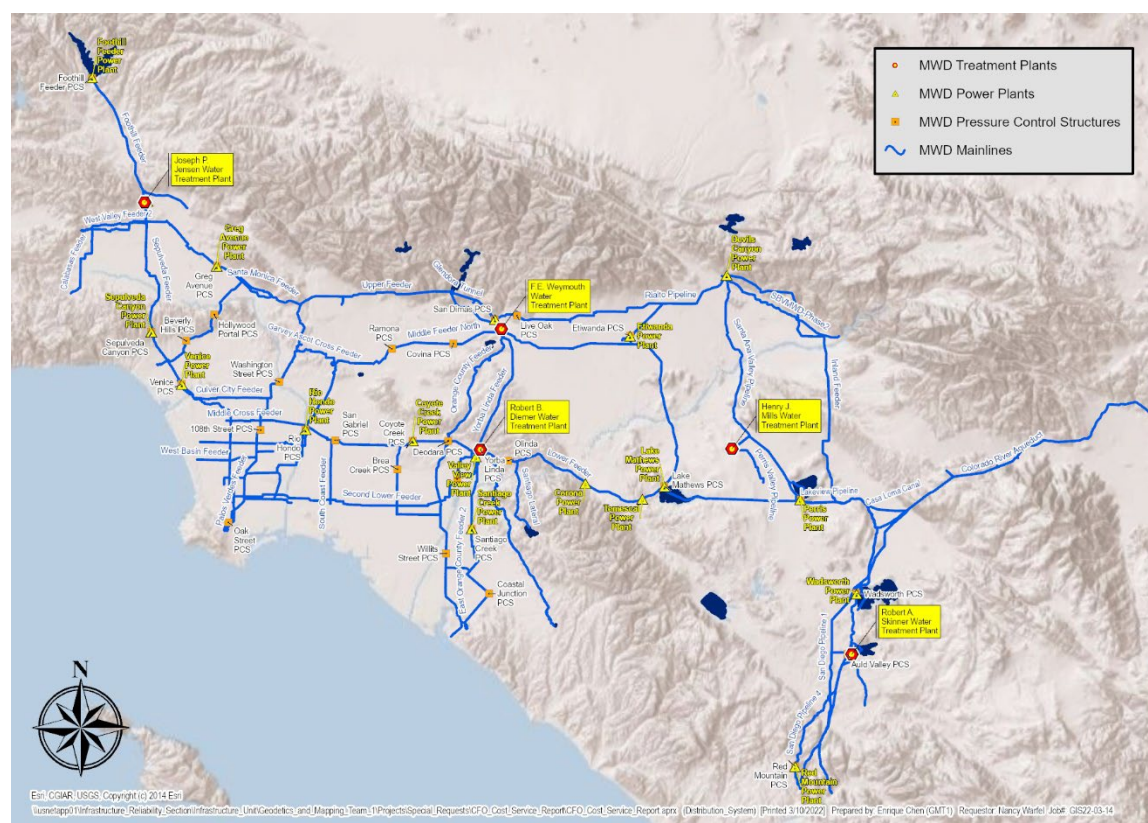
### Metropolitan's Conveyance and Distribution System Benefits

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 2023/24 estimated conveyance and distribution system benefits. The capital cost of the Distribution System in fiscal year 2023/24 is \$80.1 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 \$352.9 million system costs, representing 12% 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 2023/24 is \$103.2 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 \$352.9 million system costs, representing 12% 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 2023/24 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 12% of those costs. For fiscal year 2023/24, the amount to be recovered by the RTS Charge is estimated to be \$160.5 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 2021/22, 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 \$352.9 million for fiscal year 2023/24, as shown in Table 1. An average total Standby Charge of about \$71.36 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 2023/24. 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

\$1.65 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 2024, 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 2023/24 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 \$309 million. A preliminary listing of all parcels subject to the proposed 2023/24 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 FY2023/24	Dollars Per Parcel of 1 Acre or Less
<b>Capital Payments for Water System Infrastructure</b>		
Net Capital Payments to State Water Project (SWP) (less portion paid by property taxes)	\$ 92,638,623	\$21.40
Non Tax Supported Capital Costs for Non-SWP Conveyance System <sup>1</sup>	\$ 76,958,748	\$17.78
Non Tax Supported Capital Costs for Distribution System <sup>2</sup>	\$ 80,127,382	\$18.51
Non Tax Supported Capital Costs for Water Storage <sup>3</sup>	\$ 103,219,347	\$23.84
<b>Total Capital Payments</b>	<b>\$ 352,944,100</b>	<b>\$81.52</b>
 <b>Estimated Standby Charge Revenues</b>	 \$ 43,984,259	 \$10.16
Percent Collected by Standby Charge	12%	
 <b>Total Remaining Costs Not Paid by Standby Charge</b>	 <b>\$ 308,959,841</b>	 <b>\$71.36</b>

**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 2023/24 Payment
<b>Water Recycling Projects</b>	<b>\$7,337,544</b>
Alamitos Barrier Reclaimed Water Project	
Anaheim Water Recycling Demonstration Project	
Burbank Recycled Water System Expansion Phase II Project	
Capistrano Valley Non Domestic Water System Expansion	
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	
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	
Las Flores Recycled Water System Expansion Project	
Leo J. Vander Lans Water Treatment Facility Expansion Project	
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	
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	

TABLE 2 (Continued)	
WATER RECYCLING, GROUNDWATER RECOVERY AND CONSERVATION PROJECTS	
Project Name	FISCAL YEAR 2023/24 Payment
<b>Water Recycling Projects (continued)</b>	
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	
<b>Groundwater Recovery Projects</b>	<b>\$11,348,173</b>
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	
Fallbrook Groundwater Desalter Project	
Irvine Desalter Project	
IRWD Wells 21 & 22 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	
Santa Monica Sustainable Water Supply Project	
Temescal Basin Desalting Facility Project	
<b>On-site Retrofit Program</b>	<b>\$3,000,000</b>
<b>Future Supply Actions</b>	<b>\$2,422,500</b>



TABLE 2 (Continued)	
WATER RECYCLING, GROUNDWATER RECOVERY AND CONSERVATION PROJECTS	
Project Name	FISCAL YEAR 2023/24 Payment
<b>Conservation Projects</b>	<b>\$25,000,000</b>
Regionwide Residential	
Regionwide Commercial	
Member Agency Administered/MWD Funded	
Water Savings Incentive Program	
Landscape Training Classes	
Landscape Irrigation Surveys	
Pilot Programs/Studies	
Inspections	
Landscape Transformation Program (Turf Replacement)	
Disadvantaged Communities Program	
<b>Total Demand Management Programs</b>	<b>\$49,108,217</b>

TABLE 3 CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS	
<b>Description</b>	
<b>Storage Facilities</b>	
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 MONITORING 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	
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	

TABLE 3 CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS	
<b>Description</b>	
<b>Storage Facilities</b>	
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 RESERVOIR OPERATION & MAINTENANCE CENTER	
GARVEY RESERVOIR 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	
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	

TABLE 3 CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS	
<b>Description</b>	
<b>Storage Facilities</b>	
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 OUTLET 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 MATHEWS 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	

TABLE 3 CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS	
<b>Description</b>	
<b>Storage Facilities</b>	
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	
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 AQUEDUCT	
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	
<b>Sub-total Storage facilities costs</b>	<b>103,219,347</b>

**TABLE 3**  
**CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS**

**Description****Conveyance and Aqueduct Facilities**

2.4 KV STANDBY DIESEL ENGINE GENERATOR REPLACEMENT - GENE  
 2.4 KV STANDBY DIESEL ENGINE GENERATOR REPLACEMENT - INTAKE  
 2.4 KV STANDBY DIESEL ENGINE GENERATOR REPLACEMENT - IRON  
 ACCESS STRUCTURE, TRANSITION STRUCTURE AND MANHOLE COVER REPLACEMENT  
 ALL PUMPING PLANTS - 230 KV & 69 KV DISCONNECTS REPLACEMENT  
 ALL PUMPING PLANTS - BRIDGE CRANES  
 ALL PUMPING PLANTS - TRANSFORMER BANK BRIDGE  
 ALLEN MCCOLLOCH PIPELINE - CORROSION INTERFERENCE MITIGATION  
 ALLEN MCCOLLOCH PIPELINE - RIGHT OF WAY  
 ALLEN MCCOLLOCH PIPELINE - UPDATE / MODIFY ALL BOYLE ENGINEERING DRAWINGS  
 AMP VALVE & SERVICE CONNECTION VAULT REPAIR  
 AQUEDUCT & PUMPING PLANT ISOLATION / ACCESS FIXTURES - STUDY  
 AQUEDUCT & PUMPING PLANT ISOLATION GATES  
 ARROWHEAD EAST TUNNEL CONSTRUCTION  
 ARROWHEAD TDS REDUCTION  
 ARROWHEAD TUNNELS CLAIMS COST  
 ARROWHEAD TUNNELS CONNECTOR ROAD  
 ARROWHEAD TUNNELS CONSTRUCTION  
 ARROWHEAD TUNNELS ENGINEERING  
 ARROWHEAD TUNNELS RE-DESIGN  
 ARROWHEAD WEST TUNNEL CONSTRUCTION  
 AULD VALLEY CONTROL STRUCTURE AREA FACILITIES UPGRADE STUDY  
 AUXILIARY POWER SYSTEM REHABILITATION / UPGRADES STUDY  
 AUXILIARY POWER SYSTEM REHABILITATION/UPGRADES  
 BACHELOR MOUNTAIN COMMUNICATION SITE ACQUISITION  
 BACHELOR MOUNTAIN TELECOM SITE IMPROVEMENTS  
 BANK TRANSFORMERS REPLACEMENT STUDY  
 BLACK METAL MOUNTAIN - COMMUNICATIONS FACILITY UPGRADE  
 BLACK METAL MOUNTAIN 2.4KV ELECTRICAL POWER UPGRADE  
 BOX SPRINGS FEEDER REHAB PHASE III  
 BUDGET ADJUSTMENT  
 CABAZON RADIAL GATE FACILITY IMPROVEMENTS  
 CAJALCO CREEK MITIGATION FLOWS  
 CAST-IRON BLOW OFF REPLACEMENT - PHASE 4  
 CATHODIC PROTECTION STUDY - DESIGN AND CONSTRUCTION  
 CCRP - BLOW-OFF VALVES PHASE 4 PROJECT  
 CCRP - CONTINGENCY  
 CCRP - EMERGENCY REPAIR  
 CCRP - HEADGATE OPERATORS & CIRCUIT BREAKERS REHAB.  
 CCRP - PART 1 & 2  
 CCRP - SAND TRAP CLEANING EQUIPMENT & TRAVELING CRANE STUDY  
 CCRP - TRANSITION & MAN-WAY ACCESS COVER REPLACEMENT - STUDY & DESIGN  
 CCRP - TUNNELS STUDY  
 CEPSRP - 230 KV SYSTEM SYNCHRONIZERS  
 CEPSRP - ALL PUMPING PLANTS - CONTINGENCY & OTHER CREDITS  
 CEPSRP - ALL PUMPING PLANTS - REPLACE 6.9 KV TRANSFORMER BUSHINGS  
 CEPSRP - ALL PUMPING PLANTS - REPLACE 230KV , 69 KV & 6.9 KV LIGHTENING ARRESTERS  
 CEPSRP - ALL PUMPING PLANTS - REPLACE 230KV TRANSFORMER PROTECTION  
 CEPSRP - SWITCHYARDS & HEAD GATES REHABILITATION  
 CEPSRP-ALL PUMPING PLANTS - IRON MOUNTAIN - 230KV BREAKER SWITCH. INST.  
 COLORADO RIVER AQUEDUCT - PUMPING  
 COLORADO RIVER AQUEDUCT - SIPHONS AND RESERVOIR OUTLETS REFURBISHMENT  
 COLORADO RIVER AQUEDUCT CONVEYANCE RELIABILITY, PHASE II REPAIRS AND INSTRUMENTATION  
 CONTROL SYSTEM DRAWING UPGRADE STUDY (PHASE 1) - STUDY  
 COPPER BASIN AND GENE DAM OUTLET WORKS REHABILITATION (STUDY & DESIGN)  
 COPPER BASIN AND GENE WASH RESERVOIRS DISCHARGE VALVE REHABILITATION  
 COPPER BASIN INTERIM CHLORINATION SYSTEM  
 COPPER BASIN OUTLET GATES RELIABILITY  
 COPPER BASIN OUTLET REHABILITATION  
 COPPER BASIN OUTLET, AND COPPER BASIN & GENE WASH DAM SLUICWAYS REHABILITATION  
 COPPER BASIN POWER & PHONE LINES REPLACEMENT  
 COPPER BASIN RESERVOIR OUTLET STRUCTURE REHABILITATION PROJECT  
 COPPER BASIN RESERVOIRS DISCHARGE VALVE REHABILITATION & METER REPLACEMENT  
 COPPER SULFATE STORAGE AT LAKE SKINNER AND LAKE MATHEWS  
 CORROSION CONTROL OZONE MATERIAL TEST FACILITY  
 COST OF LAND AND RIGHT OF WAY  
 CRA - ACCESS STRUCTURE, TRANSITION STRUCTURE AND MANHOLE COVER REPLACEMENT  
 CRA - AQUEDUCT AND PUMPING PLANT ISOLATION GATES  
 CRA - AQUEDUCT RESERVOIR AND DISCHARGE LINE ISOLATION GATES  
 CRA - AUXILIARY POWER SYSTEM REHAB  
 CRA - BANK TRANSFORMERS REPLACEMENT STUDY  
 CRA - BLOW-OFF VALVES PHASE 4  
 CRA - CIRCULATING WATER SYSTEM STRAINER REPLACEMENT  
 CRA - CONTROL SYSTEM IMPLEMENTATION PHASE CLOSE OUT  
 CRA - CONVEYANCE RELIABILITY PROGRAM PART 1 & PART 2  
 CRA - COPPER BASIN OUTLET, AND COPPER BASIN & GENE WASH SLUICWAYS REHABILITATION  
 CRA - COPPER BASIN POWER & PHONE LINES REPLACEMENT  
 CRA - CUT & COVER FORMAL WASH EXPOSURE STUDY  
 CRA - DANBYTOWER FOOTER REPLACEMENT  
 CRA - DELIVERY LINE NO. 1 SUPPORTS REHAB - FIVE PUMPING PLANTS  
 CRA - DELIVERY LINES 2&3 SUPPORTS REHAB - GENE & INTAKE  
 CRA - DELIVERY LINES 2&3 SUPPORTS REHAB - IRON, EAGLE, & HINDS  
 CRA - DESERT PUMP PLANT OIL CONTAINMENT  
 CRA - DESERT SEWER SYSTEM REHABILITATION PROJECT  
 CRA - DESERT WATER TANK ACCESS & SAFETY IMPROVEMENTS  
 CRA - DISCHARGE CONTAINMENT PROGRAM - INVESTIGATION  
 CRA - DISCHARGE LINE ISOLATION GATES  
 CRA - DWCV-4 VALVE REPLACEMENT  
 CRA - EAGLE MOUNTAIN SAND TRAPS INFLOW STUDY

**TABLE 3**  
**CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS**

**Description****Conveyance and Aqueduct Facilities**

CRA - ELECTRICAL/ POWER SYST REL. PROG. - IRON MTN - 230KV BREAKER SWTC. INST.  
 CRA - GENE PUMPING PLANT MAIN TRANSFORMER AREA  
 CRA - HINDS PUMP UNIT NO. 8 REFURBISHMENT  
 CRA - INTAKE PUMPING PLANT - COOLING AND REJECT WATER DISCHARGE TO LAKE HAVASU  
 CRA - INTAKE PUMPING PLANT AUTOMATION PROGRAMMING  
 CRA - INVESTIGATION OF SIPHONS AND RESERVOIR OUTLETS  
 CRA - IRON MOUNTAIN RESERVOIR AND CANAL LINER REPAIRS  
 CRA - IRON MTN. TUNNEL REHABILITATION  
 CRA - LAKEVIEW SIPHON FIRST BARREL - REPAIR DETERIORATED JOINTS  
 CRA - MAIN PUMP MOTOR EXCITERS  
 CRA - MAIN PUMP STUDY  
 CRA - MOUNTAIN SIPHONS SEISMIC VULNERABILITY STUDY  
 CRA - PUMPING PLANT RELIABILITY PROGRAM CONTINGENCY  
 CRA - PUMPING PLANTS VULNERABILITY ASSESSMENT  
 CRA - PUMPING WELL CONVERSION  
 CRA - QUAGGA MUSSEL BARRIERS  
 CRA - REAL PROPERTY - BOUNDARY SURVEYS  
 CRA - RELIABILITY PROGRAM 230 KV & 69 KV DISCONNECTS REPLACEMENT STUDY ( 5 PLANTS)  
 CRA - RELIABILITY PROGRAM INVESTIGATION  
 CRA - RELIABILITY PROGRAM PHASE 6 (AQUEDUCT PHASE 6 REHAB.) - SPEC 1568  
 CRA - RELIABILITY PHASE II CONTINGENCY  
 CRA - SAND TRAP CLEANING EQUIPMENT AND TRAVELING CRANE  
 CRA - SERVICE CONNECTION DWCV-2T VALVES REPLACEMENT AND STRUCTURE CONSTRUCTION  
 CRA - SERVICE CONNECTION DWCV-4 A, B, C, & D PLUG VALVES REPLACEMENT  
 CRA - SIPHONS, TRANSITIONS, CANALS, AND TUNNELS REHABILITATION AND IMPROVEMENTS  
 CRA - SUCTION & DISCHARGE LINES EXPANSION JOINT REHAB  
 CRA - SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA) SYSTEM  
 CRA - SWITCHYARDS AND HEAD GATES REHAB  
 CRA - SWITCHYARDS AND HEAD GATES REHABILITATION  
 CRA - TRANSFORMER OIL & CHEMICAL UNLOADING PAD CONTAINMENT  
 CRA - TUNNELS VULNERABILITY STUDY - REPAIRS TO TUNNELS  
 CRA - WEST PORTAL UPGRADE - REHAB OF STILLING WELL, SLIDE GATE OPERATORS AND RADIAL GATES  
 CRA 2.4 KV STANDBY DIESEL ENGINE GENERATORS REPLACEMENT  
 CRA 230 KV & 69 KV DISCONNECTS SWITCH REPLACEMENT  
 CRA 230 KV SYSTEM INTER-AGENCY OPERABILITY UPGRADES  
 CRA 230 KV TRANSMISSION SYSTEM REGULATORY AND OPERATIONAL FLEXIBILITY UPGRADES  
 CRA 230KV & 69KV PROTECTION PANEL UPGRADE  
 CRA 230KV TRANSMISSION SYSTEM REGULATORY COMPLIANCE AND OPERATIONAL FLEXIBILITY UPGRADES  
 CRA 6.9 KV LEAD JACKETED CABLES  
 CRA 6.9 KV POWER CABLES REPLACEMENT  
 CRA 69KV PANEL UPGRADE  
 CRA ACCESS STRUCTURE, TRANSITION STRUCTURE AND MANHOLE COVERS REPLACEMENT  
 CRA ALL PUMPING PLANTS - FLOW METER UPGRADES  
 CRA AND IRON MOUNTAIN RESERVOIR PANEL REPLACEMENT  
 CRA AQUEDUCT BLOCKER GATE REPLACEMENT  
 CRA AQUEDUCT ISOLATION GATES REPLACEMENT  
 CRA AUXILIARY POWER SYSTEM REHABILITATION/UPGRADES FOR FOUR PUMPING PLANTS  
 CRA BLACK METAL COMMUNICATION SITE II UPGRADE  
 CRA CANAL CRACK REHAB AND EVALUATION  
 CRA CANAL CRACK REHABILITATION  
 CRA CANAL IMPROVEMENTS  
 CRA CIRCULATING WATER SYSTEM STRAINER REPLACEMENT  
 CRA CONDUIT FORMAT WASH EROSION REPAIRS  
 CRA CONDUIT STRUCTURAL PROTECTION  
 CRA CONVEYANCE RELIABILITY PROGRAM (CCRP) - BLOW-OFF REPAIR  
 CRA CONVEYANCE RELIABILITY PROGRAM PART 1 & PART 2  
 CRA COPPER BASIN AND GENE WASH DAM SLUICWAYS  
 CRA COPPER BASIN OUTLET GATES RELIABILITY STUDY  
 CRA DELIVERY LINE REHABILITATION  
 CRA DESERT AIRFIELDS IMPROVEMENT  
 CRA DESERT REGION SECURITY IMPROVEMENTS  
 CRA DISCHARGE CONTAINMENT PROGRAM - CONTINGENCY  
 CRA DISCHARGE CONTAINMENT PROGRAM - GENE & IRON DRAIN SYSTEMS  
 CRA DISCHARGE CONTAINMENT PROGRAM - INVESTIGATION  
 CRA DISCHARGE CONTAINMENT PROGRAM - OIL & CHEMICAL UNLOADING PAD CONTAINMENT  
 CRA ELECTRICAL / POWER SYSTEM RELIABILITY PROGRAM (CEPSRP)  
 CRA ENERGY EFFICIENCY IMPROVEMENTS  
 CRA GENE PUMPING PLANT HEAVY EQUIPMENT SERVICE PIT  
 CRA GENE STORAGE WAREHOUSE REPLACEMENT  
 CRA HINDS PUMPING PLANT - WASH AREA UPGRADE  
 CRA INTAKE PPLANT - POWER & COMMUNICATION LINE REPLACEMENT  
 CRA IRON GARAGE HEAVY EQUIPMENT SERVICE PIT REPLACEMENT  
 CRA IRON HOUSING REPLACEMENT  
 CRA IRON MOUNTAIN SUCTION JOINT REFURBISHMENT PILOT  
 CRA MAIN PUMP & MOTOR REFURISHMENT  
 CRA MAIN PUMP AND MOTOR REFURISHMENT  
 CRA MAIN PUMP CONTROLS & INSTRUMENTATION  
 CRA MAIN PUMP DISCHARGE VALVE REFURBISHMENT  
 CRA MAIN PUMP MOTOR EXCITERS ASSESSMENT  
 CRA MAIN PUMP MOTOR EXCITERS REHABILITATION  
 CRA MAIN PUMP REHABILITATION  
 CRA MAIN PUMP STUDY  
 CRA MAIN PUMP SUCTION AND DISCHARGE LINES, EXPANSION JOINT REPAIRS  
 CRA MAIN PUMPING PLANT DISCHARGE LINE ISOLATION BULKHEAD COUPLING CONSTRUCTION  
 CRA MAIN PUMPING PLANT UNIT COOLERS & HEAT EXCHANGERS  
 CRA MAIN PUMPING PLANTS DISCHARGE LINE ISOLATION BULKHEAD COUPLINGS  
 CRA MAIN PUMPING PLANTS LUBRICATION SYSTEM  
 CRA MAIN PUMPING PLANTS SERVICE WATER & SAND REMOVAL SYSTEM  
 CRA MAIN TRANSFORMER REFURBISHMENT  
 CRA MAIN TRANSFORMER REPLACEMENT /REHABILITATION  
 CRA MAIN TRANSFORMER REPLACEMENT/REHAB.  
 CRA MILE 12 POWER LINE & FLOW MONITORING EQUIP. STUDY  
 CRA OVER-CURRENT RELAY REPLACEMENT



<p style="text-align: center;"><b>TABLE 3</b> <b>CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS</b></p>
<p><b>Description</b> <b><u>Conveyance and Aqueduct Facilities</u></b></p> <p>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 &amp; 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 &amp; 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 &amp; 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 &amp; EAGLE MTN.  CRA PUMPING PLANTS - AUXILIARY POWER SYSTEM REHABILITATE/UPGRADES  CRA PUMPING PLANTS 230KV &amp; 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 &amp; 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 &amp; 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 &amp; VILLAGE ASPHALT REPLACEMENT - GENE &amp; IRON MOUNTAIN  CRA WATER DISTRIBUTION SYSTEM REPLACEMENT AND CRA ROADWAY ASPHALT REPLACEMENT - ALL PP  CRA 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 &amp; 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  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 ACQUISITION SYSTEM REPLACEMENT  GENE &amp; INTAKE P.P. - FREQUENCY PROTECTION RELAY REPLACEMENT  GENE &amp; INTAKE PUMPING PLANT SURGE CHAMBER OUTLET GATES RE-COATING  GENE &amp; 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</p>

TABLE 3 CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS	
<b>Description</b>	
<b>Conveyance and Aqueduct Facilities</b>	
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	
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 I 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)	

TABLE 3 CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS	
<b>Description</b>	
<b>Conveyance and Aqueduct Facilities</b>	
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 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 BRIDGE 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 & EOC# 2 METER ACCESS ROAD UPGRADE & BETTERMENT SERVICE CONNECTION DWCV-2T VALVES REPLACEMENT AND STRUCTURE 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	
<b>Sub-total Conveyance and Aqueduct facilities costs</b>	<b>\$ 76,958,748</b>

<p style="text-align: center;"><b>TABLE 3</b> <b>CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS</b></p>
<p><b>Description</b> <b><u>Distribution Facilities</u></b> 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&amp;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 &amp; 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 &amp; SAN DIEGO CANAL FLOW METER REPLACEMENT CATHODIC PROTECTION FOR THE FOOTHILL FEEDER CATHODIC PROTECTION SYSTEM UPGRADES CCP-PHASE 2 CONSTRUCTION CDSRP - DISCHARGE ELIMINATION CDSRP - ENTRAINED AIR IN UPPER FEEDER PIPELINE STUDY CDSRP - SEPULVEDA FEEDER REPAIRS CDSRP - SEPULVEDA TANKS RECOATING CENTRAL POOL AUGMENTATION - TUNNEL AND PIPELINE &amp; 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 &amp; LITIGATION TASKS -CONTRACT # 1396</p>

**TABLE 3**  
**CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS**

**Description****Distribution Facilities**

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  
 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 SLIDE GATE REHABILITATION  
 EAST INFLUENT CHANNEL REPAIR PROJECT

**TABLE 3**  
**CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS**

**Description****Distribution Facilities**

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  
 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 CONNECTION 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

TABLE 3 CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS	
<b>Description</b>	
<b><u>Distribution Facilities</u></b>	
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	
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	



**TABLE 3**  
**CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS**

**Description****Distribution Facilities**

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  
 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  
 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

<p style="text-align: center;"><b>TABLE 3</b> <b>CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS</b></p>
<p><b>Description</b></p> <p><b><u>Distribution Facilities</u></b></p> <p>           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 &amp; WEST BYPASS SCREENING STRUCTURES STUDY            SAN DIEGO CANAL - ELECTRICAL VAULT &amp; 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 &amp; 5 REMOTE CONTROL OF BYPASS            SAN DIEGO PIPELINE 4 AND AULD VALLEY PIPELINE CARBON FIBER REPAIRS            SAN DIEGO PIPELINE 5 &amp; 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. 5 - OCT. 2007 FIRE DAMAGE - REPLACE ABOVE GROUND CORROSION CONTROL SYSTEM EQUIPMENT, AND STRUCTURAL APPURTENANCES            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 &amp; 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 &amp; 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            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 &amp; 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         </p>

**TABLE 3**  
**CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS**

**Description****Distribution Facilities**

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 EXPLORATORY 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  
 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

TABLE 3 CONVEYANCE, DISTRIBUTION, AND STORAGE SYSTEM COSTS	
<b>Description</b>	
<b><u>Distribution Facilities</u></b>	
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	
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	
<b>Sub-total Distribution facilities costs</b>	<b>\$ 80,127,382</b>

TABLE 4							
FISCAL YEAR 2023/24							
ESTIMATED READINESS-TO-SERVE CHARGE REVENUE							
Member Agency	Rolling Ten-Year Average Firm Deliveries (Acre-Feet) FY2011/12 - FY2020/21	RTS Share	6 months @ \$154 million per year (7/23-12/23)	Rolling Ten-Year Average Firm Deliveries (Acre-Feet) FY2012/13 - FY2021/22	RTS Share	6 months @ \$167 million per year (1/24-6/24)	Total RTS Charge FY 2023/24
Anaheim	19,376.9	1.37%	1,051,617	21,455.1	1.51%	1,262,624	2,314,242
Beverly Hills	10,308.7	0.73%	559,471	10,205.1	0.72%	600,566	1,160,037
Burbank	13,354.6	0.94%	724,777	12,718.9	0.90%	748,502	1,473,279
Calleguas MWD	96,573.4	6.81%	5,241,203	95,178.2	6.71%	5,601,201	10,842,404
Central Basin MWD	34,311.0	2.42%	1,862,116	33,127.5	2.33%	1,949,541	3,811,657
Compton	340.2	0.02%	18,463	179.0	0.01%	10,534	28,997
Eastern MWD	97,570.2	6.88%	5,295,301	98,347.5	6.93%	5,787,713	11,083,014
Foothill MWD	8,306.1	0.59%	450,786	8,584.8	0.61%	505,212	955,998
Fullerton	7,280.1	0.51%	395,103	6,943.1	0.49%	408,599	803,702
Glendale	16,256.7	1.15%	882,279	16,034.1	1.13%	943,601	1,825,880
Inland Empire Utilities Agency	55,761.7	3.93%	3,026,283	54,931.6	3.87%	3,232,704	6,258,986
Las Virgenes MWD	20,715.7	1.46%	1,124,276	20,371.3	1.44%	1,198,843	2,323,120
Long Beach	29,251.8	2.06%	1,587,545	29,143.9	2.05%	1,715,107	3,302,652
Los Angeles	273,537.0	19.28%	14,845,319	289,217.7	20.38%	17,020,351	31,865,671
Municipal Water District of Orange County	195,128.0	13.75%	10,589,929	194,843.4	13.73%	11,466,460	22,056,389
Pasadena	18,954.2	1.34%	1,028,677	19,240.7	1.36%	1,132,308	2,160,985
San Diego County Water Authority	214,362.4	15.11%	11,633,813	195,939.0	13.81%	11,530,935	23,164,748
San Fernando	29.7	0.00%	1,612	85.4	0.01%	5,026	6,638
San Marino	0.0	0.07%	52,861	1,020.4	0.07%	60,050	112,911
Santa Ana	9,606.6	0.68%	521,367	9,104.1	0.64%	535,773	1,057,139
Santa Monica	4,607.4	0.32%	250,051	4,511.6	0.32%	265,506	515,557
Three Valleys MWD	63,736.2	4.49%	3,459,072	64,396.5	4.54%	3,789,709	7,248,782
Torrance	15,549.0	1.10%	843,871	15,339.7	1.08%	902,735	1,746,606
Upper San Gabriel Valley MWD	30,096.0	2.12%	1,633,361	34,238.2	2.41%	2,014,905	3,648,266
West Basin MWD	113,660.3	8.01%	6,168,538	114,036.4	8.04%	6,710,999	12,879,537
Western MWD	69,139.3	4.87%	3,752,308	69,677.5	4.91%	4,100,494	7,852,802
<b>MWD Total</b>	<b>1,418,787.2</b>	<b>100.00%</b>	<b>\$ 77,000,000</b>	<b>1,418,870.7</b>	<b>100.00%</b>	<b>\$ 83,500,000</b>	<b>\$ 160,500,000</b>
Totals may not foot due to rounding							

**TABLE 5**  
**FISCAL YEAR 2023/24**  
**ESTIMATED STANDBY CHARGE REVENUE**

<b>Member Agencies</b>	<b>Total Parcel Charge</b>	<b>Number of Parcels Or Acres</b>	<b>Gross Revenues (Dollars) <sup>1</sup></b>
Anaheim	\$ 8.55	69,455	593,838
Beverly Hills	-	-	-
Burbank	14.20	29,093	413,127
Calleguas MWD	9.58	260,082	2,491,586
Central Basin MWD	10.44	340,790	3,557,852
Compton	1.65	18,066	29,810
Eastern MWD	6.94	405,681	2,815,429
Foothill MWD	10.28	30,303	311,520
Fullerton	10.71	35,308	378,148
Glendale	12.23	45,076	551,279
Inland Empire Utilities Agency	7.59	264,760	2,009,525
Las Virgenes MWD	8.03	53,346	428,368
Long Beach	12.16	92,461	1,124,328
Los Angeles	-	-	-
Municipal Water District of Orange County <sup>2</sup>	10.09	662,325	7,530,243
Pasadena	11.73	39,578	464,255
San Diego County Water Authority	11.51	1,113,969	12,821,778
San Fernando	-	5,102	-
San Marino	8.24	4,971	40,963
Santa Ana	7.88	65,116	513,115
Santa Monica	-	-	-
Three Valleys MWD	12.21	151,421	1,848,850
Torrance	12.23	40,617	496,741
Upper San Gabriel Valley MWD	9.27	214,808	1,991,268
West Basin MWD	-	-	-
Western MWD	9.23	387,025	3,572,237
<b>MWD Total</b>		<b>4,329,354</b>	<b>\$ 43,984,259</b>

(1) Estimates per FY 2022/23 applied amounts

(2) Adjusted for inclusion of Coastal MWD

Note: Totals may not foot due to rounding.

<b>TABLE 6</b> <b>PARCELS SUBJECT TO ANNEXATION STANDBY CHARGES</b> <b>AS OF JULY 1, 2022</b>				
<b>Annexation</b>	<b>Parcel Number</b>	<b>Acres</b>		<b>Proposed Standby Charge (FY 2023/24)</b>
<b>San Diego County Water Authority</b>				
<b>SVBF Temple Reorganization</b>	241-080-47	22.13		\$ 254.72
<b>Rancho Corrido Annexation</b>	130-040-16	32.03		\$ 368.62
<b>REORGANIZATIONS BETWEEN MEMBER AGENCIES</b>				
<b>Annexation</b>	<b>Parcel Number</b>	<b>Acres</b>	<b>Original Standby Charge</b>	<b>Proposed Standby Charge (FY 2023/24)</b>
<b>Reorg No. 21-04</b> From City of Orange & MWDOC To City of Anaheim	232-011-37	0.35	MWDOC & City of Orange \$ -	City of Anaheim \$ 8.55



THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA

RESOLUTION \_\_\_\_

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**RESOLUTION OF THE BOARD OF DIRECTORS  
OF THE METROPOLITAN WATER DISTRICT OF  
SOUTHERN CALIFORNIA  
FIXING AND ADOPTING  
A CAPACITY CHARGE  
EFFECTIVE JANUARY 1, 2024**

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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”); and
5. Pursuant to Resolution 8322, adopted by the Board on May 14, 1991; 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 revenue bonds, subordinate revenue bonds and short-term certificates, and commercial paper; 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 rates and charges presented by the General Manager and approved the biennial budget for fiscal years 2022/23 and 2023/24 and adopted recommended water rates for

calendar years 2023 and 2024 and charges for calendar year 2023, 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 2024 to be based on a Capacity Charge in such year of \$11,200 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, 2024.

**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, 2024 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, 2004, 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 2024 Capacity Charge**

Calendar Year 2024 Capacity Charge					
	Peak Day Demand (cfs) (May 1 through September 30)				Rate (\$/cfs): \$11,200
	Calendar Year				
Member Agency	2020	2021	2022	3-Year Peak	Calendar Year 2024 Capacity Charge
Anaheim	84.1	77.2	74.5	84.1	\$941,920
Beverly Hills	23.2	24.8	23.7	24.8	\$277,760
Burbank	16.6	15.5	8.4	16.6	\$185,920
Calleguas	178.2	189.6	138.8	189.6	\$2,123,520
Central Basin	51.9	54.1	47.1	54.1	\$605,920
Compton	0.0	0.0	0.0	0.0	\$0
Eastern	211.5	179.6	195.6	211.5	\$2,368,800
Foothill	19.3	22.8	16.1	22.8	\$255,360
Fullerton	14.1	20.0	15.1	20.0	\$224,000
Glendale	37.9	32.5	31.8	37.9	\$424,480
Inland Empire	98.4	101.4	95.2	101.4	\$1,135,680
Las Virgenes	41.7	42.9	34.8	42.9	\$480,480
Long Beach	67.3	45.7	44.1	67.3	\$753,760
Los Angeles	339.0	582.5	640.7	640.7	\$7,175,840
MWDOC	272.0	336.3	282.0	336.3	\$3,766,560
Pasadena	46.4	48.2	38.3	48.2	\$539,840
San Diego CWA	723.4	672.5	841.9	841.9	\$9,429,280
San Fernando	0.0	0.0	5.3	5.3	\$59,360
San Marino	7.3	5.4	4.9	7.3	\$81,760
Santa Ana	21.7	18.3	18.0	21.7	\$243,040
Santa Monica	17.0	15.1	18.0	18.0	\$201,600
Three Valleys	134.3	138.3	86.6	138.3	\$1,548,960
Torrance	28.9	27.2	29.0	29.0	\$324,800
Upper San Gabriel	21.1	32.4	25.3	32.4	\$362,880
West Basin	196.0	218.2	173.7	218.2	\$2,443,840
Western MWD	175.1	179.8	169.5	179.8	\$2,013,760
Total	2,826.4	3,080.3	3,058.4	3,390.1	\$37,969,120
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, 2024, which forms the basis of the Capacity 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 7.** That the Capacity Charge specified in Section 5, 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 service for which the rates and charges are made, or conferring the benefit provided, and is fairly apportioned to each member agency in proportion to the peak day capacity utilized by each member agency.

**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 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 and taking 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 11, 2023.

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Secretary of the Board of Directors  
of The Metropolitan Water District  
of Southern California

**NOTICE TO MEMBER AGENCIES OF PROPOSED ADOPTION OF READINESS-TO-SERVE CHARGE AND CAPACITY CHARGE FOR CALENDAR YEAR 2024 AND CONTINUATION OF STANDBY CHARGE FOR FISCAL YEAR 2023/24**

The Board of the Metropolitan Water District of Southern California (Metropolitan) adopted a biennial budget for fiscal years 2022/23 and 2023/24 on April 12, 2022. On the same date, the Board also adopted rates for calendar years 2023 and 2024 and charges for calendar year 2023 to meet revenue requirements for fiscal years 2022/23 and 2023/24. The Board's determinations were based on the assumption of Readiness-To-Serve charge collections for calendar year 2024 of \$167 million and a Capacity Charge set at \$11,200 per cubic-foot-second. Accordingly, notice is hereby given to each member public agency of Metropolitan that at its regular meeting to be held April 11, 2023 (or such other date as the Board shall hold its regular meeting in such month), Metropolitan's Board of Directors will consider the adoption of the Readiness-To-Serve Charge and Capacity Charge for calendar year 2024.

The Board's determinations on April 12, 2022 were also based on the continuation of Metropolitan's water standby charge for fiscal year 2023/24. Accordingly, at its regular meeting to be held May 9, 2023, (or such other date as the Board shall hold its regular meeting in such month), the Board will consider the General Manager's recommendation to continue Metropolitan's water standby charge for fiscal year 2023/24 under authority of Section 134.5 of the Act on land within Metropolitan at rates not to exceed, per acre of land, or per parcel of land less than an acre, as presently in effect. Any such water standby charge will be continued for the purpose of applying the collected revenues to the corresponding agencies' Readiness-To-Serve charge obligation.

Board letters with information about the proposed charges will be provided to the Board prior to the board meetings.

Dated: February 3, 2023



Katano Kasaine  
Assistant General Manager/  
Chief Financial Officer

**PROOF OF SERVICE**

STATE OF CALIFORNIA        )  
   ) ss.  
 COUNTY OF LOS ANGELES    )

I am employed in the County of Los Angeles, State of California. I am over the age of 18 years and am employed by The Metropolitan Water District of Southern California; my business address is 700 North Alameda Street, Los Angeles, California 90012.

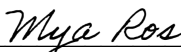
On February 3, 2023, I served the foregoing document described as:

**NOTICE TO MEMBER AGENCIES OF PROPOSED ADOPTION OF READINESS-TO-SERVE CHARGE AND CAPACITY CHARGE FOR CALENDAR YEAR 2024 AND CONTINUATION OF STANDBY CHARGE FOR FISCAL YEAR 2023/24**

on the Metropolitan member public agencies via electronic mail (email) to the following email addresses:

[alexr@centralbasin.org](mailto:alexr@centralbasin.org); [tgoff@calleguas.com](mailto:tgoff@calleguas.com); [chris.garner@lbwater.org](mailto:chris.garner@lbwater.org); [Martin.adams@ladwp.com](mailto:Martin.adams@ladwp.com); [cbilezerian@torranceca.gov](mailto:cbilezerian@torranceca.gov); [cparker@anaheim.net](mailto:cparker@anaheim.net); [cmiller@wmwd.com](mailto:cmiller@wmwd.com); [dpedersen@lvnwd.com](mailto:dpedersen@lvnwd.com); [drothlindell@burbankca.gov](mailto:drothlindell@burbankca.gov); [garry.hofer@amwater.com](mailto:garry.hofer@amwater.com); [GregoryR@westbasin.org](mailto:GregoryR@westbasin.org); [hdelatorre@mwdoc.com](mailto:hdelatorre@mwdoc.com); [mouawadj@emwd.org](mailto:mouawadj@emwd.org); [mmarlowe@cityofsanmarino.org](mailto:mmarlowe@cityofsanmarino.org); [MBaumgardner@sfcity.org](mailto:MBaumgardner@sfcity.org); [mlitchfield@tmwd.com](mailto:mlitchfield@tmwd.com); [mmcwade@cityoffullerton.com](mailto:mmcwade@cityoffullerton.com); [MDeGhetto@GlendaleCA.GOV](mailto:MDeGhetto@GlendaleCA.GOV); [nsaba@santa-ana.org](mailto:nsaba@santa-ana.org); [nina.jaz@fmwd.com](mailto:nina.jaz@fmwd.com); [ddenham@sdwca.org](mailto:ddenham@sdwca.org); [skerl@sdwca.org](mailto:skerl@sdwca.org); [sepstein@beverlyhills.org](mailto:sepstein@beverlyhills.org); [sdeshmukh@ieua.org](mailto:sdeshmukh@ieua.org); [sjackson@cityofpasadena.net](mailto:sjackson@cityofpasadena.net); [sunny.wang@smgov.net](mailto:sunny.wang@smgov.net); [tom@usgvmwd.org](mailto:tom@usgvmwd.org); [vmeza@comptoncity.org](mailto:vmeza@comptoncity.org)

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct. Executed on February 3, 2023, at Los Angeles, California.

  
 \_\_\_\_\_  
 Mya Ros



Finance, Audit, Insurance, and Real Property Committee

# Approve Resolutions Fixing and Adopting the Readiness-to-Serve (RTS) Charge and Capacity Charge for 2024

Item 7-9  
April 11, 2023



# Background

- April 11, 2022:
  - Board adopted charges for Calendar Year (CY) 2023
    - Readiness-to-Serve (RTS) charge set at \$154M
    - Capacity charge set at \$10,600 per cubic foot per second (CFS)
  - Board approved biennial budget for Fiscal Years (FYs) 2022/23 and 2023/24, with revenue assumptions from charges for CY 2024, as follows:
    - RTS charge set at \$167M
    - Capacity charge set at \$11,200 per CFS
- FYs 2022/23 & 2023/24 Cost of Service Report Published May 2022 to support 2023 & 2024 RTS & Capacity Charge.

# Fixed Charges Determinations

RTS charge recovers capital costs of the portion of Metropolitan's system available for emergency service and available capacity during outages and hydrologic variability

- RTS charge for CY 2024 allocated to member agencies based on their ten-year rolling average firm demands for Fiscal Year (FY) 2012/13 to FY 2021/22

Capacity charge recovers capital costs of the portion of Metropolitan's system for peaking capacity

- Capacity charge for CY 2024 charged on the member agencies' peak day demand between May and September for 2020 to 2022

# Requested Action

- Approve the Resolutions fixing and adopting the RTS charge and Capacity charge for CY 2024 at levels previously determined by the Board

# Board Options

- Option # 1
  - Adopt CEQA determination
  - Adopt resolutions fixing and adopting a Readiness-to-Serve Charge and a Capacity Charge for calendar year 2024
- Option # 2
  - Direct staff to set a process to revisit FY 2023/24 of the biennial budget and water rates for CY 2024

# Staff Recommendation

- Option # 1
  - Adopt CEQA determination
  - Approve resolutions fixing and adopting the RTS charge and Capacity charge, effective January 1, 2024







● **Board of Directors**

***Finance, Audit, Insurance, and Real Property Committee***

4/11/2023 Board Meeting

7-10

**Subject**

Review and consider the Lead Agency's adopted Mitigated Negative Declaration and Addendum and take related CEQA actions, and adopt resolution for 112th Fringe Area Annexation to Eastern Municipal Water District and Metropolitan

**Executive Summary**

This action grants final approval for the 112th Fringe Area Annexation requested by Eastern Municipal Water District (EMWD) and authorizes collecting Metropolitan's water standby charge and ad valorem tax. This request is compliant with current annexation policy and requirements. This annexation request consists of approximately 31.67 acres with 2.49 acres of public roads, leaving a net area of 29.18 acres as the basis for the annexation charge (**Attachment 1**). The new water demand from Metropolitan is estimated as 167.7 acre-feet per year (AFY). EMWD meets the demand management measures in the agency's Water Use Efficiency Statement of Compliance (**Attachment 2**). The charge for this annexation, if completed in 2023, is \$205,612.50, which includes a \$5,000 processing fee.

**Details**

**Background**

On February 16, 2022, EMWD's board of directors adopted Resolution No. 2022-014, requesting formal terms and conditions for annexation and collection of water standby charges for the proposed 112th Fringe Area annexation. The proposed annexation will extend the service area of Metropolitan and EMWD to the 31.67-acre property. The annexation area is located on the southeast corner of Clinton Keith Road and Whitewood Road in Riverside County, within the city of Murrieta. The annexing area includes 31.67 acres with 2.49 acres of public roads, leaving a net area of 29.18 acres and the property identified as APN: 900-030-036. There are development plans for 330 apartments and 153 condominiums changing the zoning to multi-family residential. Construction is planned to begin mid-2023 and open mid-2024 as a multi-family residential community.

The proposed area after annexation will be served by EMWD as the local water purveyor and will be eligible for imported water through EMWD and Metropolitan after completion. The charge for this annexation is \$205,612.50, which includes the \$5,000 processing fee collected at the time of the initial annexation request; the balance is payable prior to completion. The annexation charge is calculated based on the 2023 per-acre fee of \$6,875. If the annexation is not completed in the calendar year 2023, the fee would be based on the then-current annexation rate pursuant to Section 3300 of Metropolitan's Administrative Code. Pursuant to Section 3107 of Metropolitan's Administrative Code, EMWD submitted an acceptable Water Use Efficiency Statement of Compliance for this annexation project (**Attachment 2**). The projected water demand from Metropolitan is estimated to be 167.7 AFY. Completion of this annexation would be subject to such terms and conditions as may be fixed by Metropolitan's Board in granting final consent to such annexation, including the Local Agency Formation Commission conditioning approval of the proposed annexation upon a requirement that all previously established and collected taxes, benefit assessments, or property-related fees or charges be established and collected on parcels being annexed to Metropolitan. This action adopts a resolution consenting to EMWD's request for annexation with the standby charge as set forth in (**Attachment 3**). Upon completion of the



annexation, the lands within the 112th Fringe Area annexation will be subject to Metropolitan's ad valorem property tax in the current amount of 0.0035 percent of the assessed valuation of each parcel and Metropolitan's water standby charge collected on behalf of EMWD in the current amount of \$6.94 per acre, or per a parcel of less than one acre.

Approval of Metropolitan's standby charge established elsewhere within EMWD's territory is a condition to complete this annexation.

## Policy

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Metropolitan Water District Administrative Act Section 350: Annexation of Corporate Area of Agency

Metropolitan Administrative Code Section 3100: Request for Annexation

## California Environmental Quality Act (CEQA)

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### CEQA determination for Option #1:

Pursuant to the provisions of CEQA and the State CEQA Guidelines, the city of Murrieta, acting as the Lead Agency and subagency to EMWD, adopted the Whitewood Condominium/Apartment Project (also known as 112th Fringe Area Annexation) Mitigated Negative Declaration (MND) on October 3, 2022, for the annexation process, which was not concluded at that time. Subsequently, the city of Murrieta prepared and adopted an Addendum to the MND on December 13, 2022, for the annexation process. Metropolitan, as Responsible Agency under CEQA, is required to certify that it has reviewed and considered the information in the MND and Addendum, and adopt the Lead Agency's findings prior to approval of the formal terms and conditions for the annexation. The environmental documentation is in **Attachment 4**.

### CEQA determination for Option #2:

None required

## Board Options

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### Option #1

Review and consider the Lead Agency's adopted Mitigated Negative Declaration and Addendum and take related CEQA actions, and adopt resolution for the 112th Fringe Area Annexation concurrently to EMWD and Metropolitan.

**Fiscal Impact:** Receipt of annexation fee of \$205,612.50 for the annexation area and water sales revenue from the newly-annexed territory

**Business Analysis:** This annexation will provide the ability for water service and associated benefits to the property owners. The initial fixed and variable costs will be borne by the local water supplier and property owners, including processing, infrastructure, and the cost of raw and treated water. This annexation helps to meet Metropolitan's member agency request.

### Option #2

Decline the request for the proposed 112th Fringe Area Annexation.


**Fiscal Impact:** Unrealized annexation fee and water sales revenue from non-annexed areas


**Business Analysis:** The subject area will not receive the direct benefits of water supplied through EMWD and Metropolitan.

**Staff Recommendation**

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Option #1

 3/20/2022  
Shane Chapman  
Asst. General Manager/Operations  
Date

 3/21/2022  
Adel Hagekhalil  
General Manager  
Date

**Attachment 1 – Map and Legal Description****Attachment 2 – Water Use Efficiency Statement of Compliance****Attachment 3 – Annexation Resolution****Attachment 4 – 112th Fringe Area Environmental Documentation**

Ref# FAIRP12694560

**EXHIBIT "A"**  
**EASTERN MUNICIPAL WATER DISTRICT – 112<sup>TH</sup> FRINGE AREA ANNEXATION**  
**LEGAL DESCRIPTION**

THAT CERTAIN PARCEL OF LAND SITUATED IN THE CITY OF MURRIETA, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, BEING A PORTION OF THE NORTH HALF OF THE NORTHEAST QUARTER OF SECTION 2, TOWNSHIP 7 SOUTH, RANGE 3 WEST, SAN BERNARDINO MERIDIAN, DESCRIBED AS FOLLOWS:

**BEGINNING** AT THE NORTH QUARTER CORNER OF SAID SECTION 2, SAID CORNER BEING THE CENTERLINE INTERSECTION OF CLINTON KEITH ROAD AND WHITEWOOD ROAD (FORMERLY MEADOWLARK LANE), AS SHOWN ON PARCEL MAP NUMBER 15203, ON FILE IN BOOK 80, PAGES 99 AND 100, OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY:

- 1.) THENCE ALONG THE NORTHERLY LINE OF SAID NORTHEAST QUARTER AND THE CENTERLINE OF SAID CLINTON KEITH ROAD NORTH 89°40'31" EAST 1387.69 FEET;
- 2.) THENCE LEAVING SAID NORTHERLY LINE AND SAID CENTERLINE SOUTH 00°19'29" EAST TO A POINT OF INTERSECTION WITH THE SOUTHERLY LINE OF THAT CERTAIN PARCEL OF LAND CONVEYED TO THE COUNTY OF RIVERSIDE PER GRANT DEED RECORDED SEPTEMBER 3, 2008 AS INSTRUMENT NO. 2008-0483381, OFFICIAL RECORDS OF SAID COUNTY, SAID SOUTHERLY LINE BEING PARALLEL WITH AND DISTANT 72.00 FEET SOUTHERLY FROM SAID NORTHERLY LINE AND SAID CENTERLINE, SAID POINT ALSO BEING THE NORTHEASTERLY TERMINUS OF THAT CERTAIN COURSE ON THE WESTERLY LINE OF THAT CERTAIN PARCEL OF LAND CONVEYED TO WESTERN RIVERSIDE COUNTY REGIONAL CONSERVATION AUTHORITY, A PUBLIC AGENCY, AND JOINT POWERS AUTHORITY, BY GRANT DEED RECORDED JUNE 16, 2016, AS INSTRUMENT NO. 2016-0246897, OFFICIAL RECORDS OF SAID COUNTY, SAID COURSE HAVING A BEARING AND DISTANCE OF "SOUTH 44°40'31" WEST 49.50 FEET";

THENCE LEAVING SAID SOUTHERLY LINE AND ALONG THE WESTERLY LINE OF SAID WESTERN RIVERSIDE COUNTY REGIONAL CONSERVATION AUTHORITY PARCEL THE FOLLOWING SEVEN (7) COURSES:


- 3.) SOUTH 44°40'31" WEST 49.50 FEET;
- 4.) THENCE SOUTH 0°19'29" EAST 320.00 FEET;
- 5.) THENCE SOUTH 9°20'53" EAST 278.90 FEET;
- 6.) THENCE SOUTH 8°00'30" WEST 273.62 FEET;
- 7.) THENCE NORTH 89°55'16" WEST 710.68 FEET;
- 8.) THENCE SOUTH 72°33'13" WEST 260.04 FEET;
- 9.) THENCE SOUTH 80°32'57" WEST 402.52 FEET, TO THE NORTHWEST CORNER OF SAID WESTERN RIVERSIDE COUNTY REGIONAL CONSERVATION AUTHORITY PARCEL, SAID CORNER BEING A POINT ON THE WESTERLY LINE OF THE NORTHEAST QUARTER OF SAID SECTION 2;
- 10.) THENCE ALONG SAID WESTERLY LINE NORTH 00°20'00" WEST 1108.58 FEET TO THE **POINT OF BEGINNING**.

**EXHIBIT "A"**  
**EASTERN MUNICIPAL WATER DISTRICT – 112<sup>TH</sup> FRINGE AREA ANNEXATION**  
**LEGAL DESCRIPTION**

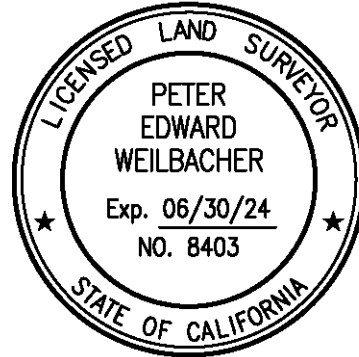
THE ABOVE-DESCRIBED PARCEL CONTAINS 31.67 ACRES GROSS AND 29.18 ACRES NET, MORE OR LESS.

ALL AS SHOWN ON EXHIBIT "B" ATTACHED HERewith AND MADE A PART HEREOF.

THIS DESCRIPTION HAS BEEN PREPARED BY ME,  
OR UNDER MY DIRECTION ON JANUARY 09, 2023.

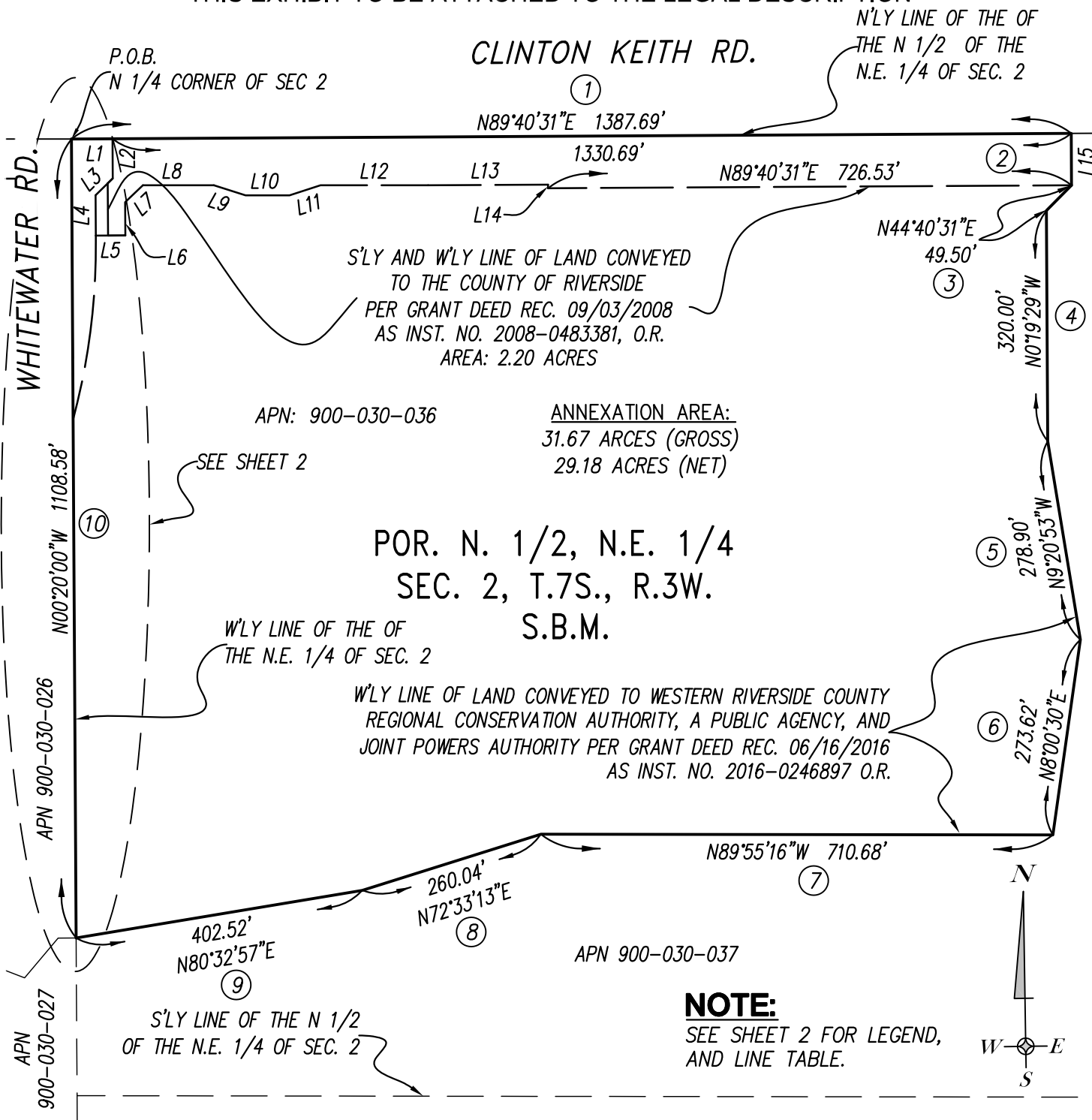


PETER E. WEILBACHER  
EXPIRES 06/30/2024



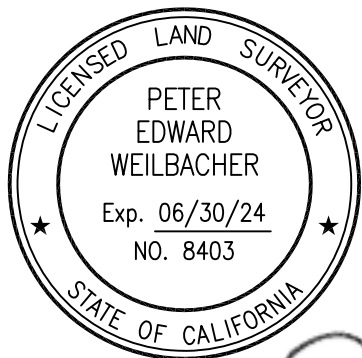
The Metropolitan Water District  
of Southern California  
Geodetics & Mapping Team  
ANNEXATION - CONDITIONAL REV  
Reviewer: B.G. Date: 01/09/2023

EXHIBIT "B"  
EASTERN MUNICIPAL WATER DISTRICT - 112TH FRINGE AREA ANNEXATION  
THIS EXHIBIT TO BE ATTACHED TO THE LEGAL DESCRIPTION



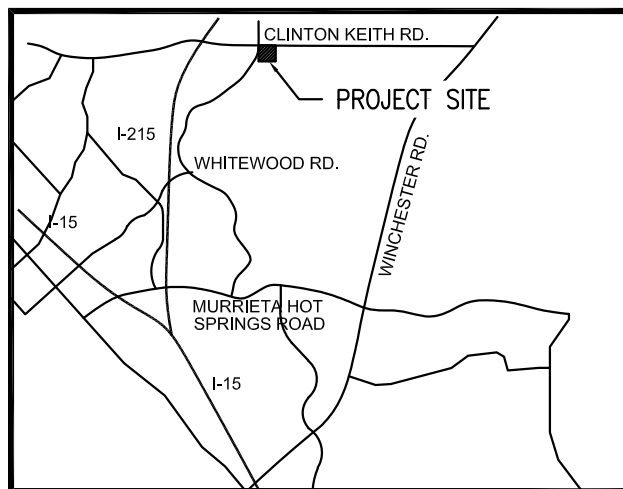
**NOTE:**  
SEE SHEET 2 FOR LEGEND,  
AND LINE TABLE.

The Metropolitan Water District  
of Southern California  
Geodetics & Mapping Team  
ANNEXATION - CONDITIONAL REV  
Reviewer: B.G. Date: 01/09/2023



*[Signature]*  
PETER WEILBACHER, PLS 8403  
EXPIRES 06-30-24

**Jan 09 2023**  
DATED:

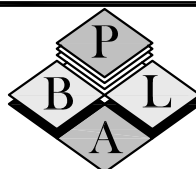


VICINITY MAP  
N.T.S.

SHEET 1 of 2

LEGAL DESCRIPTION

THAT CERTAIN PARCEL OF LAND SITUATED IN THE CITY OF MURRIETA, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, BEING A PORTION OF THE NORTH HALF OF THE NORTHEAST ONE-QUARTER OF SECTION 2, TOWNSHIP 7 SOUTH, RANGE 3 WEST, SAN BERNARDINO MERIDIAN,



**PBLA SURVEYING, INC.**  
Planning • Engineering • Surveying  
981 CORPORATE CENTER DR., STE 168  
POMONA, CALIF. 91768  
(888) 714-9642 • (714)389-9191 FAX

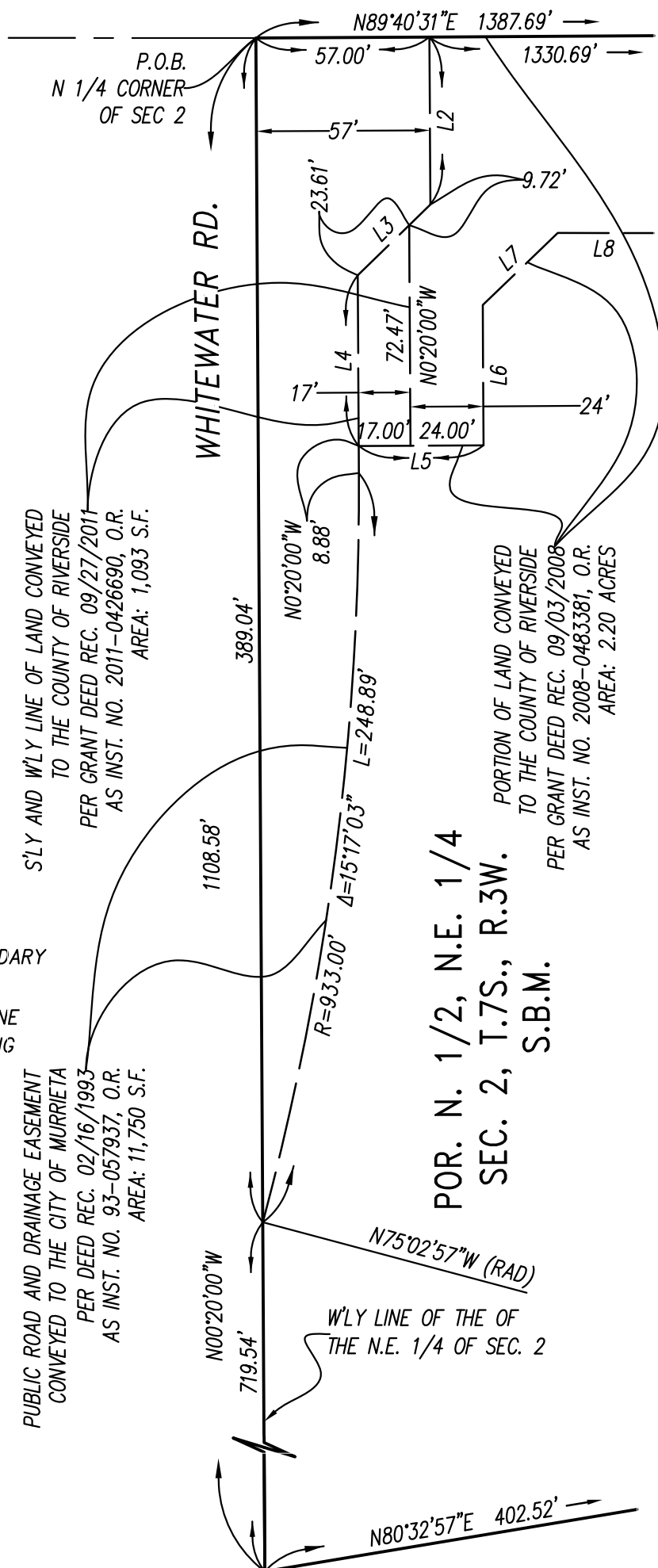
EXHIBIT "B"  
EASTERN MUNICIPAL WATER DISTRICT - 112TH FRINGE AREA ANNEXATION  
THIS EXHIBIT TO BE ATTACHED TO THE LEGAL DESCRIPTION

CLINTON KEITH RD.

LINE TABLE		
LINE	BEARING	LENGTH
L1	N89°40'31"E	57.00'
L2	N00°20'00"W	55.00'
L3	N45°43'43"E	33.33'
L4	N00°20'00"W	56.08'
L5	N89°42'36"E	41.00'
L6	N00°20'00"W	46.13'
L7	N46°12'24"E	34.15'
L8	N89°58'39"W	98.46'
L9	N72°18'03"W	46.11'
L10	N89°58'39"W	61.01'
L11	N71°59'18"E	45.22'
L12	N89°58'46"W	149.34'
L13	N89°40'31"E	166.62'
L14	N00°19'28"W	5.00'
L15	N00°19'29"W	72.00'

## LEGEND

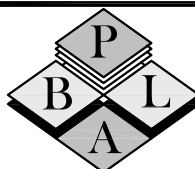
\_\_\_\_\_ EXISTING LOT LINE  
 \_\_\_\_\_ ANNEXATION BOUNDARY  
 \_\_\_\_\_ EASEMENT LINE  
 \_\_\_\_\_ EXISTING CENTERLINE  
 P.O.B. POINT OF BEGINNING



*SHEET 2 of 2*

## LEGAL DESCRIPTION

THAT CERTAIN PARCEL OF LAND SITUATED IN THE CITY OF MURRIETA, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, BEING A PORTION OF THE NORTH HALF OF THE NORTHEAST ONE-QUARTER OF SECTION 2, TOWNSHIP 7 SOUTH, RANGE 3 WEST, SAN BERNARDINO MERIDIAN,



**PBLA SURVEYING, INC.**

**Planning • Engineering • Surveying**  
981 CORPORATE CENTER DR., STE 168  
POMONA, CALIF. 91768  
(888) 714-9642 • (714) 389-9191 FAX

**Documentation for Annexation of Territory to  
The Metropolitan Water District of Southern California (MWD)  
Water Use Efficiency Compliance Statement  
Member Agency Annexation**

**A. General Information**

<p>Description of Annexing Area</p> <p>The subject project is located at southeast corner of Clinton Keith Road and Whitewood Road in Riverside County, within the City of Murrieta. The subject annexation consists of approximately 29 acres of undeveloped property.</p>	<p>Member Agency: Eastern Municipal Water District Annexation Name: 112<sup>th</sup> Fringe Area (Whitewood 29, LLC.) Water Use:</p> <p>Annexing Water Demand: 167.7 AFY Imported Water Demand: 167.7 AFY Percent MWD Supplied: 100%</p> <p>Development Plans:</p> <p>The property is currently undeveloped. The proposed future development of the property is 330 apartment homes and 153 condominium units. The proposed site will be developed with thirty-eight (38) buildings which will make up the Whitewood Condo / Apartment Project. The site is planned to contain 38 buildings, of which 27 are condos and will be installed during one phase of construction, while the remaining 11 apartment buildings will be developed during a separate phase.</p> <p>Zoning: Multi-Family Residential MF-2</p> <p>Address: N/A APN: 900-030-036</p> <p>Additional Water Agencies Involved in Annexation: 1. City of Murrieta</p>



## B. Member Agency Water Use and Efficiency Plans

### (1) Annual Water Use.

<p>1. Does your agency minimize annual water demand and peak demands by incorporating water conservation measures throughout the service area?</p> <p>Please describe such conservation measures in the service area.</p> <p><b>MWD Administrative Code § 3107 (a)(1)(i)</b></p>	<p>Member Agency Response: <u>Yes</u>/No (circle one)</p> <p>Description:</p> <p>EMWD minimizes annual water demand by incorporating water conservation measures into new development plans and service agreements. Since 2009, residential and landscape customers have participated in a budget-based tiered rate program that assigns individualized indoor and outdoor water budgets based on each account's persons per household, landscape area, conservation factor, and billing period. The conservation factor is an evapotranspiration (ET) factor based on the development's connection date that determines what percentage of the reference evapotranspiration rate will be used to calculate the outdoor budget. ET rates are continuously monitored and recorded across EMWD's entire service region and are specific to the customer's location. Accounts with meters installed on or before 2010 are assigned an ET factor of at most 0.8; accounts connected between 2010 and May 2015 receive an ET factor of 0.7; accounts connected on or after June 2015 receive an ET factor of 0.5. EMWD has measured over 608 million square feet of landscape through onsite audits, Geographic Information Systems (GIS), or customer variance requests. As of January 2018, the daily allocation used to calculate the indoor budget has been reduced from 60 gallons per person per day to 55 gallons per person per day. All water use surpassing the total water budget is charged at a significantly higher rate. All new development must submit a Landscape Plan Check Application and consent to a Landscape Irrigation Water Budget Agreement in order to ensure that all individually metered landscape/irrigation projects comply with EMWD's Landscape/Irrigation Ordinance 72. Furthermore, new development must also submit a Site Usage Analysis form that clearly displays the accurate landscape square footage broken down into functional turf and non-functional turf. This information is used to ensure that no account will receive a water budget that exceeds the District's maximum budget limits. In addition to all of the above, article 6 of EMWD's Administrative Codes puts into action many more conservation policies, practices, and procedures. Developers must adhere to State and local plumbing and landscaping codes. All customers are prohibited from hosing down driveways and other hard surfaces except for health or sanitary reasons and then only by use of a hand-held container. Additionally, customers are:</p> <ul style="list-style-type: none"> <li>• Required to repair faucets, toilets, and other potential sources of water leaks within 48 hours of the occurrence,</li> <li>• Water outdoors between 9 pm and 6 am only and are prohibited from producing run-off or over watering and from watering during rain</li> <li>• Prohibited from allowing water to run while washing vehicles,</li> <li>• Prohibited from using decorative fountains unless they are equipped with a recycling system, and,</li> <li>• Limited to no more than 15 minutes of watering per day per station if using an unattended irrigation system or watering device.</li> </ul>
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Penalties for water inefficiency are enforced through the tier rate budgets and through other additional fines. For commercial, multi family, and landscape accounts, such fines include an initial warning, followed by a final written notice, which may then be followed by a surcharge of \$100 added to the customer's bill if a third violation occurs within 12 months of the first notice. A fourth violation and any subsequent violations could incur an additional \$200 surcharge to the customer's water bill. For single family residential accounts, the surcharges are \$25 for the third violation, and \$50 for the fourth violation and subsequent violations. The revenue derived from the surcharges and other fines explained in article 6 is used to support water use efficiency programs and rebates.

EMWD has initiated a long-term campaign to encourage all customers to use water wisely. A staff of conservation and education specialists provides public education programs, landscape irrigation workshops, student education programs, and conservation related campaigns. EMWD sponsors workshops on California-friendly plants to promote landscaping using drought tolerant plants and has a comprehensive Water Waste Program to report/correct the wasteful use of water. The New Residential Development Campaign is targeted at new residential customers and consists of a welcome letter, a quarterly newsletter containing seasonal tips and ideas for water conservation, and a survey. EMWD's new development conservation programs, including residential water surveys, water-wise landscape/irrigation workshops, high-efficiency washing machine rebates, moisture sensors, CII programs, etc. are offered to all of our customers, including new development and subagencies. These programs are promoted via bill stuffers, EMWD's website, newspaper articles, and homeowners' association meetings and civic associations, etc.

In 2019, the District launched its WaterWise Plus program, a comprehensive and forward-thinking program designed to assist customers and partner agencies with finding new and cost-effective ways to become more water efficient. The program integrates existing water use efficiency-based programs with long-term solutions that are promoted regardless of drought conditions. These programs help customers make lifestyle changes to their water use habits resulting in becoming more efficient with their water use, gaining a better understanding of their water usage, and making them better able to manage their monthly bills.

In 2021, the District launched its Landscapes for Living program, designed to assist residential customers to become more water efficient. The program integrates home consultations with a landscape expert, free direct installation of smart irrigation controllers and high efficiency nozzles, landscape design assistance, and staff support to assist customers who want to apply for water saving rebates through the MWD.

These programs are promoted via bill stuffers, EMWD's website, newspaper articles, and homeowners' association meetings and civic associations, etc.

	<p>Supporting Documentation: (Attach supporting documents or web links)</p> <p><a href="#">Administrative Code Article 6 - Water Conservation (pg 362)</a></p> <p><a href="#">EMWD Rebate Information</a></p>
<p>2. Does your service area maximize use of groundwater, local surface water, and recycled waste water supplies to minimize annual water demand on MWD?</p> <p>Please describe such maximizing uses in the service area.</p> <p><b>MWD Administrative Code § 3107 (a)(1)(ii)</b></p>	<p>Member Agency Response: <u>Yes</u>/No (circle one)</p> <p>Description:</p> <p>EMWD operates storage facilities, groundwater facilities, and promotes conservation to minimize annual water demands on MWD. Currently, EMWD's potable supply system includes 80 tanks with over 203 million gallons of storage capacity. Tank levels are adjusted based on demand forecasting, allowing this storage to serve as a buffer against peak demands on MWD's system.</p> <p>The District has also developed significant local supplies to reduce EMWD's need for imported water. EMWD operates 14 potable wells and an additional 13 brackish wells, which provide influent for the District's three operational desalination plants. The District proactively manages its groundwater basins in order to ensure the continued availability of a highly reliable and economic water supply. Efforts include the diversion of surface water (up to 5,760 AF annually, depending on availability), and a groundwater recharge program. EMWD currently plans to enhance and optimize its groundwater programs with a groundwater banking and storm water capture program along with an indirect potable reuse project.</p> <p>EMWD has initiated a long-term campaign to encourage all customers to use water wisely. EMWD sponsors workshops on California-friendly plants to promote landscaping using drought tolerant plants and has a comprehensive Water Waste Program to report/correct the wasteful use of water. The New Residential Development Campaign is targeted at new residential customers and consists of a welcome letter, a quarterly newsletter containing seasonal tips and ideas for water conservation, and a survey. EMWD's conservation programs, which include residential water surveys, water-wise landscape/irrigation workshops, high-efficiency washing machine rebates, moisture sensors, CII programs, etc., are offered to all of our customers, including new development and subagencies. These programs are promoted via bill stuffers, EMWD's website, newspaper articles, and homeowners' association meetings and civic associations, etc. With grant funding from United States Bureau of Reclamation (USBR), MWD, and CA Department of Water Resources (DWR) Prop 84, EMWD has removed 6 Million square feet of non-functional turf. Additionally, EMWD has invested greatly in producing easily accessible educational resources. In partnership with 4 other Inland Empire agencies, EMWD has published a region specific landscape guidebook that takes any Inland Empire resident through each step of creating a water efficient landscape. With chapters such as "Design Inspiration," "How to Garden," "Landscape Elements," and "Design It Yourself," this guidebook</p>

was designed to be an all-inclusive workbook for a resident without landscaping experience.

EMWD minimizes annual water demand by incorporating water conservation measures into new development plans and service agreements. EMWD enforces local and state landscape ordinances through the use of budget based tiered rates. Since 2009, residential and landscape customers have participated in a budget-based tiered rate program that assigns individualized indoor and outdoor water budgets based on each account's persons per household, landscape area, conservation factor, and billing period. The conservation factor is an ET factor based on the development's connection date that determines what percentage of the reference evapotranspiration rate will be used to calculate the outdoor budget. Evapotranspiration rates are continuously monitored and recorded across EMWD's entire service region and are specific to the customer's location. Effective January 2018, all customer water budgets were lowered to more closely reflect current water efficiency trends and a mix of conventional turf and drought-tolerant landscaping, decreasing from 100 percent to 80 percent ET. Accounts with meters installed on or before 2010 are assigned an ET factor of at most 0.8; accounts connected between 2010 and May 2015 receive an ET factor of 0.7; accounts connected on or after June 2015 receive an ET factor of 0.5. EMWD has measured over 608 million square feet of landscape through onsite audits, GIS, or customer variance requests. As of January 2018, the daily allocation used to calculate the indoor budget has been reduced from 60 gallons per person per day to 55 gallons per person per day. All water use surpassing the total water budget is charged at a significantly higher rate.

Supporting Documentation: (Attach supporting documents or web links)

[EMWD Water Wide Landscaping Resources](#)  
[Administrative Code Article 6 - Water Conservation \(pg 362\)](#)  
[Groundwater Management Plan, Hemet/San Jacinto](#)  
[Groundwater Management Plan, West San Jacinto](#)  
[Water Budgets and Tiered Rates](#)

3. Does your service area construct and operate local storage and groundwater production facilities as required by California Water Code Sections 10700-10710 (Groundwater Resources)?

Please describe such construction and operations in the service area.

MWD Administrative Code § 3107 (a)(1)(iii)

Member Agency Response: ☒ Yes ☐ No (circle one)

Description:

EMWD has invested significantly in the development of local water supplies. The District currently operates 14 wells producing potable groundwater, with an additional 13 wells that pump brackish groundwater as influent into three reverse osmosis desalination plants. Recycled water is produced from four regional water reclamation facilities that collect wastewater from both EMWD's retail and wholesale service area. EMWD also has a permit allowing the District to divert up to 5,760 acre-feet (AF) of San Jacinto River flows annually (when available). Diverted water is captured at the District's Grant Avenue Ponds for the purpose of recharging the local groundwater basin.

In 2021, local sources accounted for roughly 54% of EMWD's retail water supply portfolio. This total includes over 14,950 AF of native, potable groundwater, over

	<p>7,650 AF of desalinated groundwater, and nearly 50,100 AF of recycled water.</p> <p>Future local supply projects that are in various stages of planning and/or construction include:</p> <ul style="list-style-type: none"> <li>• Groundwater banking and stormwater capture programs (Santa Ana River Conservation and Conjunctive Use Program / Enhanced Recharge and Recovery Program), and</li> <li>• An indirect potable reuse project (Purified Water Replenishment).</li> <li>• A groundwater development project in the Moreno Valley/Perris North area (Perris North Contamination Prevention and Remediation Program).</li> </ul> <p>In addition, EMWD is completing an accelerated retrofit program geared towards expanding the availability of recycled water within its service area.</p> <p>Supporting Documentation: (Attach supporting documents or web links)</p> <p><a href="#">Brochure - Maximizing Resources</a>  <a href="#">Brochure - Salinity Management Program</a>  <a href="#">Administrative Code Article 6 – Recycled Water Use (pg 369)</a>  <a href="#">Groundwater Management Plan, Hemet/San Jacinto</a>  <a href="#">Groundwater Management Plan, West San Jacinto</a>  <a href="#">EMWD Construction Projects</a></p>
<p>4. Does your agency condition all new territory to be consistent with all applicable city, county, and state laws?</p> <p><b>MWD Administrative Code § 3107 (a)(1)(iv)</b></p>	<p>Member Agency Response: <input checked="" type="radio"/> Yes / No (circle one)</p> <p>Description:</p> <p>EMWD minimizes annual water demand by incorporating water conservation measures into new development plans and service agreements. EMWD enforces local and state landscape ordinances through the use of budget based tiered rates. Since 2009, residential and landscape customers have participated in a budget-based tiered rate program that assigns individualized indoor and outdoor water budgets based on each account's persons per household, landscape area, conservation factor, and billing period. The conservation factor is an ET factor based on the development's connection date that determines what percentage of the reference evapotranspiration rate will be used to calculate the outdoor budget. Evapotranspiration rates are continuously monitored and recorded across EMWD's entire service region and are specific to the customer's location. Effective January 2018, all customer water budgets were lowered to more closely reflect current water efficiency trends and a mix of conventional turf and drought-tolerant landscaping, decreasing from 100 percent to 80 percent ET. Accounts with meters installed on or before 2010 are assigned an ET factor of at most 0.8; accounts connected between 2010 and May 2015 receive an ET factor of 0.7; accounts connected on or after June 2015 receive an ET factor of 0.5. EMWD has measured over 608 million square feet of landscape through onsite audits, GIS, or customer variance requests. As of January 2018, the daily allocation used to calculate the indoor budget has been reduced from 60 gallons per person per day to 55 gallons per person per day. All water use surpassing the total water budget is charged at a significantly higher rate.</p>

**(2) Recycled Water.**

<p>5. Does your service area use recycled water in accordance with California Water Code Sections 13550-13557 (Water Reuse)?</p> <p>Please describe such recycled water use in the service area.</p> <p><b>MWD Administrative Code § 3107 (a)(2)</b></p>	<p>Member Agency Response <u>Yes</u>/No (circle one)</p> <p>Description:</p> <p>EMWD has an extensive recycled water system with integrated supply, conveyance and storage facilities creating four stabilized service zones throughout its service area. The system consists of four operating regional water reclamation facilities producing 47 MGD of recycled water, more than 250 miles of pipeline, 19.5 MG of elevated service level storage, 7,600 AF of seasonal storage pond capacity, 9 pond pump stations and 5 inline booster stations. EMWD has over 500 recycled water service connections and sells approximately 36,300 acre feet of recycled water per year, ranking EMWD among the top water recycling agencies in California. Recycled water customers include agricultural, parks, schools, common area landscape, environmental and industrial. EMWD maintains a Mandatory Use Policy for new development and works closely with land use agencies and the development community to selectively condition new projects. Developments that are serviced by EMWD and meet the Recycled Water Facilities and Service Guidelines adopted by EMWD's Board of Directors as required in Water Code sections 13550 are conditioned for recycled water use and construction of local pipelines thereby expanding the recycled water distribution system. EMWD supports existing potable water landscape customers wishing to retrofit to recycled water through the Accelerated Retrofit Program (ARP). The ARP provides technical design and permitting support, new service connections and funding assistance to help customers complete recycled water retrofits which maintains green recreational areas for our community while reducing the use of valuable imported potable supplies.</p> <p>Supporting Documentation: (Attach supporting documents or web links)</p> <p><a href="#">EMWD' Recycled Water Service</a></p>
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**(3) Local Resources.**

<p>6. Has your agency established measures to sustain a seven-to 21-day interruption in service, as required by MWD Administrative Code Section 4503(b)?</p> <p><b>MWD Administrative Code § 3107 (a)(3)</b></p>	<p>Member Agency Response <u>Yes</u>/No (circle one)</p> <p>Description:</p> <p>EMWD would be able to sustain a 7-day interruption in service as described in MWD's Administrative Code Section 4503.</p> <p>Significant, mandatory water conservation efforts would be required to sustain a 7-day and 21-day interruption. Such efforts include communication outreach through automated customer service systems as well as our Public and Governmental Affairs Department. EMWD has a diverse portfolio of water supply including 203 MG of elevated storage, 13 brackish and 14 potable active wells, two Microfiltration and three brackish water desalters. Domestic well production and desalter production capacity exceeds 30 Million Gallons per Day.</p>
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	<p>Supporting Documentation: (Attach supporting documents or web links)</p> <p><a href="#">Administrative Code Article 10 - Water Shortage Contingency Plan (pg 387)</a></p> <p><a href="#">Disaster Preparedness Link</a></p> <p><a href="#">Draft Hazard Mitigation Plan</a></p>
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### C. Reporting to the District

<p>7. Has your agency incorporated conservation measures in the new territory?</p> <p>Please describe such measures.</p> <p><b>MWD Administrative Code § 3107(b)(1)</b></p>	<p>Member Agency Response: <u>Yes</u> No (circle one)</p> <p>Description:</p> <p>All new development must submit a Landscape Plan Check Application and consent to a Landscape Irrigation Water Budget Agreement in order to ensure that all individually metered landscape/irrigation projects comply with EMWD's Landscape/Irrigation Ordinance 72. Furthermore, new development must also submit a Site Usage Analysis form that clearly displays the accurate landscape square footage broken down into functional turf and non-functional turf. This information is used to ensure that no account will receive a water budget that exceeds the District's maximum budget limits. In addition to all of the above, article 6 of EMWD's Administrative Codes puts into action many more conservation policies, practices, and procedures. Developers must adhere to State and local plumbing and landscaping codes. All customers are prohibited from hosing down driveways and other hard surfaces except for health or sanitary reasons and then only by use of a hand-held container. Additionally, customers are:</p> <ul style="list-style-type: none"> <li>• Required to repair faucets, toilets, and other potential sources of water leaks within 48 hours of the occurrence,</li> <li>• Water outdoors between 9 pm and 6 am only and are prohibited from producing run-off or over watering and from watering during rain</li> <li>• Prohibited from allowing water to run while washing vehicles,</li> <li>• Prohibited from using decorative fountains unless they are equipped with a recycling system, and,</li> <li>• Limited to no more than 15 minutes of watering per day per station if using an unattended irrigation system or watering device.</li> </ul> <p>Penalties for water inefficiency are enforced through the tier rate budgets and through other additional fines. For commercial, multi family, and landscape accounts, such fines include an initial warning, followed by a final written notice, which may then be followed by a surcharge of \$100 added to the customer's bill if a third violation occurs within 12 months of the first notice. A fourth violation and any subsequent violations could incur an additional \$200 surcharge to the customer's water bill. For single family residential accounts, the surcharges are \$25 for the third violation, and \$50 for the fourth violation and subsequent violations. The revenue derived from the surcharges and other fines explained in article 6 is used to support water use efficiency programs and rebates.</p> <p>EMWD has initiated a long term campaign to encourage all customers to use water wisely. A staff of conservation and education specialists provides public education programs, landscape irrigation workshops, student education programs, and conservation related campaigns. EMWD sponsors workshops on California-friendly plants to promote landscaping using drought tolerant plants and has a comprehensive Water Waste Program to report/correct the wasteful use of water. The New Residential Development Campaign is targeted at new residential customers and</p>
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	<p>consists of a welcome letter, a quarterly newsletter containing seasonal tips and ideas for water conservation, and a survey. EMWD's new development conservation programs, including residential water surveys, water-wise landscape/irrigation workshops, high-efficiency washing machine rebates, moisture sensors, CII programs, etc. are offered to all of our customers, including new development and subagencies.</p> <p>In 2019, the District launched its WaterWise Plus program, a comprehensive and forward-thinking program designed to assist customers and partner agencies with finding new and cost-effective ways to become more water efficient. The program integrates existing water use efficiency-based programs with long-term solutions that are promoted regardless of drought conditions. These programs help customers make lifestyle changes to their water use habits resulting in becoming more efficient with their water use, gaining a better understanding of their water usage, and making them better able to manage their monthly bills.</p> <p>In 2021, the District launched its Landscapes for Living program, designed to assist residential customers to become more water efficient. The program integrates home consultations with a landscape expert, free direct installation of smart irrigation controllers and high efficiency nozzles, landscape design assistance, and staff support to assist customers who want to apply for water saving rebates through the MWD.</p> <p>These programs are promoted via bill stuffers, EMWD's website, newspaper articles, and homeowners' association meetings and civic associations, etc.</p> <p>Supporting Documentation: (Attach supporting documents or web links)  <a href="#">Administrative Code Article 6 - Water Conservation (pg 362)</a></p> <p><a href="#">EMWD Rebate Information</a></p>
<p>8. What is your agency's total annual production of local water supplies including, but not limited to, recycled water, groundwater, and local surface water use?</p> <p><b>MWD Administrative Code § 3107(b)(2)</b></p>	<p>Member Agency Response: 72,729 AF</p> <p>Description: During Calendar Year 2021, EMWD produced 72,729 AF of local water through its groundwater, desalter, and recycled water facilities.</p> <p>Form of Documentation:  <a href="#">2015 Urban Water Management Plan (UWMP)</a></p>
<p>9. Has your agency established resources to sustain a seven-to 21-day interruption in service, as required by MWD Administrative Code Section 4503(b)?</p> <p>Please describe such resources, as applicable to your agency's facilities, as specified in MWD Administrative Code §§ 3107(b)(3).</p> <p><b>MWD Administrative Code § 3107(b)(3)</b></p>	<p>Member Agency Response: <del>Yes</del> No (circle one)</p> <p>Description:</p> <p>EMWD would be able to sustain a 7-day interruption in service as described in MWD's Administrative Code Section 4503.</p> <p>Significant, mandatory water conservation efforts would be required to sustain a 7-day and 21-day interruption. Such efforts include communication outreach through automated customer service systems as well as our Public and Governmental Affairs Department. EMWD has a diverse portfolio of water supply including 203 MG of elevated storage, 13 brackish and 14 potable active wells, two Microfiltration and three brackish water desalters. Domestic well</p>



	<p>production and desalter production capacity exceeds 38 Million Gallons per Day.</p> <p>Form of Documentation:  <a href="#">2020 Urban Water Management Plan (UWMP)</a></p>
<p>10. Has your agency submitted a current Urban Water Management Plan (UWMP) to the reporting agency?</p> <p><b>MWD Administrative Code § 3107(b)(4)(i)</b></p>	<p>Member Agency Response: <input checked="" type="radio"/> Yes / No (circle one)</p> <p>Description:</p> <p>EMWD's 2020 Urban Water Management Plan (UWMP) is an update to the 2015 UWMP and was prepared in response to Water Code Sections 10610 through 10656 of the Urban Water Management Planning Act. It was adopted in June 2021 and has been submitted to the reporting agency. Included in the plan is detailed information about EMWD's water demand, supply and reliability for the next 25 years.</p> <p>Form of Documentation:  <a href="#">2020 Urban Water Management Plan (UWMP)</a></p>
<p>11. Does your agency's most current UWMP include a narrative description addressing the nature and extent of each water demand management measure implemented over the past 5 years, as required by California Water Code Section 10631(f)?</p> <p><b>MWD Administrative Code § 3107(b)(4)(ii)</b></p>	<p>Member Agency Response: <input checked="" type="radio"/> Yes / No (circle one)</p> <p>Description:</p> <p>The 2020 Urban Water Management Plan provides a narrative description addressing the nature and extent of each water demand measure implemented over the past 5 years. This includes narratives on EMWD's implementation of the water waste prevention ordinances, metering with commodity rates for all new connections and retrofit of existing connections, public information programs, retail conservation pricing, school education programs, water loss control programs, and all other demand management measures described in Chapter 9 of the 2015 UWMP. EMWD is a member of the California Water Efficiency Partnership (CalWEP) and the Alliance for Water Efficiency (AWE), which supports the implementation of demand management measures and related legislative and regulatory requirements.</p> <p>Form of Documentation:  <a href="#">2020 Urban Water Management Plan (UWMP)</a></p>
<p>12. Does your agency's most current UWMP adequately address California Water Code requirements?</p> <p><b>MWD Administrative Code § 3107(b)(4)(iii)</b></p>	<p>Member Agency Response: <input checked="" type="radio"/> Yes / No (circle one)</p> <p>Description:</p> <p>Chapter 1 of the 2020 Urban Water Management Plan addresses California Water Code requirements. This 2020 UWMP was developed to incorporate all requirements, under the guidance of DWR's 2020 UWMPs Guidebook for Urban Water Suppliers. A checklist to document compliance of this 2020 UWMP with the Act and the CWC is provided in Appendix A. This UWMP includes all required DWR standardized tables within relevant chapters and they are compiled in Appendix B. Within the UWMP chapters, DWR's standardized tables include the DWR assigned table number in the first row of the table.</p>

	<p>Form of Documentation: Link to the UWMP  <a href="#">2020 Urban Water Management Plan (UWMP)</a></p>
<p>13. What is the status of implementing the water plans, projects, and programs described in the UWMP to implement California Water Code Section 10620 et seq.?</p> <p><b>MWD Administrative Code § 3107(b)(5)</b></p>	<p>Member Agency Response: <u>Active</u></p> <p>Description:</p> <p>EMWD continues to advance the water supply projects and programs described in Chapter 6 of the 2020 UWMP.</p> <p>EMWD has invested significantly in the development of local water supplies. The District currently operates 14 wells producing potable groundwater, with an additional 13 wells that pump brackish groundwater as influent into three reverse osmosis desalination plants. Recycled water is produced from four regional water reclamation facilities that collect wastewater from both EMWD's retail and wholesale service area. EMWD also has a permit allowing the District to divert up to 5,760 acre-feet (AF) of San Jacinto River flows annually (when available). Diverted water is captured at the District's Grant Avenue Ponds for the purpose of recharging the local groundwater basin.</p> <p>In 2021, local sources accounted for roughly 54% of EMWD's retail water supply portfolio. This total includes nearly 14,950 AF of potable groundwater, over 7,650 AF of desalinated groundwater, and over 50,100 AF of recycled water.</p> <p>Future local supply projects that are in various stages of planning and/or construction include:</p> <ul style="list-style-type: none"> <li>• Groundwater banking and stormwater capture programs (Santa Ana River Conservation and Conjunctive Use Program / Enhanced Recharge and Recovery Program), and</li> <li>• An indirect potable reuse project (Purified Water Replenishment).</li> <li>• A groundwater development project in the Moreno Valley/Perris North area (Perris North Contamination Prevention and Remediation Program).</li> </ul> <p>In addition, EMWD is completing an accelerated retrofit program geared towards expanding the availability of recycled water within its service area.</p> <p>EMWD has initiated a long term campaign to encourage all customers to use water wisely. A staff of conservation and education specialists provides public education programs, landscape irrigation workshops, student education programs, and conservation related campaigns. EMWD sponsors workshops on California-friendly plants to promote landscaping using drought tolerant plants and has a comprehensive Water Waste Program to report/correct the wasteful use of water. The New Residential Development Campaign is targeted at new residential customers and consists of a welcome letter, a quarterly newsletter containing seasonal tips and ideas for water conservation, and a survey. EMWD's new development conservation programs, including residential water surveys, water-wise landscape/irrigation workshops, high-efficiency washing machine rebates, moisture sensors, CII programs, etc. are offered to all of our customers, including new development and subagencies. In 2019, the District</p>

	<p>launched its WaterWise Plus program, a comprehensive and forward-thinking program designed to assist customers and partner agencies with finding new and cost-effective ways to become more water efficient. The program integrates existing water use efficiency-based programs with long-term solutions that are promoted regardless of drought conditions. These programs help customers make lifestyle changes to their water use habits resulting in becoming more efficient with their water use, gaining a better understanding of their water usage, and making them</p> <p>the District launched its Landscapes for Living program, designed to assist</p> <p>Form of Documentation:  <a href="#">2015 Urban Water Management Plan (UWMP)</a></p>
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**MWD**

MWD Employee Name: Echel Young File Date: 12/12/2022

MWD Employee Name: William P. McDonnell Review Date: 12/6/2022

Notes:

**MWD Member Agency**

The following member agency assures compliance with the provisions of Metropolitan's Water Use Efficiency Guidelines for the next five years as indicated in Metropolitan's Administrative Code § 3107 and shall report to Metropolitan regarding such compliance.

Agency Name: Eastern Municipal Water District Date: 11/29/22

Member Agency Representative Name: Chris Teague

Notes:

**RESOLUTION XXXX**

**RESOLUTION OF THE BOARD OF DIRECTORS OF  
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA  
CONSENTING TO EASTERN MUNICIPAL WATER DISTRICT'S  
112TH FRINGE AREA ANNEXATION  
AND FIXING THE TERMS AND  
CONDITIONS OF THE ANNEXATION TO  
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA**

WHEREAS, the Board of Directors of the Eastern Municipal Water District (EMWD), a county water authority situated in the county of Riverside, state of California, pursuant to Resolution No. 2037, in accordance with the provisions of the Metropolitan Water District Act (MWD Act), has applied to the Board of Directors of The Metropolitan Water District of Southern California (Metropolitan) for consent to annex thereto certain uninhabited territory situated in the county of Riverside referred to as 112th Fringe Area Annexation, more particularly described in an application to the Riverside County Local Agency Formation Commission (LAFCO), concurrently with 112th Fringe Area Annexation thereof to EMWD, such annexation to Metropolitan to be upon such terms and conditions as may be fixed by the Board of Directors of Metropolitan;

WHEREAS, the owner, Whitewood 29, LLC/Corman Leigh (Property owner) of Riverside County Assessor Parcel Number 900-030-036 (Property) has applied for annexation into the EMWD and Metropolitan service areas;

WHEREAS, completion of said 112th Fringe Area Annexation shall be contingent upon approval by the LAFCO;

WHEREAS, Metropolitan requests that LAFCO condition its approval of 112th Fringe Area Annexation upon a requirement that Metropolitan's existing and established taxes, benefit assessments, or property-related fees or charges in place in the service area are levied or fixed and collected on the parcels being annexed to the agency; these taxes, benefit assessments, or property-related fees or charges are identified below;

WHEREAS, Metropolitan has levied and collected ad valorem taxes on parcels within the territory of EMWD. Such charges for fiscal year 2022/23 are described in Resolution 9301, adopted by Metropolitan's Board on April 12, 2022;

WHEREAS, since fiscal year 1992/93, Metropolitan has levied and collected water standby charges pursuant to Section 134.5 of the MWD Act on parcels within the territory of

EMWD. Such charges for fiscal year 2022/23 are described in Resolution 9307, adopted by Metropolitan's Board on May 10, 2022;

WHEREAS, upon 112th Fringe Area Annexation, the parcel will be within Metropolitan's service area, Metropolitan water will be available to such parcels and such parcels will receive the benefit of the projects provided in part with proceeds of Metropolitan's water standby charges;

WHEREAS, pursuant to the provisions of the California Environmental Quality Act (CEQA), the city of Murrieta, acting as Lead Agency and subagency to EMWD, adopted the Whitewood Condominium/Apartment Project (Project) (also known as 112th Fringe Area Annexation) Mitigated Negative Declaration (MND) on October 3, 2022, and Addendum to the MND (Addendum) for the Project on December 13, 2022, and approved the Project for the development of the proposed annexation parcels. Metropolitan, as Responsible Agency under CEQA, reviewed and considered the information contained in the MND and Addendum for the Project prior to approval of the formal terms and conditions for 112th Fringe Area Annexation; and

WHEREAS it appears to this Board of Directors that such application should be granted, subject to the terms and conditions hereinafter set forth;

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors of Metropolitan, acting as Responsible Agency, reviewed and considered the information in the MND and Addendum prior to approval of the final terms and conditions for 112th Fringe Area Annexation; and subject to the following terms and conditions, does hereby grant the application of the governing body of EMWD for consent to annex 112th Fringe Area Annexation to Metropolitan and does hereby fix the terms and conditions of such annexation:

Section 1. Annexation of said area to EMWD shall be made concurrently with annexation thereof to Metropolitan, and all necessary certificates, statements, maps, and other documents required to be filed by or on behalf of EMWD to effectuate 112th Fringe Area Annexation shall be filed on or before December 31, 2024.

Section 2. Prior to filing a request for a Certificate of Completion of 112th Fringe Area Annexation proceeding with LAFCO, EMWD shall submit a certified copy of LAFCO's resolution approving 112th Fringe Area Annexation to EMWD, and shall pay to Metropolitan \$200,612.50 for its annexation fee, if annexation is completed by December 31, 2023. If the annexation is completed during the 2024 calendar year, the annexation charge will be calculated based on the then-current rate, in accordance with Metropolitan's Administrative Code Section 3300.

Section 3. a. Metropolitan shall be under no obligation to provide, construct, operate, or maintain feeder pipelines, structures, connections, and other facilities required for the delivery of water to said area from works owned and operated by Metropolitan.

b. EMWD shall not be entitled to demand that Metropolitan deliver water to EMWD for use, directly or indirectly, within said area, except for domestic or municipal use therein.

c. The delivery of all water by Metropolitan, regardless of the nature and time of use of such water, shall be subject to the water service regulations, including rates and charges promulgated from time to time by Metropolitan.

d. Except upon the terms and conditions specifically approved by the Board of Directors of Metropolitan, water sold and delivered by Metropolitan shall not be used in any manner which intentionally or avoidably results in the direct or indirect benefit of areas outside Metropolitan, including use of such water outside Metropolitan or use thereof within Metropolitan in substitution for other water outside Metropolitan.

Section 4. LAFCO has conditioned approval of 112th Fringe Area Annexation upon a requirement that Metropolitan levy or fix and collect all previously established and collected taxes, benefit assessments, or property-related fees or charges on parcels being annexed to the agency.

Section 5. Such charges, which are subject to change over time, include but are not limited to:

a. Metropolitan's ad valorem tax on properties located within the territory of EMWD is in the amount of 0.0035 percent of the assessed value of each parcel. Metropolitan shall levy the ad valorem tax in the amount, at the same time and in the same manner as ad valorem tax on other properties located within the territory of EMWD. Such charges for fiscal year 2022/23 are described in Resolution 9301, adopted by Metropolitan's Board on April 12, 2022.

b. Metropolitan's water standby charge on properties located within the territory of EMWD in the amount of \$6.94 per an acre, or per a parcel of less than one acre. Metropolitan shall levy the water standby charge in the amount, at the same time and in the same manner as the water standby charge on other properties located within the territory of EMWD. Such charges for fiscal year 2022/23 are described in Resolution 9307, adopted by Metropolitan's Board on May 10, 2022.

Section 6. That the General Manager is hereby authorized and directed to take all necessary action to secure the collection of the ad valorem taxes and water standby charges by the appropriate county officials, including payment of the reasonable cost of collection.

Section 7. That Metropolitan, acting as Responsible Agency under CEQA, and prior to approval of the final terms and conditions for 112th Fringe Area Annexation reviewed and considered the information in the MND and Addendum prior to approval of the final terms and conditions for 112th Fringe Area Annexation; and subject to the following terms and conditions, does hereby grant the application of the governing body of EMWD for consent to annex 112th Fringe Area Annexation to Metropolitan and does hereby fix the terms and conditions of such annexation.

Section 8. That the General Manager and General Counsel are hereby authorized to do all things necessary and desirable to accomplish the purposes of this resolution, including, without limitation, the commencement of defense of litigation.

Section 9. 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 the 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.

BE IT FURTHER RESOLVED that the Board Executive Secretary is directed to transmit forthwith to the governing body of EMWD a certified copy of this resolution.

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 11, 2023.

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Secretary of the Board of Directors  
of The Metropolitan Water District  
of Southern California

F I L E D / P O S T E D

County of Riverside  
Peter Aldana  
Assessor-County Clerk-Recorder

## NOTICE OF DETERMINATION

E-202200957  
10/04/2022 10:08 AM Fee: \$ 2598.00  
Page 1 of 1City of Murrieta  
Planning Division

Removed: By: Deputy

To: Office of Planning and Research  
PO BOX 3044  
1400 Tenth Street, Room 222  
Sacramento, CA. 95812-3044

From: (Public Agency)

City of Murrieta  
1 Town Square  
Murrieta, CA 92562County of Riverside  
County Clerk  
2720 Gateway Dr.  
Riverside, CA 92507

## Project Proponent:

Whitewood 29 LLC/Corman Leigh  
32823 Temecula Parkway  
Temecula, CA. 92562**Subject:** Filing: Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.**Project Title:** Whitewood Project apartment and condominium project.2022070491  
State Clearinghouse NumberJarrett Ramaiya, City Planner  
Lead Agency Contact Person(951) 461-6069  
Area Code/Tele/Ext**Project Location:** The site is located at the southeast corner of Whitewood Road and Clinton Keith Road (APN :900-030-036), City of Murrieta, CA; County of Riverside**Project Description:** Tentative Parcel Map No. 38185 proposes the subdivision of 28.90 acres into 2 parcels. Parcel 1 will contain 9.99 acres and Parcel 2 will contain 19.18 acres. Development Plan 2021-2356 is proposed on Parcel 2 and includes 330 apartment units. Tentative Tract Map 38199 and Development Plan 2021-2355 propose the subdivision of 9.99 acres into 1 parcel and development of 153 condominium dwelling units. Phasing Plan 2021-2408 proposes that Phase 1 includes the development of the apartment project and Phase 2 includes development of the condominium project.This is to advise that the City of Murrieta approved the above-described project on, October 3, 2022 and has made the following determination regarding the described project:

1. The project will not have a significant effect on the environment.
2. A Mitigated Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures were made a condition of the approval of the project.
4. A statement of Overriding Considerations was not adopted for this project.
5. Findings were made pursuant to the provisions of CEQA.

This is to certify that the final Mitigated Negative Declaration (MND) and Mitigation Monitoring &amp; Reporting Program are with and record of project approval is available to the General Public at: City of Murrieta, 1 Town Square, Murrieta, CA 92562

Jarrett Ramaiya, City PlannerOctober 3, 2022
  
 Signature (Public Agency)

Date: \_\_\_\_\_ Date Received for filing at OPR: \_\_\_\_\_





State of California Department of Fish and Wildlife  
4/11/2023 Board Meeting  
**2022 ENVIRONMENTAL DOCUMENT FILING FEE**  
**CASH RECEIPT**  
DFW 753.5a (REV. 01/01/22) Previously DFG 753.5a

7-10

Attachment 4, Page 2 of 217

RECEIPT NUMBER:

22-358755

STATE CLEARINGHOUSE NUMBER (if applicable)

2022070491

SEE INSTRUCTIONS ON REVERSE. TYPE OR PRINT CLEARLY.

LEAD AGENCY CITY OF MURRIETA	LEAD AGENCY EMAIL JRAMAIYA@MURRIETACA.GOV	DATE 10/04/2022
COUNTY/STATE AGENCY OF FILING RIVERSIDE	DOCUMENT NUMBER E-202200957	
PROJECT TITLE CITY PLANNER		

PROJECT APPLICANT NAME WHITEWOOD 29 LLC/CORMAN LEIGH	PROJECT APPLICANT EMAIL JORDAN@CORMANLEIGH.COM	PHONE NUMBER (509) 954-6018
PROJECT APPLICANT ADDRESS 32823 TEMECULA PARKWAY,	CITY TEMECULA	STATE CA
		ZIP CODE 92562

PROJECT APPLICANT (Check appropriate box)

☒ Local Public Agency ☐ School District ☐ Other Special District ☐ State Agency ☐ Private Entity

CHECK APPLICABLE FEES:

<input type="checkbox"/> Environmental Impact Report (EIR)	\$3,539.25	\$	
<input checked="" type="checkbox"/> Mitigated/Negative Declaration (MND)(ND)	\$2,548.00	\$	\$2,548.00
<input type="checkbox"/> Certified Regulatory Program (CRP) document - payment due directly to CDFW	\$1,203.25	\$	

☐ Exempt from fee

☐ Notice of Exemption (attach)

☐ CDFW No Effect Determination (attach)

☐ Fee previously paid (attach previously issued cash receipt copy)

<input type="checkbox"/> Water Right Application or Petition Fee (State Water Resources Control Board only)	\$850.00	\$	
<input checked="" type="checkbox"/> County documentary handling fee		\$	\$50.00
<input type="checkbox"/> Other		\$	

PAYMENT METHOD:

☐ Cash ☐ Credit ☒ Check ☐ Other

TOTAL RECEIVED \$ \$2,598.00

SIGNATURE

X

AGENCY OF FILING PRINTED NAME AND TITLE

Deputy

**INITIAL STUDY**

**FOR**

**THE CITY OF MURRIETA**

**FOR THE**

**WHITEWOOD CONDO / APARTMENT PROJECT:**

**DEVELOPMENT PLAN 2021-2406,**

**TENTATIVE PARCEL MAP 2021-2407 (38199),**

**AND PHASING PLAN 2021-2408**

---

Lead Agency:

**City of Murrieta**

One Town Square  
24601 Jefferson Avenue  
Murrieta, California 92562

Project Applicant:

Corman Leigh  
32823 Temecula Parkway  
Temecula, CA 92592

Prepared by:

**Tom Dodson & Associates**

P.O. Box 2307  
San Bernardino, California 92406

**July 2022**

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Whitewood Condo / Apartment Project

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**ABBREVIATIONS AND ACROYNMS**

AAQS	Ambient Air Quality Standards
ADA	American Disability Act
AEP	Association of Environmental Professionals
amsl	above mean sea level
APE	Area of Potential Effect
APN	Assessor Parcel Number
AQIA	Air Quality Impact Analysis
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
BACM	Best Available Control Measures
BAU	Business As Usual
BMPs	Best Management Practices
BRA	Biological Resources Assessment
BTU	British Thermal Units
BUOW	burrowing owl
CAAQS	California Ambient Air Quality Standards
CAGN	California gnatcatcher
CalEEMod	California Emissions Estimator Model
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Species
CPUC	California Public Utilities Commission
CRMP	Cultural Resources Management Plan
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
dbh	diameter at breast height
DERFA	Department of Environment, Food and Rural Affairs
DIF	Development Impact Fee
DOI	U.S. Department of Interior
DP	Development Plan
DPM	diesel particulate matter
DU/A	dwelling units per acre
DWR	Department of Water Resources
EIA	U.S. Energy Information Administration

City of Murrieta  
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**INITIAL STUDY**

EIC	Eastern Information Center
EIR	Environmental Impact Report
EMFAC	EMissions FACtor Model
EMWD	Eastern Municipal Water District or Eastern
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESA	Phase I Environmental Site Assessment
EV	electric vehicles
FEMA	Federal Emergency Management Agency
FGC	Fish and Game Code
FHWA	Federal Highway Administration
FIA	Fiscal Impact Analysis
FIRM	Flood Insurance Rate Map
FPP	Fire Protection Plan
FRAP	Fire and Resource Assessment Program
FSOR	Final Statement of Reason
FTA	Federal Transit Association
g/bhp-hr	brake horsepower-hour
GCC	Global Climate Change
GHG	Greenhouse Gas
GP	General Plan
GSP	Groundwater Sustainability Plan
GWP	Global Warming Potential
HAS	Hydrologic Sub-Area
HRECs	historical recognized environmental conditions
IEPR	Integrative Energy Policy Report
IPCC	Intergovernmental Panel on Climate Change
IS/MND	Initial Study / Mitigated Negative Declaration
ISO	Independent Service Operator
ISTEA	Intermodal Surface Transportation Efficiency Act
ITE	Institute for Traffic Engineers
JD	Jurisdictional Delineation
JPR	Joint Project Review
LCA	Life-Cycle Analysis
LOS	Level of Service
LST	Localized Significance Threshold
LUST	Leaking Underground Storage Tanks
MBTA	Migratory Bird Treaty Act
MCLs	maximum contaminant levels
MDC	Murrieta Development Code
MFR	Multi-Family Residential
MFRD	Murrieta Fire and Rescue Department
MLD	most likely descendant



City of Murrieta  
Whitewood Condo / Apartment Project

**INITIAL STUDY**

MSHCP	Multi-Species Habitat Conservation Plan
MVUSD	Murrieta Valley Unified School District
MWD	Metropolitan Water District of Southern California
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NOI	Notice of Intent
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
OEHHA	Office of Environmental Health Hazard Assessment
PCBs	polychlorinated biphenyls
PM	particulate matter
P/OS	Parks and Open Space
RCA	Riverside Conservation Authority
RCNM	Roadway Construction Noise Model
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental conditions
RHNA	Regional Housing Needs Assessments
RPS	Renewable Portfolio Standards
RTA	Riverside Transit Agency
RTP/SCS	Regional Transportation Plan / Sustainable Communities Strategies
RWQCB	Regional Water Quality Control Board
SB	State Bill
SBA	Source Receptor Areas
SCAB	South Coast Air Basin
SCAG	Southern California Association of Government
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SGMA	Sustainable Groundwater Management Act
SRF	Single-Family Residential
SSC	Species of Special Concern
STC	Sound Transportation Class
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TCR	Tribal Cultural Resources
TEA	Transportation Equity Act
TIA	Traffic Impact Analysis
TUMF	Transportation Utilization Mitigation Fee
USDA	U.S. Department of Interior
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plan
VEC	vapor encroachment conditions
VOC	Volatile Organic Compounds

City of Murrieta  
Whitewood Condo / Apartment Project

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**INITIAL STUDY**

VMT	Vehicle Miles Traveled
WOTUS	Waters of the United States
WQB	Water Quality Management Basins
WQMP	Water Quality Management Plan
WRCOG	Western Riverside Council of Governments
WSA	Water Supply Assessment

City of Murrieta  
Whitewood Condo / Apartment Project

**INITIAL STUDY**

## **ENVIRONMENTAL CHECKLIST**

### **BACKGROUND INFORMATION**

#### **1. Project Information**

- i) Project Title: Whitewood Condo / Apartment Project: Development Plan 2021-2406, Tentative Parcel Map 2021-2407 (38199), and Phasing Plan 2021-2408
- ii) Applicant: Corman Leigh  
32823 Temecula Parkway  
Temecula, CA 92592  
  
Project Manager: Mr. Jordan Bursch, Director of Acquisitions  
T: (951) 491-6018 E: jordan@cormanleigh.com
- ii) Lead Agency Name: City of Murrieta  
Address: 1 Town Square  
Murrieta, CA 92562
- iii) Contact: Jarrett Ramaiya, City Planner  
Phone Number: (951) 461-6069
- iv) Project Location: The proposed project is located along Clinton Keith Road, at the southeast corner of the intersection of Whitewood Road and Clinton Keith Road in the City of Murrieta, Riverside County, California. The site is located in Section 2, Township 7 South, Range 3 West SBM as found on the USGS – Murrieta Quadrangle, 7.5 Minute Series topographic. The geographic coordinates are as follows: 33.595926, -117.161048° (refer to Figures 1 and 2 for project location depicted at a regional and site level).

### **PROJECT ASSESSMENT**

#### **1. Project Description**

##### **A. Introduction**

This document is being prepared for the City of Murrieta for the Whitewood Condo / Apartment Project. The City will consider entitlements for the development of a 483-unit mixed condo and apartment complex within the project site at the southeast corner of the intersection of Clinton Keith Road within the City of Murrieta. The Applicant is Corman Leigh ("Owner"), with the Project Manager at Corman Leigh being Jordan Bursch. The purpose of the project is to provide additional housing options to serve the growing population of the City of Murrieta.

##### **B. Project Characteristics**

The approximately 29.18-acre site is located in the City of Murrieta, which is located within Riverside County, California. It is comprised of one parcel—APN 900-030-036-5—located along Clinton Keith Road northwest of the intersection of at the southeast corner of the intersection of Clinton Keith Road within the City of Murrieta. The project will require the following entitlements from the City of Murrieta: Development Plan 2021-2406, Development Plan 2021-2407 (38199), and Phasing Plan (2021-2408).

The proposed site will be developed with thirty-eight (38) buildings as shown on the site plan provided as Figure 3, which will make up the Whitewood Condo / Apartment Project. The site is planned to contain

City of Murrieta  
Whitewood Condo / Apartment Project

**INITIAL STUDY**

38 buildings, of which 27 are condos and will be installed during one phase of construction, while the remaining 11 apartment buildings will be developed during a separate phase. Ultimately, the site will ultimately contain a total of 483 dwelling units at a density of 16.55 dwelling units per acre within the 29.18-acre site.

The project is proposing 27 2-story condo buildings, of which 24 will contain 6 units each and 3 will contain 3 units each total building square footage will be 264,231 square feet (SF) (248,688 SF [24, 6-plex] + 15,543 SF [3, 3-plexs]). The total condo development section of the site will occupy 9.99-acres and provide 153 units. The project is proposing 11 3-story apartment buildings with two different building types (Building Type 1 and Building Type 2, refer to Figure 3, Site Plan). The total building square footage will be 440,780 SF (356,328 SF [9 Building Type 1] + 84,452 SF [2, Building Type 2]). The total apartment development section of the site will occupy 19.17-acres and provide 330 units. The total building area within the entirety of the site would be 381,324 SF. The breakdown of units, types of units, floor area per unit, and units per building is summarized in Tables 1 through 4.

**Table 1  
APARTMENT UNIT DATA**

Unit	Floor Area	Units per Building Type #1	Units per Building Type #2	Total Units Per Unit Type
Studio	486 SF	3	0	27
1 Bed, 1 Bath	743 SF	12	12	132
2 Bed, 2 Bath	963 SF	7	7	77
2 Bed, 2 Bath	1,063 SF	5	5	55
3 Bed, 2 Bath	1,307 SF	3	6	39
<b>Total Units:</b>		<b>30</b>	<b>30</b>	<b>330</b>

**Table 2  
APARTMENT BUILDING FLOOR AREAS**

Floor	Building #1	Building #1	Building #1	Building #2	Building #2	Building #2
	Per Floor Total Unit SF	Per Floor Gross SF	Number of Building #1 Onsite	Per Floor Total Unit SF	Per Floor Gross SF	Number of Building #2 Onsite
1 <sup>st</sup> Floor	5,304	13,246	-	6,142	14,124	-
2 <sup>nd</sup> Floor	10,643	13,246	-	11,482	14,124	-
3 <sup>rd</sup> Floor	10,643	13,100	-	11,482	13,978	-
<b>Total:</b>	<b>25,590 SF (Unit SF)</b>	<b>39,592 SF</b>	<b>9</b>	<b>29,106 SF (Unit SF)</b>	<b>42,226 SF</b>	<b>2</b>

**Table 3  
CONDOMINIUM UNIT DATA**

Unit	Floor Area	Units per Building Type #1
2 Bed, 2 Bath	1,543 SF	51
3 Bed, 2.5 Bath	1,551 SF	51
4 Bed, 3 Bath	1,968 SF	51
<b>Total Units:</b>		<b>153</b>

**Table 4  
CONDOMINIUM BUILDING FLOOR AREAS**

<b>6-Plex</b>	
1 <sup>st</sup> Floor	3,860 SF
2 <sup>nd</sup> Floor	6,502 SF
<b>Total Floor Area:</b>	<b>10,362 SF</b>
<b>3-Plex</b>	
1 <sup>st</sup> Floor	1,930 SF
2 <sup>nd</sup> Floor	3,251 SF
<b>Total Floor Area:</b>	<b>5,181 SF</b>

As shown in Tables 5 and 6 below, the project proposes 449 parking garages for residents of the proposed Whitewood Condo / Apartment Project, as well as 548 open parking spaces and 140 covered spaces for a total of 1,137 spaces. The project is required to provide a total of 23 handicapped (ADA) parking spaces, bicycle parking spaces, and 68 electric vehicle (EV) parking and charging spaces. The project will provide the number and type of parking spaces required by the City. The parking requirements versus parking provided are shown in the tables below:

**Table 5  
APARTMENT PARKING**

Unit	Dwelling Units	Ratio of Units to Parking Spaces	Parking Requirements	Parking Provided			
			Total	Open	Garage	Covered	Total
Studio: 1 Bed, 1 Bath	27	1.5	41	-	-	-	-
2 Bed, 2 Bath	132	1.5	198	-	-	-	-
2 Bed, 2 Bath)	132	2.0	264	-	-	-	-
3 Bed, 2 Bath	39	2.5	98	-	-	-	-
Guest Parking (25%)			83	-	-	-	-
<b>TOTALS</b>	<b>330</b>	<b>-</b>	<b>684</b>	<b>504</b>	<b>143</b>	<b>140</b>	<b>787</b>
Enclosed Garage Spaces Required			330	ADA Parking Total (2%)			15
				EV Parking and Charging (6%)			45



Table 6  
CONDO PARKING

Unit	Dwelling Units	Ratio of Units to Parking Spaces	Parking Requirements	Parking Provided		
			Total	Open	Garage (2 per Condo)	Total
2 Bedroom	51	2.0	102	-	-	-
3 Bedroom	51	2.0	128	-	-	-
4 Bedroom	51	3.0	153	-	-	-
Guest Parking (33%)			51	-	-	-
<b>TOTALS</b>	<b>153</b>	<b>-</b>	<b>383</b>	<b>44</b>	<b>306</b>	<b>350</b>
Enclosed Garage Spaces Required			153	ADA Parking Total (2%)		8
				EV Parking and Charging (6%)		23

The project proposes landscaped area of 152,529 SF, which is 27% coverage of the overall site that meets the City's landscaping requirements.

Off-site improvements that will be completed as part of the project include curb and gutter on the adjacent streets, Whitewood and Clinton Keith Roads, and also lighting and landscaping along Whitewood Road and Clinton Keith Road along the project frontage.

Phase I of construction will install two Water Quality Management Basins (WQB) on the western border of the site towards Whitewood Road. Phase I site access will be provided along Whitewood Road and parking and pavement enabling access to the proposed 27 condo buildings associated within Phase I will be installed. Phase I includes the installation of the recreation center, barbeque area, playground/park area, and a pool. Phase 1 also includes an internal circulation road between Whitewood Road and Clinton Keith Road to facilitate fire access. Phase II of construction will include the installation of a WQMP Basin at the eastern border of the site near the proposed site access along Clinton Keith Road. Phase II includes the installation of two parks, a recreation center, barbeque area, and a pool. Phase II will include the installation of parking and pavement enabling access to the proposed 11 apartment buildings, which will be installed within a separate fenced portion of the site. Once occupied, the project will ultimately include trash enclosures and additional recreational parks and recreational facilities to support the apartment residents.

The project will connect to water, sewer, natural gas, and telecommunication adjacent to the project site within Whitewood Road. Electricity connections will connect to the project at Clinton Keith Road. Utilities, such as the electrical-lines fronting the property along Clinton Keith, will be undergrounded as part of the construction of the project. The proposed project requires annexation into Eastern Municipal Water District's service area for water and sewer service.

The apartments and condos will all have a solar component or will be solar ready, and will be outfitted with low flow toilets and energy efficient appliances. Additionally, reclaimed water will be utilized for onsite landscaping where available.

#### List of All Applications

1. Development Plan (DP)-2021-2406 Required to permit the proposed project improvements at the site, such as site buildings and landscaping,
2. Tentative Parcel Map 2021-2407 (38199), and
3. Phasing Plan 2021-2408.

Construction Scenario

Please refer to the Whitewood Development Plan provided as Appendix 1. The anticipated construction sequence is as follows, but may be adjusted to conform to specific conditions at the time of actual construction:

1. Clear and grub using industrial mower for the first pass;
2. Preparation of site (watering for dust control, etc.) for mass grading;
3. Mass grade site and road beds;
4. Installation of the northerly and southerly storm drain systems;
5. Installation of public sewer systems;
6. Installation of public water systems;
7. Fine grade to prepare for surface improvements;
8. Installation of building foundations;
9. Install private utilities, including water quality infrastructure;
10. Install curb, gutters, sidewalks and first asphalt lift;
11. Complete construction of buildings
12. Install landscaping; place final lift of asphalt; and
13. Install signage and striping.

Most of the preceding construction activities are self-explanatory. The buildings will be developed with a combination of wood framing, and the exterior will be stucco, similar to surrounding structures. Construction will be completed in two phases with the total site being mass graded to create the development pad. This will include grading and installation of utilities, and may also include development of internal paved roadways.

Construction of Phase I should be initiated in early to late-2022 and the Phase I the units should open for occupancy by about 12 months from the start of construction. Phase II is anticipated to begin once Phase I is complete, although the two phases may be constructed concurrently, and will require about 12 months to complete from the start of construction with an optimistic opening year estimated at 2024 for both Phases. The project site will require about 160,000 cubic yards (CY) of cut and 160,000 CY of fill, as such the soils on site will balance. Construction details are discussed in the Air Quality evaluation in Appendix 1. It is anticipated that between 30 and 40 construction workers will be on site at any given time during construction.

**2. Description of the Project Site**

The project site is rectangular parcel of land that is bounded to the north by Clinton Keith Road and on the west by Whitewood Road. West of Whitewood is Vista Murrieta High School. To the north is low density single-family residential uses. The RCA owns preserved habitat to the west south and east of the project site. The approximately 29.18 site is located at the southeast corner of the intersection of Whitewood Road and Clinton Keith Road. The project site ranges in elevation from about 1,525' to about 1,440' and contains native vegetation with several disturbed pathways throughout the site from off-road disturbance. The site topography can be described as shallow hills sloping from northwest (highest point) to southeast (lowest point). The overall setting is that of a transitional area with urbanized areas to the west and moderately developed and rural area to the east. Refer to the aerial photograph in Figure 2 for a representation of the existing project site.

**3. Surrounding Land Uses**

- North: Single-Family Residential (SFR): the area north of the project is relatively sparsely developed with a few single-family residences.
- South: Parks and Open Space (P/OS): the area south of the project site is vacant and owned by the County RCA as preserved habitat.
- East: Parks and Open Space (P/OS): the area east of the project site is vacant and owned by the RCA.
- West: Civic/Institutional (C/I): Vista Murrieta High School is located at the southwest corner of the intersection of Whitewood Road and Clinton Keith Road with a small sliver of preserved land owned by the RCA.

**4. General Plan Designation**

- Existing: Multi-Family Residential MFR  
Proposed: No change in General Plan designation proposed

**5. Zoning**

- Existing: Multi-Family Residential MF-2  
Proposed: No change in zone classification proposed

**6. Other Agencies whose approval may be required**

Based on an evaluation of the specific project location, the proposed project will not require any permits from other agencies to support development of the site as proposed by the applications. The amount of area to be disturbed by the whole project will be greater than one acre; therefore, the developer will be required to file a Notice of Intent (NOI) for a General Construction permit to comply with the National Pollutant Discharge Elimination System (NPDES) requirements. The NOI is filed with the State Water Resources Control Board and enforced by the San Diego Regional Water Quality Control Board. A Stormwater Pollution Prevention Plan (SWPPP) must be implemented in conjunction with construction activities. No other permits or agency requirements have been identified in association with the proposed project.

**7. Have California Native American tribes traditionally and cultural affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?** Yes. City has conferred with local Native American representatives.

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21083.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.



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### **ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED**

As indicated by the checklist on the following pages, there are no "Potentially Significant Impacts" associated with implementation of the proposed Project that cannot be reduced to "Less than significant" with mitigation incorporated. An "X" next to an issue area in the following table indicates where mitigation is included to reduce impacts from "Potentially Significant" to "Less than significant".

X	Aesthetics		Agricultural and Forestry Resources	X	Air Quality
X	Biological Resources	X	Cultural Resources		Energy
X	Geology and Soils	X	Greenhouse Gas Emissions	X	Hazards and Hazardous Materials
X	Hydrology and Water Quality		Land Use and Planning		Mineral Resources
X	Noise		Population and Housing		Public Services
	Recreation	X	Transportation / Traffic	X	Tribal Cultural Resources
X	Utilities and Service Systems		Wildfire	X	Mandatory Findings of Significance


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**DETERMINATION** (To be completed by the Lead Agency)

On the basis of this initial evaluation, the following finding is made:

<input type="checkbox"/>	The proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
<input checked="" type="checkbox"/>	Although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
<input type="checkbox"/>	The proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
<input type="checkbox"/>	The proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
<input type="checkbox"/>	Although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.

Tom Dodson & Associates  
Prepared by  
  
Lead Agency (signature)

May 2022  
Date  
  
Date

**EVALUATION OF ENVIRONMENTAL IMPACTS:**

- 1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to Projects like the one involved (e.g., the Project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on Project-specific factors as well as general standards (e.g., the Project will not expose sensitive receptors to pollutants, based on a Project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as onsite, cumulative as well as Project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
- 4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
  - a) Earlier Analysis Used. Identify and state where they are available for review.
  - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
  - c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the Project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a Project's environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:
  - a) the significance criteria or threshold, if any, used to evaluate each question; and
  - b) the mitigation measure identified, if any, to reduce the impact to less than significance.

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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>I. AESTHETICS:</b> Except as provided in Public Resources Code Section 21099, would the Project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning or other regulations governing scenic quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION:** This section is informed in part by an Arborist Survey of the project site to meet the City's requirements pertaining to future removal of trees. This report, provided as Appendix 2 to this Initial Study, is titled "Arborist Assessment for Whitewood-29 in Murrieta" and was prepared by Nancy Sappington, Consulting Arborist dated April 2021.

- a. *Less Than Significant Impact* – Adverse impacts to scenic vistas can occur in one of two ways. First, an area itself may contain existing scenic vistas that would be altered by new development. A review of the project area determined that there are no scenic vistas located internally within the area proposed for the development of the Whitewood Condo / Apartment Project. The Final EIR for the Murrieta General Plan 2017 identifies significant vistas within the City as being located toward three primary hillside areas within the City: in the foothills and canyons in the extreme western portion; in the eastern portion on and around the Hogbacks; and along the northeastern hillsides. The proposed project is not located within any of the above identified significant vistas, though it is located about a mile northwest of the Hogbacks. The project site itself has a varied topography and will be graded to create two level development pads. The northern pad will be elevated from street level at Clinton Keith Road by 8 to 22 feet according the preliminary grading plan. As stated, the condo and apartment sites will each be at different elevations. The project site contains native vegetation coverage as it has not been impacted beyond some limited vegetation removal or lack of vegetation growth in areas used for unauthorized off-roading.

A scenic vista impact can also occur when a scenic vista can be viewed from the project area or immediate vicinity and a proposed development may interfere with the view to a scenic vista. A scenic vista impact can also occur when a scenic vista can be viewed from the project area or immediate vicinity and a proposed development may interfere with the view to a scenic vista. The City of Murrieta General Plan indicates that the variety of rolling hillsides, mountain, the Valley floor, and varied natural vegetation contributes to the unique visual character of Murrieta. The project site is oriented in an area that is somewhat hilly, though the proposed project site is not definitively connected to the adjacent hillside south of the project site. Furthermore, the proposed project is located within a site that is separated from the Hogbacks by Los Alamos Road and existing residential development at the foothills of the Hogbacks. Generally, the proposed project site is elevated from adjacent development, so development located to the north, northwest, and west presently experience impeded views to the Hogbacks. Development of this site will involve grading to create level surfaces upon which to install the proposed apartment and condo buildings, and while new structures will be

in place, the views in the general area to the Hogbacks will remain impeded. The new residents of the proposed condos and apartments will have access to scenic vistas at various locations within the site due to the height of the site in relation to the surrounding area, and the elevations of the various condo and apartment units. No development to the southeast of the project would experience impeded views to any scenic vistas to the northwest of the project site, as there are no vistas in that general location that, based on a review of google maps and google street view (Accessed 3/25/21), can be viewed from the surrounding area. Given the project's elevation and that the site is removed from the Hogbacks and other identified scenic vistas within the City, development of this site would not result in impacts to any scenic vistas that could be viewed from public or private spaces. Also, the project site is surrounded on two sides by County RCA property that will never be developed and by a high school to the immediate west of Whitewood Road. Therefore, the proposed project would have a less than significant potential to have a substantial adverse effect on a scenic vista. No mitigation is required.

- b. *Less Than Significant With Mitigation Incorporated* – The project site is undeveloped with native and non-native vegetation, as well as two drainage features that bisect parts of the site. The site is vacant and consists of varied topography covered with native vegetation and dirt pathways created by off-road use. The site has been designated for multi-family residential use under both the prior General Plan and the current Murrieta General Plan. The project site contains several mature trees, which may fall under the City of Murrieta's Tree Preservation Ordinance (Municipal Code Section 16.42). As such, in order to ensure compliance with the City's Development Code, the following measure shall be required to minimize impacts to trees:

**AES-1** *The Applicant shall meet the provisions of City of Murrieta Municipal Code Section 16.42 pertaining to Tree Preservation and Removal. The Applicant shall obtain City approval to remove any trees on site through tree removal permit(s). The Applicant shall meet the provisions of 16.42.070 Tree Removal Permit which outlines further requirements pertaining to the tree removal permit process.*

The Applicant has prepared an Arborist Survey of the project site to meet the City's requirements pertaining to future removal of trees. This report, provided as Appendix 2 to this Initial Study, titled Arborist Assessment for Whitewood-29 in Murrieta by Nancy Sappington, Consulting Arborist, concludes that there was one tree species found in the survey—black elderberry (*Sambucus nigra*). All of the surveyed trees were rated in good to maximum health with generally good structure. No dead trees were observed in the survey.

Most of the trees will need to be removed, but efforts should be made to save three to four of the trees. Figure I-1 indicates the trees surveyed on the site. One of the elderberry trees (ELD-1) falls outside the limits of construction and can be saved. In order to remove the remaining trees on site, the Applicant will need to obtain a tree removal permit pursuant to Murrieta Municipal Code Section 16.42. As such, AES-2 shall be implemented.

**AES-2** *The Applicant shall avoid compaction of soil during construction in areas where trees are located within or adjacent to the project site that do not require removal. The Applicant shall avoid root removal in all instances where it is possible to do so. The Applicant shall utilize the following Tree Preservation Guidelines:*

**Root Pruning**

- a. *There shall be no disturbance to roots more than 2 inches in diameter. Roots less than 2 inches in diameter must be cleanly cut to encourage good callus tissue. It is recommended that roots be pruned back to the next root node.*



- b. Recommended distances from the trunk that roots should be pruned have been established for construction activities around trees. The recommendations are: Preferred distance – 5 times the diameter of the tree at breast height (dbh); Minimum distance – 3 times dbh.*
- c. The recommended time to prune roots is before active root growth in late summer and fall.*
- d. The less frequently roots are pruned the less impact there will be on tree health and stability.*

**Root Protection Zone**

- a. A root protection zone shall be defined by a minimum 42" high barrier constructed around any potentially impacted tree. This barrier shall be at the drip line of the tree or at a distance from the trunk equal to 6 inches for each inch of trunk diameter 4.5 feet above the ground, if this method defines a larger area.*
- b. Should it be necessary to install irrigation lines within this area, the line shall be located by boring, or an alternate location for the trench is to be established. The minimum clearance between an open trench and a tree shall be no closer than 10 feet or 6 inches for each inch of trunk diameter measured at 4.5 feet above existing grade, if this method defines a larger distance. The maximum clearance shall be 10 feet. The contractor shall conform to these provisions.*
- c. At no time shall any equipment, materials, supplies or fill be allowed within the prescribed root protection.*

**Protection from Root Compaction**

- a. No vehicles shall be permitted to be parked under the dripline of trees in non-paved areas. Avoid placing heavy equipment, large rocks or boulders, and gravel under the drip line of the tree. The object is to avoid soil compaction, which makes it difficult for roots to receive oxygen from the soil.*

**Preventing Damage from Grade Changes**

*Preventing tree damage from grade changes must be undertaken before the grade of the land is actually altered. Trees that are seriously declining due to grade changes seldom respond to corrective measures designed to save them.*

*If fill must be placed over tree roots, a well and drainage system must be installed. The dry well must be large enough to allow for future growth of the trunk. Agricultural drain tile (4 to 6 inches) should be placed on the natural grade of the land. The tile should drain to a lower level to prevent water from collecting within the well. Cover the tile with 6 to 8 inches of 2- to 3-inch stone. (Do not use limestone because this will raise the soil pH and could adversely affect tree growth.) Connect vent tiles with the drain tile to allow for gaseous exchange between the root zone and atmosphere. The fill should consist of a sandy soil or organic matter such as biochar to allow maximum aeration of the root zone.*

*For lowering the grade, all cuts in the natural grade must be made outside the dripline of a tree. Where trees are growing on a slope, the landscape sometimes is cut and filled to create a level site. Again, all grade changes should be made outside the dripline of the tree.*

Furthermore, no roadways within the vicinity of the project site are considered eligible for official designation as a County or State Scenic Highway. No other scenic resources are located within the project site. As such, based on the discussion above, and with implementation of the above mitigation measure, the proposed project would have a less than significant potential to substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

- c. *Less Than Significant With Mitigation Incorporated* – The Murrieta Whitewood Project site is located in a relatively and increasingly urbanized area. The Murrieta General Plan has designated the project site for Multi-Family Residential Use and the zoning classification is the same. By developing this vacant site in accordance with City General Plan and design guidelines for multi-family uses (Murrieta Development Code (MDC) 16.08.040 Multi-family Residential Design Standards) and development plans (16.56.040 C Development Plan Permits), the visual character of this site will be converted to an urban visual setting consistent with the development to the west and northwest of the project site, which consists of developed residences and the Vista Murrieta High School, but also consistent with the General Plan vision for the City at build-out. With the City's design elements incorporated in the project, implementation of the proposed project will be consistent with the surrounding urban setting and the potential aesthetic impacts to the site will result in a less than significant impact. In addition to the long-term visual effect, the City's General Plan EIR requires three mitigation measures to be implemented by projects to minimize visual impacts during construction. These are measures *AES-1 and AES-2* from the General Plan EIR. Thus, with implementation of these required measures and implementation of the City's design standards, the potential aesthetic impacts will be reduced to a less than significant level.

***AES-3 For future development located in or immediately adjacent to residential zoned properties, construction documents shall include language that requires all construction contractors to strictly control the staging of construction equipment and the cleanliness of construction equipment stored or driven beyond the limits of the construction work area. Construction equipment shall be parked and staged within the project site, as distant from the residential use, as reasonably possible. Staging areas shall be screened from view from residential properties.***

***AES-4 Construction documents shall include language requiring that construction vehicles be kept clean and free of mud and dust prior to leaving the development site. Streets surrounding the development site shall be swept daily and maintained free of dirt and debris.***

***AES-5 Construction worker parking may be located off-site with prior approval by the City. On-street parking of construction worker vehicles on residential streets shall be prohibited.***

With implementation of the above measures, and compliance with City design requirements, the proposed project would have a less than significant potential to conflict with applicable zoning or other regulations governing scenic quality.

- d. *Less Than Significant With Mitigation Incorporated* – The implementation of the proposed project will create new sources of light during the operational phases of the project. Light and glare from interior and exterior building lighting, safety and security lighting, and vehicular traffic accessing the site will occur once the site is in operation. The proposed project must be developed in accordance with the MDC, which would ensure that any building or parking area lighting would not significantly impact adjacent uses and would comply with MSHCP urban wildlife interface guidelines. Thus, the proposed project will introduce a new source of light into the project area, but design requirements can limit the lighting impacts to the project site. To ensure that light does not result in intrusive lighting, the project must comply with the City's requirements (General Plan EIR and related policies under Aesthetics,

Section 5) that lighting be restricted to the project site through shielding and directing light downward, and compliance with Mt. Palomar lighting standards (MDC Section 16.18.100 (Lighting) and MDC Section 16.18.110 (Mount Palomar Lighting Standards)). To ensure that light or glare (particularly off of structures with glass exteriors) does not result in intrusive lighting or glare to existing structures or persons in the project area, the following mitigation measure will be implemented:

**AES-6** *Prior to approval of the Final Design, an analysis of potential glare from sunlight or exterior lighting to impact vehicles traveling on adjacent roadways shall be submitted to the City for review and approval. This analysis shall demonstrate that due to building orientation or exterior treatment, no significant glare may be caused that could negatively impact drivers on the local roadways or impact adjacent land uses. If potential glare impacts are identified, the building orientation, use of non-glare reflective materials or other design solutions acceptable to the City of Murrieta shall be implemented to eliminate glare impacts.*

With the implementation of mitigation measures **AES-3** through **AES-6**, the proposed Murrieta Whitewood Project would have a less than significant potential to create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.



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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>II. AGRICULTURE AND FORESTRY RESOURCES:</b> In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the Project:				
a) Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**SUBSTANTIATION**

- a. *Less Than Significant Impact* – The General Plan identified a total of 2,234 acres within the City Limits as supporting agricultural or mining uses. According to the California Department of Conservation Important Farmland Map Finder, the project is located on land that is deemed “Farmland of Local Importance” and “Grazing Land” (Figure II-1). The City, however, has not designated this site nor zoned this site for agricultural use, as the General Plan and Zoning Classifications are Multi-Family Residential. This indicates that the City intends for the project site to be developed for a use that would suit this land use designation/zoning classification in which it has assigned this project site. The City's General Plan EIR indicates that most of the Farmland of Local Importance is not in agricultural production, and was therefore not designated for agricultural use by the General Plan. Therefore, given that the City does not identify the project site for agricultural use, and that no Prime Farmland, Unique Farmland or Farmland of Statewide Importance has been identified within the project site, implementation of the proposed project and conversion of the project site to the proposed

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multi-family residential uses will not pose any significant adverse impact to agricultural resources or values. No mitigation is required.

- b. *No Impact* - Implementation of the proposed project will not conflict with existing zoning (Multi-Family Residential) for agricultural use, or a Williamson Act contract. According to Figure 5.11-2 *Williamson Act Farmland (2006)* of the City's General Plan EIR (GPEIR), the proposed project site is not part of a Williamson Act contract. Please reference the discussion in II(a), above. Based on this information, the proposed project will not conflict with existing zoning for agricultural use, or a Williamson Act contract. No adverse impacts are anticipated and no mitigation is required.
- c. *No Impact* – The project site is not located within forest land, timberland or timberland zoned for Timberland Production. Therefore, the proposed project will not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)). No adverse impacts are anticipated and no mitigation is required.
- d. *No Impact* – The project site is not located within forest land and has no commercial forest trees on the property; therefore, the project will not result in the loss of forest land or conversion of forest land to non-forest production use. No adverse impacts are anticipated and no mitigation is required.
- e. *No Impact* – Please refer to the discussion under issue II(a), above. Though the project is located within a site considered to contain Farmland of Local Importance by the California Department of Conservation, no agricultural activities have been practiced on the site in recent history. Furthermore, the City has designated and zoned the site for Multi-Family Residential use, which does not permit agricultural uses to be carried out. The uses in the immediate vicinity surrounding the proposed project do not currently support agricultural activities. Ultimately, the development of this site as the Murrieta Whitewood Project would not involve other changes that would result in off-site agricultural land converting to a non-agricultural use. Furthermore, there is no forest land in the City of Murrieta that would be impacted by the development of the proposed project. Therefore, the proposed project would have a less than significant potential to involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>III. AIR QUALITY:</b> Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the Project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION:** An Air Quality Impact Analysis (AQIA) was prepared for the proposed project, and is provided as Appendix 3 to this Initial Study, is titled "Murrieta Apartments, Air Quality Impact Analysis, City of Murrieta" prepared by Urban Crossroads dated August 11, 2021.

#### Background

The project is located within the City of Murrieta in the portion of Riverside County that lies within the South Coast Air Basin (Basin or SCAB). The project area is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The Basin is a 6,600-square-mile coastal plain bounded by the Pacific Ocean to the southwest and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes the non-desert portions of Los Angeles, Riverside, and San Bernardino counties, and all of Orange County.

The ambient concentrations of air pollutants are determined by the amount of emissions released by sources and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources.

The annual average temperatures throughout the SCAB vary from the low to middle 60s (degrees Fahrenheit). Due to a decreased marine influence, the eastern portion of the SCAB shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the SCAB, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the SCAB have recorded maximum temperatures above 100°F.

Because the State of California had established Ambient Air Quality Standards (AAQS) several years before the federal action and because of unique air quality problems introduced by the restrictive dispersion meteorology, there is considerable difference between state and national clean air standards. Those standards currently in effect in California and the nation are shown in Table III-1. Sources and health effects of various pollutants are shown in Table III-2.

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**Table III-1  
AMBIENT AIR QUALITY STANDARDS**

Pollutant	Average Time	California Standards <sup>1</sup>		National Standards <sup>2</sup>		
		Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,6</sup>	Method <sup>7</sup>
Ozone (O3) <sup>8</sup>	1 Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM10) <sup>9</sup>	24 Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		–		
Fine Particulate Matter (PM2.5) <sup>9</sup>	24 Hour	–	–	35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12.0 µg/m³	15.0 µg/m³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m³)	–	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9 ppm (10 mg/m³)		9 ppm (10 mg/m³)	–	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m³)		–	–	
Nitrogen Dioxide (NO2) <sup>10</sup>	1 Hour	0.18 ppm (339 µg/m³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m³)	–	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)		0.053 ppm (100 µg/m³)	Same as Primary Standard	
Sulfur Dioxide (SO2) <sup>11</sup>	1 Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	–	Ultraviolet Flourescence; Spectrophotometry (Paraosaniline Method)
	3 Hour	–		–	0.5 ppm (1300 µg/m³)	
	24 Hour	0.04 ppm (105 µg/m³)		0.14 ppm (for certain areas) <sup>11</sup>	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas) <sup>11</sup>	–	
Lead 8 <sup>12,13</sup>	30-Day Average	1.5 µg/m³	Atomic Absorption	–	–	–
	Calendar Quarter	–		1.5 µg/m³ (for certain areas) <sup>12</sup>	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Avg	–		0.15 µg/m³		
Visibility Reducing Particles <sup>14</sup>	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No  Federal  Standards		
Sulfates	24 Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride <sup>12</sup>	24 Hour	0.01 ppm (26 µa/m³)	Gas Chromatography			

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Footnotes

- 1 California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter – PM<sub>10</sub>, PM<sub>2.5</sub>, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- 2 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM<sub>10</sub>, the 24-hour standard is attained when the expected number of days per calendar year, with a 24-hour average concentration above 150 µg/m<sup>3</sup>, is equal to or less than one. For PM<sub>2.5</sub>, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.
- 3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- 4 Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
- 5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- 6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- 7 Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
- 8 On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
- 9 On December 14, 2012, the national PM<sub>2.5</sub> primary standard was lowered from 15 µg/m<sup>3</sup> to 12.0 µg/m<sup>3</sup>. The existing national 24-hour PM<sub>2.5</sub> standards (primary and secondary) were retained at 35 µg/m<sup>3</sup>, as was the annual secondary standard of 15 µg/m<sup>3</sup>. The existing 24-hour PM<sub>10</sub> standards (primary and secondary) of 150 µg/m<sup>3</sup> also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
- 10 To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
- 11 On June 2, 2010, a new 1-hour SO<sub>2</sub> standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO<sub>2</sub> national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.  
  
Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
- 12 The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
- 13 The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m<sup>3</sup> as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
- 14 In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.



**Table III-2  
HEALTH EFFECTS OF MAJOR CRITERIA POLLUTANTS**

<b>Pollutants</b>	<b>Sources</b>	<b>Primary Effects</b>
Carbon Monoxide (CO)	<ul style="list-style-type: none"> <li>• Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust.</li> <li>• Natural events, such as decomposition of organic matter.</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced tolerance for exercise.</li> <li>• Impairment of mental function.</li> <li>• Impairment of fetal development.</li> <li>• Death at high levels of exposure.</li> <li>• Aggravation of some heart diseases (angina).</li> </ul>
Nitrogen Dioxide (NO <sub>2</sub> )	<ul style="list-style-type: none"> <li>• Motor vehicle exhaust.</li> <li>• High temperature stationary combustion.</li> <li>• Atmospheric reactions.</li> </ul>	<ul style="list-style-type: none"> <li>• Aggravation of respiratory illness.</li> <li>• Reduced visibility.</li> <li>• Reduced plant growth.</li> <li>• Formation of acid rain.</li> </ul>
Ozone (O <sub>3</sub> )	<ul style="list-style-type: none"> <li>• Atmospheric reaction of organic gases with nitrogen oxides in sunlight.</li> </ul>	<ul style="list-style-type: none"> <li>• Aggravation of respiratory and cardiovascular diseases.</li> <li>• Irritation of eyes.</li> <li>• Impairment of cardiopulmonary function.</li> <li>• Plant leaf injury.</li> </ul>
Lead (Pb)	<ul style="list-style-type: none"> <li>• Contaminated soil.</li> </ul>	<ul style="list-style-type: none"> <li>• Impairment of blood function and nerve construction.</li> <li>• Behavioral and hearing problems in children.</li> </ul>
Fine Particulate Matter (PM-10)	<ul style="list-style-type: none"> <li>• Stationary combustion of solid fuels.</li> <li>• Construction activities.</li> <li>• Industrial processes.</li> <li>• Atmospheric chemical reactions.</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced lung function.</li> <li>• Aggravation of the effects of gaseous pollutants.</li> <li>• Aggravation of respiratory and cardio respiratory diseases.</li> <li>• Increased cough and chest discomfort.</li> <li>• Soiling.</li> <li>• Reduced visibility.</li> </ul>
Fine Particulate Matter (PM-2.5)	<ul style="list-style-type: none"> <li>• Fuel combustion in motor vehicles, equipment, and industrial sources.</li> <li>• Residential and agricultural burning.</li> <li>• Industrial processes.</li> <li>• Also, formed from photochemical reactions of other pollutants, including NO<sub>x</sub>, sulfur oxides, and organics.</li> </ul>	<ul style="list-style-type: none"> <li>• Increases respiratory disease.</li> <li>• Lung damage.</li> <li>• Cancer and premature death.</li> <li>• Reduces visibility and results in surface soiling.</li> </ul>
Sulfur Dioxide (SO <sub>2</sub> )	<ul style="list-style-type: none"> <li>• Combustion of sulfur-containing fossil fuels.</li> <li>• Smelting of sulfur-bearing metal ores.</li> <li>• Industrial processes.</li> </ul>	<ul style="list-style-type: none"> <li>• Aggravation of respiratory diseases (asthma, emphysema).</li> <li>• Reduced lung function.</li> <li>• Irritation of eyes.</li> <li>• Reduced visibility.</li> <li>• Plant injury.</li> <li>• Deterioration of metals, textiles, leather, finishes, coatings, etc.</li> </ul>

Source: California Air Resources Board, 2002.

#### Regional Air Quality

Air pollution contributes to a wide variety of adverse health effects. The EPA has established NAAQS for six of the most common air pollutants: carbon monoxide, lead, ozone, particulate matter, nitrogen dioxide, and sulfur dioxide which are known as criteria pollutants. The SCAQMD monitors levels of various criteria pollutants at 37 permanent monitoring stations and 5 single- pollutant source Pb air monitoring sites

throughout the air district. On February 21, 2019, CARB posted the 2018 amendments to the state and national area designations. Table III-3 outlines the attainment designations for SCAB.

**Table III-3  
SOUTH COAST AIR BASIN EMISSIONS FORECASTS (EMISSIONS IN TONS/DAY)**

Pollutant	State Status	National Status
Ozone – 1-hour standard	Nonattainment	—
Ozone – 8-hour standard	Nonattainment	Nonattainment
Carbon monoxide (CO)	Attainment	Attainment/Unclassified
Nitrogen dioxide (NO <sub>2</sub> )	Attainment	Attainment/Unclassified
Sulfur dioxide (SO <sub>2</sub> )	Attainment	Attainment/Unclassified
PM <sub>10</sub>	Nonattainment	Attainment
PM <sub>2.5</sub>	Nonattainment	Nonattainment
Lead <sup>1</sup> (Pb <sup>1</sup> )	Attainment	Attainment/Unclassified

Notes: (1) Source of Federal and State status: California Air Resources Board October 2018.

Note: See Appendix 2.1 (part of Appendix 2, AQIA) for a detailed map of State/National Area Designations within the SCAB  
 “—” = The national 1-hour O<sub>3</sub> standard was revoked effective June 15, 2005.

<sup>1</sup> The Federal nonattainment designation for lead is only applicable towards the Los Angeles County portion of the SCAB.

#### Local Air Quality

The SCAQMD has designated general forecast areas and air monitoring areas (referred to as Source Receptor Areas [SRA]) throughout the District in order to provide Southern California residents with information about the air quality conditions. The project site is located within the Temescal Valley area (SRA 26). The SCAQMD Temecula Valley monitoring station, located 6.98 miles northeast of the project site, is the nearest long-term air quality monitoring station for O<sub>3</sub>. The Temecula Valley monitoring station does not include data for CO, NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. As such, the next nearest monitoring stations will be used. The Elsinore Valley monitoring station, located in SRA 25, is the next nearest monitoring station for CO, NO<sub>2</sub>, and PM<sub>10</sub> is located approximately 11.17 miles northwest of the project site. The Saddleback Valley monitoring station is located within SRA 19, roughly 27.57 miles northwest of the project site, and is the nearest station that monitors PM<sub>2.5</sub>. It should be noted that the Elsinore Valley and Saddleback Valley monitoring stations were utilized in lieu of the Temecula Valley monitoring station only in instances where data was not available.

The most recent three (3) years of data available is shown on Table III-4 and identifies the number of days ambient air quality standards were exceeded for the study area, which is considered to be representative of the local air quality at the project site. Data for O<sub>3</sub>, CO, NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> for 2016 through 2018 was obtained from the SCAQMD Air Quality Data Tables. Additionally, data for SO<sub>2</sub> has been omitted as attainment is regularly met in the SCAB and few monitoring stations measure SO<sub>2</sub> concentrations.



Table III-4  
AIR QUALITY MONITORING SUMMARY<sup>1</sup>

Pollutant/Standard <sup>2</sup>		Standard	2016	2017	2018
<b>Ozone</b>	Maximum Federal 1-Hour Concentration (ppm)	--	0.104	0.107	0.091
	Maximum Federal 8-Hour Concentration (ppm)	--	0.088	0.085	0.079
	Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	4	21	0
	Number of Days Exceeding State/Federal 8-Hour Standard	> 0.070 ppm	47	57	6
<b>Carbon Monoxide<sup>3</sup></b>	Maximum Federal 1-Hour Concentration	> 35 ppm	1.9	2.2	1.5
	Maximum Federal 8-Hour Concentration	>20 ppm	1.7	2.0	1.2
<b>Nitrogen Dioxide<sup>3</sup></b>	Maximum Federal 1-Hour Concentration	>0.100 ppm	0.0610	0.0554	0.0650
	Annual Federal Standard Design Value	--	0.0150	0.0143	0.0135
<b>Inhalable Particulates (PM-10)<sup>3</sup></b>	Maximum Federal 24-Hour Concentration (µg/m <sup>3</sup> )	> 150 µg/m <sup>3</sup>	138	126	99
	Annual Federal Arithmetic Mean(µg/m <sup>3</sup> )	--	41.6	44.0	34.4
	Number of Days Exceeding Federal 24-Hour Standard	> 150 µg/m <sup>3</sup>	0	0	0
	Number of Days Exceeding State 24-Hour Standard	> 50 µg/m <sup>3</sup>	103	132	21
<b>Ultra-Fine Particulates (PM-2.5)</b>	Maximum Federal 24-Hour Concentration (µg/m <sup>3</sup> )	> 35 µg/m <sup>3</sup>	50.30	50.70	46.7
	Annual Federal Arithmetic Mean(µg/m <sup>3</sup> )	> 12 µg/m <sup>3</sup>	12.18	12.41	11.13
	Number of Days Exceeding Federal 24-Hour Standard	> 35 µg/m <sup>3</sup>	6	2	4

Notes: (1) Source: <http://www.arb.ca.gov/adam/topfour/topfour1.php>

Data from the Winchester-33700 Borel Road Monitoring Station unless otherwise noted.

(2) CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard; ppm = parts per million

(3) Data from Lake Elsinore-W Flint Street Station.

\* Means there was insufficient data available to determine value.

Standards of Significance

The criteria used to determine the significance of potential project-related air quality impacts are taken from the Initial Study Checklist in Appendix G of the State CEQA Guidelines (14 CCR §§15000, et seq.), which are listed at the beginning of this section. The SCAQMD has also developed regional significance thresholds for other regulated pollutants, as summarized at Table III-5. The SCAQMD's CEQA Air Quality Significance Thresholds (March 2015) indicate that any projects in the SCAB with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact.

**Table III-5  
MAXIMUM DAILY REGIONAL EMISSIONS THRESHOLDS**

Pollutant	Construction Thresholds	Operations Thresholds
<b>NOx</b>	100 lbs/day	55 lbs/day
<b>VOC</b>	75 lbs/day	55 lbs/day
<b>PM10</b>	150 lbs/day	150 lbs/day
<b>PM2.5</b>	55 lbs/day	55 lbs/day
<b>SOx</b>	150 lbs/day	150 lbs/day
<b>CO</b>	550 lbs/day	550 lbs/day
<b>Pb</b>	3 lbs/day	3 lbs/day

Source: Regional Thresholds presented in this table are based on the SCAQMD Air Quality Significance Thresholds, March 2015

### Impact Analysis

- a. *Less Than Significant Impact* – Projects such as the proposed Whitewood Condo / Apartment Project do not directly relate to the AQMP in that there are no specific air quality programs or regulations governing general development. Conformity with adopted plans, forecasts and programs relative to population, housing, employment and land use is the primary yardstick by which impact significance of planned growth is determined. In March 2017, the AQMD released the Final 2016 AQMP. The 2016 AQMP continues to evaluate current integrated strategies and control measures to meet the NAAQS, as well as, explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels. Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the SCAQMD's CEQA Air Quality Handbook (1993) (34). These indicators are:

***Consistency Criterion No. 1: The proposed project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.***

The violations that Consistency Criterion No. 1 refers to are the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded.

#### Construction Impacts – Consistency Criterion 1

Consistency Criterion No. 1 refers to violations of the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if LSTs or regional significance thresholds were exceeded. Based on the analysis herein, the project's localized construction-source emissions would not exceed applicable regional significance thresholds or LST. As such, the project is consistent with the AQMP with regard to regional construction-source air quality.

#### Operational Impacts – Consistency Criterion 1

As evaluated, the project's localized operational-source emissions would not exceed applicable localized significance thresholds. As such, the project would not result in a significant impact with respect to this criterion.

On the basis of the preceding discussion, and the lack of thresholds exceedances the project is determined to be consistent with the first criterion.

***Consistency Criterion No. 2: The project will not exceed the assumptions in the AQMP based on the years of project build-out phase.***

The 2016 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the SCAB are provided to the SCAG, which uses these to develop and the Regional Housing Needs Assessments (RHNA) for each jurisdiction along with regional population and VMT growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with these growth projections is considered to be consistent with the AQMP. Consistency can be evaluated using several methods, including, but not limited to, consistency with a local jurisdiction's land use designations and consistency with SCAG's jurisdictional growth projections, such as those in the RHNA.

#### Construction Impacts – Consistency Criterion 2

Peak day emissions generated by construction activities are largely independent of land use assignments, but rather are a function of development scope and maximum area of disturbance. Irrespective of the site's land use designation, development of the site to its maximum potential would likely occur, with disturbance of the entire site occurring during construction activities.

#### Operational Impacts – Consistency Criterion 2

The City of Murrieta General Plan designates the project site "Multiple-Family Residential". The "Multiple-Family Residential" land use designation permits 10.1-30 dwelling units per acre (38). As previously stated, the total development is proposed to consist of 483 multifamily residential units on 27.94 acres. Therefore, the proposed project would not require a general plan amendment or zone change to allow the proposed residential density.

The proposed project is also consistent with regional growth projections used in SCAG's RHNA. The RHNA is mandated by State Housing Law as part of the periodic process of updating local housing elements of the General Plan. RHNA quantifies the need for housing within each jurisdiction during specified planning periods. SCAG has recently completed the 6th cycle RHNA allocation plan which covers the planning period October 2021 through October 2029. It was adopted by SCAG on March 4, 2021. The City of Murrieta is projected to need to modify plans to allow for the develop an additional 3,034 dwelling units over this period (39). Over 1,500 units are designated for low or very low-income residents, as the project proposed to develop affordable units the development will assist the City of Murrieta in meeting the regional housing needs and would not be expected to exceed regional growth projections.

On the basis of the preceding discussion, the project is determined to be consistent with the second criterion.

#### AQMP Consistency Conclusion and Significance Determination

The project would not result in or cause NAAQS or CAAQS violations, as the project's construction PM10 LST emissions would not exceed the applicable threshold of significance. As such, the Whitewood Condo / Apartment Project is therefore considered to be consistent with the AQMP.

- b. *Less Than Significant With Mitigation Incorporated* – Air pollution emissions associated with the proposed project would occur over both a short and long-term time periods. Short-term emissions include fugitive dust from construction activities (i.e., site prep, demolition, grading, and exhaust emission) at the proposed project site. Long-term emissions generated by future operation of the proposed project primarily include energy consumption and trips generated by the future development.

#### Emissions Calculation Methodology

In June, 2021 the SCAQMD in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the California Emissions Estimator Model (CalEEMod) Version 2020.40.0. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, NOX, SOX, CO, PM10, and PM2.5) and GHG emissions from direct and indirect sources; and quantify applicable air quality and



GHG reductions achieved from mitigation. Accordingly, the latest version of CalEEMod was used for this project to determine construction and operational air quality emissions.

#### Construction Emissions

Construction activities associated with the project will result in emissions of VOCs, NOX, SOX, CO, PM10, and PM2.5. Construction related emissions are expected from the following construction activities: Site Preparation; Grading; Building Construction; Paving; and, Architectural Coating.

#### *Grading/Excavation Activities*

Dust is typically a major concern during grading and excavation activities. Because such emissions are not amenable to collection and discharge through a controlled source, they are called “fugitive emissions”. Fugitive dust emissions rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). CalEEMod was utilized to calculate fugitive dust emissions resulting from this phase of activity. This analysis assumes that earthwork activities are expected to balance on-site and no export of soil will be required.

#### *Construction Worker Vehicle Trips*

Construction emissions for construction worker vehicles traveling to and from the project site, as well as vendor trips (construction materials delivered to the project site) were estimated based on information from CalEEMod defaults.

#### *Construction Duration*

Construction is expected to commence in the latter part of 2022 and will continue through 2023. The construction schedule utilized in the analysis, shown in Table III-6, represents a “worst-case” analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per CEQA Guidelines. The duration of construction activities was based on CalEEMod defaults and an opening year of 2023.

**Table III-6  
CONSTRUCTION DURATION**

<b>Phase Name</b>	<b>Start Date</b>	<b>End Date</b>	<b>Days</b>
Site Preparation	2/7/2022	2/18/2022	10
Grading	2/19/2022	4/8/2022	35
Building Construction	4/9/2022	9/8/2023	370
Paving	7/26/2023	9/8/2023	33
Architectural Coating	7/26/2023	9/8/2023	33

#### *Construction Equipment*

Site specific construction fleet may vary due to specific project needs at the time of construction. The associated construction equipment was generally based on CalEEMod standard inputs. A detailed summary of construction equipment assumptions by phase is provided at Table III-7

**Table III-7  
CONSTRUCTION EQUIPMENT ASSUMPTIONS**

Phase Name	Equipment	Amount	Hours Per Day
Site Preparation	Crawler Tractors	4	8
	Rubber Tired Dozers	3	8
Grading	Crawler Tractors	2	8
	Crawler Tractors/Excavators	2	8
	Graders	1	8
	Rubber Tired Dozers	1	8
	Scrapers	2	8
Building Construction	Cranes	1	8
	Forklifts	3	8
	Generator Sets	1	8
	Tractors/Loaders/Backhoes	3	8
	Welders	1	8
Paving	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8
Architectural Coating	Air Compressors	1	8

*Construction Emission Summary*

CalEEMod calculates maximum daily emissions for summer and winter periods. The estimated maximum daily construction emissions without mitigation are summarized on Table III-8. Detailed construction model outputs are presented in Appendix 3.1 of the AQIA. The AQIA calculated emissions estimates with the inclusion of the emissions reductions from compliance with SCAQMD rules. Through compliance with SCAQMD rules regional emissions would be less than significant, as shown at Table III-8.

**Table III-8  
OVERALL CONSTRUCTION EMISSIONS SUMMARY**

Year	Emissions (lbs/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Summer						
2022	4.54	46.55	42.86	0.12	4.06	6.17
2023	64.66	34.43	62.46	0.16	1.58	2.92
<b>Maximum Daily Summer Emissions</b>	<b>64.66</b>	<b>46.55</b>	<b>62.46</b>	<b>0.16</b>	<b>4.06</b>	<b>6.17</b>
SCAQMD Regional Threshold	75	100	550	150	150	55
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
Winter						
2022	4.55	46.55	40.74	0.12	10.90	6.17
2023	64.79	34.85	60.06	0.15	7.04	2.92
<b>Maximum Daily Winter Emissions</b>	<b>64.79</b>	<b>46.55</b>	<b>60.06</b>	<b>0.15</b>	<b>10.90</b>	<b>6.17</b>
SCAQMD Regional Threshold	75	100	550	150	150	55
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

In an effort to reduce emissions to the greatest extent feasible, the following measures shall be implemented to minimize construction emissions and impacts:

- AQ-1** *Require the use of Tier 4 emissions standards or better for off-road diesel-powered construction equipment of 50 horsepower or greater. To ensure that Tier 4 construction equipment or better will be used during the proposed project's construction, South Coast Air Quality Management District (SCAQMD) staff recommends that the Lead Agency include this requirement in applicable bid documents, purchase orders, and contracts. Successful contractor(s) must demonstrate the ability to supply the compliant construction equipment for use prior to any ground disturbing and construction activities. A copy of each unit's certified tier specification or model year specification and California Air Resources Board (CARB) or SCAQMD operating permit (if applicable) shall be available upon request at the time of mobilization of each applicable unit of equipment. Additionally, the Lead Agency should require periodic reporting and provision of written construction documents by construction contractor(s) to ensure compliance and conduct regular inspections to the maximum extent feasible to ensure compliance.*
- AQ-2** *Require zero-emissions or near-zero emission on-road haul trucks such as heavy-duty trucks with natural gas engines that meet the CARB's adopted optional NOx emissions standard at 0.02 grams per brake horsepower-hour (g/bhp-hr), if and when feasible. At a minimum, require that construction vendors, contractors, and/or haul truck operators commit to using 2010 model year trucks (e.g., material delivery trucks and soil import/export) that meet CARB's 2010 engine emissions standards at 0.01 g/bhp-hr of particulate matter (PM) and 0.20 g/bhp-hr of NOx emissions or newer, cleaner trucks. The Lead Agency should include this requirement in applicable bid documents, purchase orders, and contracts. The construction contractor shall maintain records of all trucks associated with project construction to document that each truck used meets these emission standards, and make the records available for inspection. The City shall conduct regular inspections to the maximum extent feasible to ensure compliance.*
- AQ-3** *All trucks hauling dirt, sand, soil or other loose materials are to be covered, or should maintain at least two feet of freeboard in accordance with California Vehicle Code Section 23114 (freeboard means vertical space between the top of the load and top of the trailer).*
- AQ-4** *Enter into applicable bid documents, purchase orders, and contracts to notify all construction vendors, contractors, and/or haul truck operators that vehicle and construction equipment idling time will be limited to no longer than five minutes, consistent with the CARB's policy. For any idling that is expected to take longer than five minutes, the engine should be shut off. Notify construction vendors, contractors, and/or haul truck operators of these idling requirements at the time that the purchase order is issued and again when vehicles enter the proposed project site. To further ensure that drivers understand the vehicle idling requirement, post signs at the proposed project site, where appropriate, stating that idling longer than five minutes is not permitted.*
- AQ-5** *The contractor shall adhere to applicable measures contained in Table 1 of Rule 403 including, but not limited to:*



- ***All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 miles per hour (mph) per SCAQMD guidelines in order to limit fugitive dust emissions.***
- ***The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the project are watered at least three (3) times daily during dry weather. Watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the mid-morning, afternoon, and after work is done for the day.***
- ***All access points to the project site shall have track out devices installed.***
- ***The contractor shall ensure that traffic speeds on unpaved roads and project site areas are limited to 15 mph or less.***

#### Operational Emissions

Operational activities associated with the proposed project will result in emissions of VOCs, NOX, SOX, CO, PM10, and PM2.5. Operational emissions would be expected from the following primary sources: Area Source Emission, Energy Source Emissions, and Mobile Source Emissions.

#### *Area Source Emissions*

- Architectural Coatings: Over a period of time the buildings that are part of this project will be sources of emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings as part of project maintenance. The emissions associated with architectural coatings were calculated using CalEEMod.
- Consumer Products: Consumer products include, but are not limited to detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds which when released in the atmosphere can react to form ozone and other photochemically reactive pollutants. The emissions associated with use of consumer products were calculated based on defaults provided within CalEEMod.
- Landscape Maintenance Equipment: Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the project. The emissions associated with landscape maintenance equipment were calculated based on assumptions provided in CalEEMod.

#### *Energy Source Emissions*

- Combustion Emissions Associated with Natural Gas and Electricity: Over a period of time the buildings that are part of this project will be sources of emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings as part of project maintenance. The emissions associated with architectural coatings were calculated using CalEEMod.
- Title 24 Energy Efficiency Standards: Consumer products include, but are not limited to detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds which when released in the atmosphere can react to form ozone and other photochemically reactive pollutants. The emissions associated with use of consumer products were calculated based on defaults provided within CalEEMod.

#### *Mobile Source Emissions*

Project mobile source air quality impacts are dependent on both overall daily vehicle trip generation and the effect of the project on peak hour traffic volumes and traffic operations in the vicinity of the project. The project-related operational air quality impacts are derived primarily from the 2,916 vehicle trips generated by the project.



Vehicles traveling on paved roads would be a source of fugitive emissions due to the generation of road dust inclusive of brake and tire wear particulates. The emissions estimates for travel on paved roads were calculated using CalEEMod's standard methodology.

#### *Operational Emissions Summary*

Impacts without Mitigation: Operational activities for summer and winter scenarios are presented in Table III-9. Detailed operational model outputs are presented in Appendix 3.1 to the AQIA. Project operational-source emissions will not exceed the thresholds of significance and as such, a significant impact will not occur. However, in an effort to reduce emissions to the greatest extent feasible, the following measures shall be implemented to minimize construction emissions and impacts:

- AQ-6**     *The project applicant shall require that all building structures meet or exceed 2020 Title 24, Part 6 Standards and meet Green Building Code Standards.*
- AQ-7**     *The project applicant shall require that all faucets, toilets and showers installed in the proposed structures utilize low-flow fixtures that would reduce indoor water demand by 20% per CalGreen Standards.*
- AQ-8**     *The project applicant shall require that a water-efficient irrigation system be installed that conforms to the requirements of City codes.*
- AQ-9**     *The project applicant shall require that ENERGY STAR-compliant appliances are installed on-site.*
- AQ-10**    *The project applicant shall require that high-efficiency lighting be installed that is at least 34% more efficient than standard lighting.*
- AQ-11**    *No wood burning devices shall be installed and any dwelling units consistent with SCAQMD Rule 445.*

Table III-9  
OVERALL OPERATIONAL EMISSIONS SUMMARY

Year	Emissions (lbs/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Summer						
Area Source	12.31	7.68	43.04	0.05	-	0.80
Energy Source	0.21	1.78	0.76	0.01	-	0.14
Mobile Source Passenger Cars	9.29	10.14	95.59	0.21	21.89	0.15
<b>Maximum Daily Summer Emissions</b>	<b>21.81</b>	<b>19.60</b>	<b>139.39</b>	<b>0.27</b>	<b>21.89</b>	<b>1.10</b>
SCAQMD Regional Threshold	55	55	550	150	150	55
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
Winter						
Area Source	12.31	7.68	43.04	0.05	-	0.80
Energy Source	0.21	1.78	0.76	0.01	-	0.14
Mobile Source Passenger Cars	8.96	10.90	92.00	0.20	21.89	0.15
<b>Maximum Daily Winter Emissions</b>	<b>21.48</b>	<b>20.36</b>	<b>135.80</b>	<b>0.26</b>	<b>21.89</b>	<b>1.10</b>
SCAQMD Regional Threshold	55	55	550	150	150	55
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Conclusion

With the implementation of MMs **AQ-1** through **AQ-11**, the development of the Whitewood Condo / Apartment Project would have a less than significant potential to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

- c. *Less Than Significant With Mitigation Incorporated* – The analysis makes use of methodology included in the SCAQMD Final Localized Significance Threshold Methodology (LST Methodology). The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the NAAQS and/or CAAQS. Collectively, these are referred to as LSTs. The SCAQMD established LSTs in response to the SCAQMD Governing Board's Environmental Justice Initiative I-4<sup>1</sup>. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest residence or sensitive receptor. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses.

For this project, the appropriate SRA for the LST analysis is the SCAQMD Temecula Valley. LSTs apply to CO, NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. The SCAQMD produced look-up tables for projects less than or equal to 5 acres in size.

SCAQMD's LST Methodology clearly states that "off-site mobile emissions from the project should not be included in the emissions compared to LSTs." Therefore, for purposes of the construction LST analysis, only emissions included in the CalEEMod "on-site" emissions outputs were considered.

Maximum Daily Disturbed-Acreage

The "acres disturbed" for analytical purposes are based on specific equipment type for each subcategory of construction activity and the estimated maximum area a given piece of equipment can pass over in an 8-hour workday (as shown on Table III-10). The equipment-specific grading rates are summarized in the SCAQMD's Fact Sheet for Applying CalEEMod to Localized Significance Thresholds and CalEEMod User's Guide Appendix A: Calculation Details for CalEEMod (29) (30). It should be noted that the disturbed area per day is representative of a piece of equipment making multiple passes over the same land area. In other words, one Rubber Tired Dozer can make multiple passes over the same land area totaling 0.5 acres in a given 8-hour day. Appendix A of the CalEEMod User Manual only identifies equipment-specific grading rates for Crawler Tractors, Graders, Rubber Tired Dozers, and Scrapers; therefore, Excavators, Tractors/Loaders/Backhoes equipment that was included in site preparation or grading was replaced with crawler tractors that were adjusted to reflect the horsepower and operating profile of the Excavators, Tractors/Loaders/Backhoes equipment class.

As shown on Table III-10, the project's construction activities could disturb a maximum of approximately 5 acres per day for grading activities. However, based on the SCAQMD LST Methodology, construction impacts are assessed against a smaller acreage threshold would represent a more conservative assessment, thus this analysis bases the LST on a 3.5-acre site.

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<sup>1</sup> The purpose of SCAQMD's Environmental Justice program is to ensure that everyone has the right to equal protection from air pollution and fair access to the decision-making process that works to improve the quality of air within their communities. Further, the SCAQMD defines Environmental Justice as "...equitable environmental policymaking and enforcement to protect the health of all residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location, from the health effects of air pollution."



Table III-10  
MAXIMUM DAILY DISTURBED-ACREAGE

Construction Phase	Equipment Type	Equipment Quantity	Acres graded per 8-hour day	Operating Hours per Day	Acres graded per day
Site Preparation	Crawler Tractors	4	0.5	8	2
	Rubber Tired Dozers	3	0.5	8	1.5
Total acres disturbed per day during Site Preparation					3.5
Grading	Crawler Tractors	2	0.5	8	2
	Crawler Tractors/Excavators	2	0.5	8	1.5
	Graders	1	0.5	8	0
	Rubber Tired Dozers	1	0.5	8	1
	Scrapers	2	1	8	1
Total acres disturbed per day during Grading					5.5
<b>Minimum acres disturbed per day</b>					<b>3.5</b>

Sensitive Receptors

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, individuals with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these persons or places where they gather to exercise are defined as "sensitive receptors". These structures typically include residences, hotels, hospitals, etc. as they are also known to be locations where an individual can remain for 24 hours. Consistent with the LST Methodology, the nearest land use where an individual could remain for 24 hours to the project site (in this case the nearest residential land use) has been used to determine construction and operational air quality impacts for emissions of PM<sub>10</sub> and PM<sub>2.5</sub>, since PM<sub>10</sub> and PM<sub>2.5</sub> thresholds are based on a 24-hour averaging time.

Commercial and industrial facilities are not included in the definition of sensitive receptor because employees and patrons do not typically remain onsite for a full 24 hours but are typically onsite for eight hours or less. The LST Methodology explicitly states that "*LSTs based on shorter averaging periods, such as the NO<sub>2</sub> and CO LSTs, could also be applied to receptors such as industrial or commercial facilities since it is reasonable to assume that a worker at these sites could be present for periods of one to eight hours.*" For purposes of analysis, if an industrial/commercial use is located at a closer distance to the project site than the nearest residential use, the nearest industrial/commercial use will be utilized to determine construction and operational LST air impacts for emissions of NO<sub>2</sub> and CO an individual could be present at these sites for periods of one to eight hours.

Project-related Sensitive Receptors

Receptors in the project study area are described below and are shown on Figure III-1.

- R1: Location R1 represents Vista Murrieta High School at 28251 Clinton Keith Road, approximately 372 feet east of the project site. Receiver R1 is placed at nearest location someone may stand for up to one hour.
- R2: Location R2 represents an existing residence at 35992 Lindstrand Avenue, approximately 255 feet northwest of the project site. Receiver R2 is placed at the private outdoor use area.
- R3: Location R3 represents an existing residence at 28680 Clinton Keith Road, approximately 270 feet east of the project site. Receiver R3 is placed at the private outdoor living area (backyard).

- R4: Location R4 represents the existing residence at 35960 Ardent Lane, approximately 507 feet west of the project site. Receiver R4 is placed at the private outdoor living area (backyard).
- R5: Location R5 represents an existing residence at 36263 Los Alamos Road, approximately 437 feet west of the project site. Receiver R5 is placed at the private outdoor living area (backyard).

The SCAQMD recommends that the nearest sensitive receptor be considered when determining the project's potential to cause an individual a cumulatively significant impact. The nearest land use where an individual could remain for 24 hours to the project site has been used to determine localized construction and operational air quality impacts for emissions of PM<sub>10</sub> and PM<sub>2.5</sub> (since PM<sub>10</sub> and PM<sub>2.5</sub> thresholds are based on a 24-hour averaging time). The nearest receptor used for evaluation of localized impacts of PM<sub>10</sub> and PM<sub>2.5</sub> is represented by location R-2, which represents an existing residence at 39552 Lindstrand Avenue, approximately 255 feet northwest of the project site. As such, the 255-foot distance will be used for evaluation of localized PM<sub>10</sub> and PM<sub>2.5</sub> emission impacts.

As previously stated, and consistent with LST Methodology, the nearest industrial/commercial use to the project site is used to determine construction and operational LST air impacts for emissions of NO<sub>x</sub> and CO as the averaging periods for these pollutants are shorter (8 hours or less) and it is reasonable to assumed that an individual could be present at these sites for periods of one to 8 hours. The nearest non-residential receptor is the Vista Murrieta High School approximately 372 feet west of the project site. As such, receptor R-2, at 255-feet, is used for the evaluation of localized impacts of NO<sub>x</sub> and CO.

#### Construction-Source Emissions (LST Analysis)

The localized thresholds for construction activities are determined using SCAQMD's screening look-up tables. It should be noted that since the look-up tables identifies thresholds at only 1 acre, 2 acres, and 5 acres. Consistent with SCAQMD guidance, the thresholds presented in Table III-11 were calculated by interpolating the threshold values for the project's disturbance of 3.5-acres.

**Table III-11  
MAXIMUM DAILY LOCALIZED EMISSIONS THRESHOLDS**

Pollutant	Construction Localized Thresholds <sup>1</sup>
NO <sub>x</sub>	393 Lbs./day
CO	2,820 Lbs./day
PM <sub>10</sub>	52 Lbs./day
PM <sub>2.5</sub>	10 Lbs./day

<sup>1</sup> LST based on 3.5 acres of disturbance at 78-meter distance for SRA 26.

Source: Localized Thresholds presented in this table are based on the SCAQMD Final LST Methodology, July 2008

#### *Localized Construction-Source Emissions*

Table III-12 identifies the localized impacts at the nearest receptor location in the vicinity of the project. As shown in Table 3-8 local construction emissions would be less than the applicable SCAQMD LSTs.

**Table III-12  
LOCALIZED SIGNIFICANCE SUMMARY OF CONSTRUCTION**

On-Site Site Emissions	Emissions (lbs/day)			
	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
Maximum Daily Emissions	46.5	34.3	6.3	3.5
SCAQMD Localized Threshold	393	2,820	52	10
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

The following measures shall be incorporated into project plans and specifications as implementation of SCAQMD Rule 1113:

**AQ-12** *Only “Low-Volatile Organic Compounds (VOC)” paints (no more than 50 gram/liter (g/L) of VOC) consistent with SCAQMD Rule 1113 shall be used.*

MM **AQ-12** is commitment by the project to implement feasible dust control measures, including at a minimum applying water to active construction areas 3 times per day, installing track-out devices at access points, and halting operations during high wind events. Bases on project modeling, Construction LST impacts would be less than significant.

#### Operational-Source Emissions (LST Analysis)

The proposed project is located on approximately 27.94 acres. As previously stated, the total development is proposed to consist of 483 multiple family residential dwelling units. According to SCAQMD LST methodology, LSTs would apply to the operational phase of a proposed project, if the project includes stationary sources, or attracts mobile sources that may spend long periods queuing and idling at the site (e.g., transfer facilities and warehouse buildings). The proposed project does not include such uses, and thus, due to the lack of significant stationary source emissions, no LST analysis is needed for operations.

#### CO “Hot Spot” Analysis

As discussed below, the project would not result in potentially adverse CO concentrations or “hot spots.” Further, detailed modeling of project-specific CO “hot spots” is not needed to reach this conclusion. An adverse CO concentration, known as a “hot spot”, would occur if an exceedance of the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur. At the time of the 1993 Handbook, the SCAB was designated nonattainment under the CAAQS and NAAQS for CO.

The proposed project considered herein would generate 2,916 net trips and would not produce the volume of traffic required to generate a CO “hot spot” either in the context of the 2003 Los Angeles hot spot study or based on representative BAAQMD CO threshold considerations. Therefore, CO “hot spots” are not an environmental impact of concern for the proposed project. Localized air quality impacts related to mobile-source emissions would therefore be less than significant.

#### Toxic Air Contaminants

##### *Construction Activity*

During short-term construction activity, the project will also result in some diesel particulate matter (DPM) which is a listed carcinogen and toxic air contaminant (TAC) in the State of California. The 2015 Office of Environmental Health Hazard Assessment (OEHHA) revised risk assessment guidelines suggest that construction projects as short as 2-6 months may warrant evaluation. Notwithstanding, based on Urban Crossroad’s professional opinion and experience in preparing health risk assessments for development projects, given the distance of the project from surrounding sensitive receptors, the dominant wind patterns blowing to the northwest away for receptors, and the



annual PM<sub>2.5</sub> emissions from equipment during each year of construction, any DPM generated from construction activity would result in less than significant ground level concentrations of DPM and not result in a significant health risks and no further evaluation is required.

Furthermore, many air districts throughout the state, including the SCAQMD, are currently evaluating the applicability of age sensitivity factors and have not established CEQA guidance. More specifically in their response to comments received on SCAQMD New Source Review rule, the SCAQMD explicitly states that:

"The Proposed Amended Rules are separate from the CEQA significance thresholds. The SCAQMD staff is currently evaluating how to implement the Revised OEHHA Guidelines under CEQA. The SCAQMD staff will evaluate a variety of options on how to evaluate health risks under the Revised OEHHA Guidelines under CEQA. The SCAQMD staff will conduct public workshops to gather input before bringing recommendations to the Governing Board. In the interim, staff will continue to use the previous guidelines for CEQA determinations."

#### *Operational Activities*

The project proposes commercial and residential land uses, which are not known emitters of substantial TAC concentrations. The project itself does not include any significant source of TACs that would potentially affect sensitive receptors. Land uses in the vicinity of the project include commercial and residential land uses. These land uses are not typically associated with the emission of TACs. Additionally, as stated in the *Air Quality and Land Use Handbook: A Community Health Perspective* the concern for residential land uses is generally limited to siting new development within 500 feet of a freeway or constructing a new freeway within 500 feet of existing residences. The project site is located over 4,000 feet from Interstate 215 and exposure of persons on the project site would be less than significant.

#### Conclusion

The potential impact of project-generated air pollutant emissions at sensitive receptors has also been considered. Sensitive receptors can include uses such as long-term health care facilities, rehabilitation centers, and retirement homes. Residences, schools, playgrounds, childcare centers, and athletic facilities can also be considered as sensitive receptors.

Results of the LST analysis indicate that with implementation of MM **AQ-12**, the project will not exceed the SCAQMD localized significance thresholds during construction. Therefore, sensitive receptors would not be exposed to substantial criteria pollutant concentrations during project construction, and this is considered a less than significant impact.

Results of the LST analysis indicate that the project will not exceed the SCAQMD localized significance thresholds during operational activity. Further, project traffic would not create or result in a CO "hotspot." Therefore, with implementation of MM **AQ-12**, sensitive receptors would have a less than significant potential to be exposed to substantial pollutant concentrations as the result of project operations.

- d. *Less Than Significant Impact* – The potential for the project to generate objectionable odors has also been considered. Land uses generally associated with odor complaints include: Agricultural uses (livestock and farming); Wastewater treatment plants; Food processing plants; Chemical plants; Composting operations; Refineries; Landfills; Dairies; and, Fiberglass molding facilities. The project is a residential development and does not contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the proposed project's (long-term operational) uses. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction

City of Murrieta  
Whitewood Condo / Apartment Project

**INITIAL STUDY**

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and is thus considered less than significant. It is expected that project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the City of Murrieta solid waste regulations. The proposed project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed project construction and operations would be less than significant and no mitigation is required.



City of Murrieta  
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**INITIAL STUDY**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>IV. BIOLOGICAL RESOURCES:</b> Would the Project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION:** A biological resources assessment (BRA), Jurisdictional Delineation (JD), and multiple-species habitat conservation plan (MSHCP) consistency analysis has been prepared for the Whitewood Condo / Apartment Project entitled "Biological Resources Assessment, Jurisdictional Delineation and MSHCP Consistency Analysis" prepared by Jacobs Engineering Group, Inc. dated July 2021 (Appendix 4a). The following summary information has been abstracted from this report. Appendix 4b contains a copy of the Regional Conservation Authority (RCA) Joint Project Review (JPR), JPR #:08-11-25-01 prepared for the City of Murrieta, Calvary Chapel, August 19, 2009 which set aside 89 acres of land for conservation and made approximately 29 acres available for development.

Summary of Findings

*Introduction*

The purpose of the BRA is to address potential effects of the project to designated Critical Habitats and/or any species currently listed or formally proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA) or species designated as sensitive by the California Department of Fish and Wildlife (CDFW [formerly California Department of Fish and Game]) and/or the California Native Plant Society (CNPS). As part of the BRA, the project site was also assessed to determine the extent (if any) of State and federal jurisdictional waters (i.e. Waters of the U.S. and Waters of the State) within the project area potentially subject to regulation by the U.S. Army

Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA), Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA and Porter Cologne Water Quality Control Act, and CDFW under Section 1602 of the California Fish and Game Code (FGC), respectively. In addition to the BRA, Jacobs prepared a Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Consistency Analysis, which is included in the scope of this report. As part of the City of Murrieta's approval process, a Western Riverside County MSCHP compliance report is required. Another purpose of the BRA is to assess whether the proposed project is consistent with the conditions and provisions identified in the MSCHP. Appendix 4b contains a copy of the Regional Conservation Authority (RCA) Joint Project Review (JPR), JPR #:08-11-25-01 prepared for the City of Murrieta, Calvary Chapel, August 19, 2009 which set aside 89 acres of land for conservation and made the approximate 29-acre site available for development.

#### Environmental Setting

The project area is situated near the north end of the Temecula Valley and east of the southern end of the Santa Ana Mountains, in the hilly area that separates Temecula Valley and French Valley. The topography of the project area ranges from gently sloped to hilly and slopes downward from west to east. The elevation of the project site ranges from approximately 1,440 feet above mean sea level (amsl) near the eastern limits of the project area to 1,530 feet amsl near the westernmost limits.

Hydrologically, the project area is situated within the French Hydrologic Sub-Area (HSA 902.33). The French HSA comprises a 20,685-acre drainage area, within the larger Santa Margarita Watershed (HUC 18070302). The Santa Margarita River is the major hydrogeomorphic feature within the Santa Margarita Watershed. The nearest tributary to the Santa Margarita River is Murrieta Creek, which flows southward through the Murrieta and Temecula Valleys, approximately 4.15 miles southwest of the project site at its closest point.

Soils within the project site are comprised mostly of Cajalco series, Las Posas series, and Honcut soils. Cajalco soil series consist of fine sandy loam, to loam, to weathered bedrock comprised of residuum weathered from gabbro. This soil series is well-drained, with a medium to high runoff class and does not have a hydric soil rating. Las Posas soil series consist of loam, to clay loam, to weathered bedrock comprised of residuum weathered from gabbro. This soil series is well-drained, with a very high runoff class and does not have a hydric soil rating. Honcut soil series consist of loam comprised of alluvium derived from igneous rock. This soil series is well-drained, with a low runoff class and does not have a hydric soil rating.

The City of Murrieta consists of a mix of urban landscapes and undeveloped sage scrub, grassland, and chaparral habitats. The project site is entirely undeveloped and surrounded by urban landscape consisting of residential and commercial development to the north/northwest, and undeveloped land to the east and south/southwest. Habitat on site and within the surrounding undeveloped areas consists mostly of *Adenostoma fasciculatum* Shrubland Alliance (*chamise chaparral*) and *Eriogonum fasciculatum* Shrubland Alliance (California buckwheat scrub) habitats.

#### Conclusion

No special status wildlife species, including any state and/or federally listed threatened or endangered species, were observed or otherwise detected within the project area during the reconnaissance-level assessment survey. There is no suitable habitat for tricolored blackbird, Riverside fairy shrimp, or least Bell's vireo within the project area. Although there is some marginally suitable habitat for Stephens' kangaroo rat, Quino checkerspot butterfly, and coastal California gnatcatcher (CAGN), these species are all MSHCP "Covered Species." The MSHCP provides "take" authorization for Covered Species during otherwise lawful activities, by providing for the conservation of the Covered Species. The City of Murrieta is a signatory to the MSHCP, and the project will not impact any MSHCP Conservation Areas or USFWS designated Critical Habitat. Therefore, "take" authorization is provided for any potential project-related impacts to Stephens' kangaroo rat, Quino checkerspot butterfly, and/or CAGN and focused surveys for these species are not required.

The Subject Parcel is within a MSHCP Criteria Area Plant Species Survey Area for eight special status plant species, as well as a Narrow Endemic Plant Species Survey Area for six narrow endemic plant species. The environmental conditions within the project site are not suitable for 10 of the 14 Criteria Area or Narrow Endemic Plant Species project site Parcel for thread-leaved brodiaea, round-leaved filaree, many-stemmed dudleya, and San Diego ambrosia. Therefore, a floristic botanical field survey was also conducted by Jacobs in April of 2021 to determine whether any of the MSHCP Criteria Area Species, Narrow Endemic Plant Species, or any other special status plant species documented in the project vicinity were present within the project site. The result of the floristic botanical field survey was that no MSHCP Criteria Area Species, Narrow Endemic Plant Species, or other special status plant species were found within the project site.

The project area does not contain any sensitive habitats, including any USFWS designated Critical Habitat for any federally listed species, and the project will not result in any loss or adverse modification of Critical Habitat. Additionally, the project will not impact any MSHCP Conservation Areas based on the incorporation of the urban wildlands interface measures incorporated into the project. The project site is located within Criteria Cell 5673 of the French Valley/Lower Sedco Hills MSHCP Subunit (Subunit 5). However, the project site is excluded from any Conservation Areas within Criteria Cell 5673 (Figure IV-1) based on the findings in the JPR 08-11-25-01 referenced above.

#### *Burrowing Owl*

A burrowing owl (BUOW) habitat suitability assessment was conducted by Jacobs in April of 2021 that included 100 percent visual coverage of any potentially suitable BUOW habitat within and adjacent the project site. The result of the survey was that no evidence of BUOW was found in the survey area and most of the project site is not suitable to support this species. No BUOW individuals or sign including castings, feathers or whitewash were observed and BUOW are considered absent from the project area at the time of survey. Although the project is not likely to adversely affect this species, there is still a low potential for the subject parcel to become occupied by BUOW between the time the survey was conducted and the commencement of project-related site disturbance. Therefore, the following precautionary avoidance measures are recommended to ensure the project does not result in any impacts to BUOW:

Pre-construction surveys for BUOW should be conducted no more than 3 days prior to commencement of project-related ground disturbance to verify that BUOW remain absent from the project area.

The BUOW is a state and federal species of special concern (SSC) and is also protected under the MBTA and by state law under the California FGC (FGC #3513 & #3503.5). In general, impacts to BUOW can be avoided by avoiding occupied burrows and conducting work outside of their nesting season (peak BUOW breeding season is identified as April 15th to August 15th). However, if all work cannot be conducted outside of nesting season and occupied burrows cannot be avoided, a project specific BUOW protection and/or passive relocation plan can be prepared to determine suitable buffers and/or artificial burrow construction locations to minimize impacts to this species. Regardless of survey results and conclusions given herein, BUOW are protected by applicable state and federal laws. As such, if a BUOW is found on-site at the time of construction, all activities likely to affect the animal(s) should cease immediately and regulatory agencies should be contacted to determine appropriate management actions. Importantly, nothing given in this report is intended to authorize any form of disturbance to BUOW. Such authorization must come from the appropriate regulatory agencies, including CDFW and/or United States Fish and Wildlife Service (USFWS).

#### *Nesting Birds*

The habitat within the project area is suitable to support nesting birds. Most native bird species are protected from unlawful take by the Migratory Bird Treaty Act (MBTA). In December 2017, the Department of the Interior (DOI) issued a memorandum concluding that the MBTA's prohibitions on take apply "[...] only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs." Then in April 2018, the USFWS issued a guidance memorandum that further clarified that the take of migratory birds or their active nests (i.e., with eggs or young) that is incidental to, and not the purpose



of, an otherwise lawful activity does not constitute a violation of the MBTA. The State of California provides additional protection for native bird species and their nests in the FGC.

In general, impacts to all bird species (common and special status) can be avoided by conducting work outside of the nesting season, which is generally February 1<sup>st</sup> through August 31<sup>st</sup>. However, if all work cannot be conducted outside of nesting season, mitigation is required (BIO-3) below.

#### *Jurisdictional Waters*

In addition to the BRA and focused botanical field survey, Jacobs also assessed the project site for the presence of any state and/or federal jurisdictional waters. The result of the jurisdictional waters assessment is that there are no wetland or non-wetland waters of the United States (WOTUS) or waters of the State potentially subject to regulation by the USACE under Section 404 of the CWA, the RWQCB under Section 401 of the CWA and/or Porter Cologne Water Quality Control Act, or the CDFW under Section 1602 of the California FGC, respectively. Therefore, the project will not impact any jurisdictional waters and no state or federal jurisdictional waters permitting will be required.

#### *MSHCP Consistency Analysis*

The project is consistent with the MSHCP policies found in Section 6 of the MSHCP, which include Riparian/Riverine Areas/Vernal Pools, Narrow Endemic Plant Species, Criteria Area Species, Urban/Wildlands Interface, and Surveys for Special Status Species (BUOW). The Subject Parcel is within the Western Riverside County MSHCP boundary and is within a Criteria Cell (Criteria Cell 5673). The project site is excluded from any MSHCP Conservation Areas (Figure IV-1) based on the previously referenced agreement, JPR 08-11-25-01. However, the project site is adjacent Western Riverside County RCA MSHCP Conserved Lands to the south and east (and to a limited extent on the west), and Public Quasi-Public Conserved Lands to the west, respectively (Figure IV-1). Therefore, the Applicant will need to implement the MSHCP Section 6.1.4 Guidelines Pertaining to the Urban/Wildlands Interface. The Applicant should be prepared to pay the MSHCP fees and restrict all project related impacts to existing right-of-way and/or other areas outside of the adjacent Conserved Lands. No other conservation or avoidance measures are expected, and the project as described, is consistent with the conservation criteria and overall conservation goals and objectives set forth in the MSHCP.

#### Impact Analysis

- a. *Less Than Significant With Mitigation Incorporated* – As discussed above, no special status wildlife species, including any state and/or federally listed threatened or endangered species, were observed or otherwise detected within the project area during the reconnaissance-level assessment survey. There is no suitable habitat for tricolored blackbird, Riverside fairy shrimp, or least Bell's vireo within the project area. The result of the floristic botanical field survey was that no MSHCP Criteria Area Species, Narrow Endemic Plant Species, or other special status plant species were found within the project site. Although there is some marginally suitable habitat for Stephens' kangaroo rat, Quino checkerspot butterfly, and CAGN, these species are all MSHCP "Covered Species." The MSHCP provides "take" authorization for Covered Species during otherwise lawful activities, by providing for the conservation of the Covered Species. The City of Murrieta is a signatory to the MSHCP and therefore "take" authorization is provided for any potential project-related impacts to Stephens' kangaroo rat, Quino checkerspot butterfly, and/or CAGN and focused surveys for these species are not required. As such, project-related impacts to the above species are covered under the Incidental Take Permit issued for the MSHCP and mitigation for project-related impacts to this species is provided through payment of the MSHCP Local Development Mitigation Fee.

The BUOW habitat suitability assessment, the results of which are provided in Appendix 4a, indicated that no evidence of BUOW was found in the survey area and most of the project site is not suitable to support this species. No BUOW individuals or sign including castings, feathers or whitewash were observed and BUOW are considered absent from the project area at the time of survey. Although the project is not likely to adversely affect this species, there is still a low potential for the subject parcel to become occupied by BUOW between the time the survey was conducted and the commencement

of project-related site disturbance. Therefore, the following avoidance measures shall be implemented to ensure the project does not result in any impacts to BUOW:

**BIO-1** *Pre-construction surveys for BUOW should be conducted no more than 3 days prior to commencement of project-related ground disturbance to verify that BUOW remain absent from the project area.*

The BUOW is a state and federal SSC and is also protected under the MBTA and by state law under the California FGC (FGC #3513 & #3503.5). In general, impacts to BUOW can be avoided by avoiding occupied burrows and conducting work outside of their nesting season (peak BUOW breeding season is identified as April 15th to August 15th). However, if all work cannot be conducted outside of nesting season and occupied burrows cannot be avoided, the following measure shall be required:

**BIO-2** *If burrowing owl are discovered within the project footprint, a project specific BUOW protection and/or passive relocation plan shall be prepared to determine suitable buffers and/or artificial burrow construction locations to minimize impacts to this species. If a BUOW is found on-site at the time of construction, all activities likely to affect the animal(s) shall cease immediately and regulatory agencies shall be contacted to determine appropriate management actions.*

This is a contingency mitigation measure since the site does not contain any evidence of burrowing owls at present. This measure will ensure that any burrowing owl that may come to inhabit the site between the date of the BRA survey and the start of construction. Given that no other State- and/or federally-listed threatened or endangered species, or other sensitive species are anticipated to occur within the project site based on the results of the BRA, the proposed project would have a less than significant potential to have a substantial adverse effect on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS with implementation of mitigation measures (MMs) **BIO-1** and **BIO-2**.

- b. *Less Than Significant Impact* –The approximately 28.6 net acre site is located in the City of Murrieta. The project site is entirely undeveloped and surrounded by urban landscape consisting of residential and commercial development to the north/northwest, and undeveloped land to the east and south/southwest. Habitat on site and within the surrounding undeveloped areas consists mostly of *Adenostoma fasciculatum* Shrubland Alliance (*chamise chaparral*) and *Eriogonum fasciculatum* Shrubland Alliance (California buckwheat scrub) habitats. The project area does not contain any sensitive habitats, including any USFWS designated Critical Habitat for any federally listed species, and the project will not result in any loss or adverse modification of Critical Habitat. Additionally, the project will not impact any MSHCP Conservation Areas. The project site is located within Criteria Cell 5673 of the French Valley/Lower Sedco Hills MSHCP Subunit (Subunit 5). However, the JPR did not require the subject project site to be included within any Conservation Areas within Criteria Cell 5673 (Figure IV-1). Based on the field survey conducted by Jacobs, and the information contained in Appendix 4a, the proposed project has no potential to impact riparian habitat or other sensitive communities as there are none on the project site. No mitigation is required.
- c. *No Impact* – Jacobs assessed the project site for the presence of any state and/or federal jurisdictional waters. The result of the jurisdictional waters assessment is that there are no wetlands within the project site. Within the project site, there are no wetland or non-wetland WOTUS or waters of the State potentially subject to regulation by the USACE under Section 404 of the CWA, the RWQCB under Section 401 of the CWA and/or Porter Cologne Water Quality Control Act, or the CDFW under Section 1602 of the California FGC, respectively. Therefore, the project will not impact any jurisdictional waters and no state or federal jurisdictional waters permitting will be required, and ultimately, the project would have no potential to have substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. No mitigation is required.

- d. *Less Than Significant With Mitigation Incorporated* – As indicated previously, the site and environs are located adjacent to some vacant land designated for conservation by the MSHCP. Given the results of the BRA, the proposed project does not appear to support wildlife movement. The proposed project is bound by Whitewood Road and Clinton Keith Road to the west and north respectively, which would minimize wildlife movement in the project area. When development proceeds, the project site could contain nesting birds, which could be adversely impacted. Most native bird species are protected from unlawful take by the MBTA. However, the USFWS issued a guidance memorandum that further clarified that the take of migratory birds or their active nests (i.e., with eggs or young) that is incidental to, and not the purpose of, an otherwise lawful activity does not constitute a violation of the MBTA. The State of California provides additional protection for native bird species and their nests in the FGC. Given that suitable habitat for nesting birds has been identified within the project site, the following mitigation measure is required to minimize impacts thereof to a less than significant level:

**BIO-3** *The State of California prohibits the “take” of active bird nests. To avoid an illegal take of active bird nests, any grubbing, brushing or tree removal should be conducted outside of the State identified nesting season (typically February 1 through September 1). Alternatively, nesting bird surveys shall be conducted by a qualified avian biologist no more than three (3) days prior to vegetation clearing or ground disturbance activities. Preconstruction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the preconstruction nesting bird surveys, a Nesting Bird Plan (NBP) shall be prepared and implemented by the qualified avian biologist. At a minimum, the NBP shall include guidelines for addressing active nests, establishing buffers, ongoing monitoring, establishment of avoidance and minimization measures, and reporting. The size and location of all buffer zones, if required, shall be based on the nesting species, individual/pair’s behavior, nesting stage, nest location, its sensitivity to disturbance, and intensity and duration of the disturbance activity. To avoid impacts to nesting birds, any grubbing or vegetation removal should occur outside peak breeding season (typically February 1 through September 1).*

Thus, with implementation of the above measure, any effects on wildlife movement or the use of wildlife nursery sites can be reduced to a less than significant impact.

- e. *Less Than Significant With Mitigation Incorporated* – The project footprint contains a few trees that will be removed as part of the proposed project. The Applicant has prepared an Arborist Survey of the project site to meet the City’s requirements pertaining to future removal of trees. The Consulting Arborist concluded that there was one tree species found in the survey—black elderberry (*Sambucus nigra*). All of the surveyed trees were rated in good to maximum health with generally good structure. Most of the trees will need to be removed, but efforts should be made to save three to four of the trees, including relocation of the elderberry trees if feasible. Figure I-1 indicates the trees surveyed on the site. One of the elderberry trees (ELD-1) falls outside the limits of construction and may be able to be saved. In order to remove the remaining trees on site, the Applicant will need to obtain a tree removal permit pursuant to Murrieta Municipal Code Section 16.42. As such, MMs **AES-1** and **AES-2** would ensure that the project would comply with the applicable City Ordinances and to minimize impacts to trees as a result of project implementation. No other local policies or ordinances protecting biological resources would apply to the proposed project, as such with the implementation of MMs **AES-1** and **AES-2**, the proposed project would have a less than significant potential to conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.



- f. *Less Than Significant With Mitigation Incorporated* – The project site is located within the Western Riverside County MSHCP, Southwest Area Plan. Per the Western Riverside County Regional Conservation Authority's online MSHCP Information Tool query, the site under is within the Western Riverside County MSHCP boundary and is within a Criteria Cell (Criteria Cell 5673). As stated above, the project site is excluded from any MSHCP Conservation Areas (Figure IV-1) as outlined in Appendix 4b. The project is consistent with the MSHCP policies found in Section 6 of the MSHCP, which include Riparian/Riverine Areas/Vernal Pools, Narrow Endemic Plant Species, Criteria Area Species, Urban/Wildlands Interface, and Surveys for Special Status Species (BUOW). The Subject Parcel is within the Western Riverside County MSHCP boundary and is within a Criteria Cell (Criteria Cell 5673). The project site is excluded from any MSHCP Conservation Areas, but is adjacent to Western Riverside County RCA MSHCP Conserved Lands to the south and east, and Public Quasi-Public Conserved Lands to the west, respectively (Figure IV-1). Therefore, the Applicant will need to implement the MSHCP Section 6.1.4 Guidelines Pertaining to the Urban/Wildlands Interface, which shall be enforced through implementation of the following mitigation measure:

**BIO-4** *The Applicant shall comply with the following:*

- **Drainages** – *Proposed developments in proximity to the MSHCP Conservation Area shall incorporate measures, including measures required through the National Pollutant Discharge Elimination System (NPDES) requirements, to ensure that the quantity and quality of runoff discharged to the MSHCP Conservation Area is not altered in an adverse way when compared with existing conditions.*
- **Toxics** – *Land uses proposed in proximity to the MSHCP Conservation Area that use chemicals or generate bioproducts such as manure that are potentially toxic or may adversely affect wildlife species, habitat or water quality shall incorporate measures to ensure that application of such chemicals does not result in discharge to the MSHCP Conservation Area.*
- **Lighting** – *Night lighting shall be directed away from the MSHCP Conservation Area to protect species within the MSHCP Conservation Area from direct night lighting. Shielding, including Turtle Bay type LED lighting, shall be incorporated in project designs to ensure ambient lighting in the MSHCP Conservation Area is not increased.*
- **Noise** – *Proposed noise generating land uses affecting the MSHCP Conservation Area shall incorporate setbacks, berms or walls to minimize the effects of noise on MSHCP Conservation Area resources pursuant to applicable rules, regulations and guidelines related to land use noise standards. For planning purposes, wildlife within the MSHCP Conservation Area should not be subject to noise that would exceed residential noise standards.*
- **Invasives** – *The project shall avoid the use of invasive species (MSHCP Section 6.1.4 – Table 6-2) for landscaping portions of development that are adjacent to the MSHCP Conservation Area.*
- **Barriers** – *Proposed land uses adjacent to the MSHCP Conservation Area shall incorporate barriers, where appropriate in individual project designs to minimize unauthorized public access, domestic animal predation, illegal trespass or dumping in the MSHCP Conservation Area.*
- **Grading/Land Development** – *Manufactured slopes associated with proposed site development shall not extend into the MSHCP Conservation Area.*

The Applicant will be required to pay the MSHCP fees and restrict all project related impacts to existing right-of-way and/or other areas outside of the adjacent Conserved Lands. No other conservation or avoidance measures are expected, and the project as described, is consistent with the conservation criteria and overall conservation goals and objectives set forth in the MSHCP.



City of Murrieta  
Whitewood Condo / Apartment Project

**INITIAL STUDY**

Therefore, with implementation of MM **BIO-4**, the proposed project will not have any adverse impact or conflict with the MSHCP. No further mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>V. CULTURAL RESOURCES:</b> Would the Project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION:** A due diligence archaeological sensitivity assessment report has been prepared to evaluate the potential for cultural resources to occur within the project area of potential effect entitled "Historical/Archaeological Resources Survey Report Assessor's Parcel No. 900-030-036, City of Murrieta, Riverside County, California" prepared by CRM TECH dated June 17, 2022 (Appendix 5). The following summary information has been abstracted from this report. It provides an overview and findings regarding the cultural resources found within the project area.

#### Background

##### *Records Search*

The historical/archaeological resources records search for this study was conducted on May 18, 2021, by the Eastern Information Center (EIC) at the University of California, Riverside, which is the State of California's official cultural resource records repository for the County of Riverside. For CEQA-compliance purposes, the project area as a whole had not been surveyed for cultural resources prior to this study. EIC records further indicate that no historical/archaeological resources were previously recorded within or adjacent to the project boundaries. Within the half-mile scope of the records search, EIC records identified 28 additional studies on various tracts of land and linear features. These and other similar studies in the vicinity resulted in the recordation of nine historical/archaeological sites and seven isolates (i.e., localities with fewer than three artifacts) within the half-mile radius.

Six sites and six isolates were prehistoric—i.e., Native American—in origin. Four of the six sites consisted mainly of bedrock milling features, the most prolific type of prehistoric cultural remains in western Riverside County, and the other two consisted of scatters of lithic debitage and groundstone fragments. The prehistoric isolates were primarily single flaked-stone or groundstone fragments. None of these previously recorded cultural resources were found in the immediate vicinity of the project area. Therefore, none of them require further consideration.

##### *Sacred Lands File Search and Native American Participation*

In conjunction with the Sacred Lands File search, the Pechanga Band of Luiseño Indians was contacted for additional information on potential Native American cultural resources in the project vicinity. As a part of the correspondence, CRM TECH notified the Pechanga Band of the upcoming archaeological fieldwork and invited tribal participation.

In response to CRM TECH's inquiry, the NAHC stated in a letter dated April 6, 2021, that the Sacred Lands File record search had yielded positive results for Native American cultural resource(s), although the nature and location of the resource(s) were not disclosed. The NAHC recommended that the Pechanga Band be

consulted for further information on such resources, along with other local Native American groups who may also have pertinent knowledge.

As a result of the contact with the Pechanga Band, tribal monitor Robert Cordova participated in the archaeological fieldwork on June 18, 2021, as discussed further below. However, to date the Pechanga Band has not responded to the request for comments or information regarding the Native American cultural resource(s) reported by the NAHC.

#### *Historical Research*

Historical background research for this study suggests that the project area is relatively low in sensitivity for cultural resources from the historic period.

#### *Field Survey*

On June 18, 2021, CRM TECH archaeologists Salvador Z. Boites and Nina Gallardo conducted a field reconnaissance of the project area with the assistance of Pechanga monitor Robert Cordova. Due to dense vegetation growth at the time, only roughly 10% of the total acreage could be closely inspected. Although no indications of any features or artifact deposits of prehistoric or historical origin were encountered, it was determined that an intensive-level field survey would be necessary after adequate weed abatement to ascertain the presence or absence of any archaeological resources on the surface.

On June 3, 2022, after parts of the project area were cleared of vegetation, CRM TECH archaeologists Daniel Ballester and Hunter O'Donnell carried out a second field survey of the project area. The survey was completed systematically by walking a series of parallel north-south and east-west transects at 15-meter (approximately 50-foot) intervals where such transects were possible, mostly along the perimeters of the property. On the exposed slopes, natural contours were followed, keeping to the transect as closely as possible. Cleared swatches and paths were followed by walking along these open areas. A more cursory walk-over was conducted around remaining stands of dense vegetation, observing the ground surface where it could be seen (refer to Figure 5 of Appendix 5). Bedrock outcrops that could be accessed were closely examined for any evidence of past human alterations, such as bedrock milling features.

Using these methods, approximately 40% of the ground surface in the project area was closely examined for evidence of human activities dating to the prehistoric or historic periods (i.e., 50 years or older. Ground visibility was very good (90%) in areas where brush has been cleared and the duff removed, and where paths have been cut. In other areas, the remaining vegetation limited visibility to the ground to 5-10%, with some small areas still impenetrable. In addition to the pedestrian survey of the ground, the project area was also inspected and photographed from the air using a DJI Phantom 3 Professional drone.

#### Conclusion

In summary, the results of the study indicate that no potential "historical resources" are known to exist within or adjacent to the project area, based on the two surveys that were performed. Because the dense vegetation growth on the property did limit accessibility and ground visibility, CRM TECH recommends that initial grubbing and clearing operations at the beginning of the project be monitored by a qualified archaeologist in coordination with a Native American monitor of Luiseno heritage. Based on these considerations, mitigation is required below to ensure that cultural resources are not significantly impacted.

#### Impact Analysis

a&b. *Less Than Significant With Mitigation Incorporated* – Due Diligence Archaeological Sensitivity Assessment 483-Unit Multi-Family Apartment and Condominium Complex provided as Appendix 5 summarizes the findings of a cultural resources records search and field survey that was completed for this Project. The records search and field surveys did not identify any historical or cultural resources on the site. Nonetheless, the following mitigation measures shall be implemented for cultural resources:

**CUL-1** *The first step of site ground disturbance shall be to conduct a systematic resurvey of the site for cultural resources using an industrial mower to remove the vegetative cover. This effort shall be conducted with an archaeologist and a Native American monitor. If, during the vegetation removal activities, unique cultural resources, as that term is defined in PRC para. 21083.2(g), or an historic resource, as that term is defined in PRC para. 21084.1, are discovered and the resources were not assessed or addressed by the prior archaeological investigations or environmental assessment conducted prior to project approval, the following procedures shall be implemented:*

- a) All earthwork and ground-disturbing activities within 100 feet ("buffer area") of the discovery will be halted while the Project Archaeologist makes an initial assessment of the significance of the discovery;*
- b) Once the Project Archaeologist makes the initial assessment, the City Planner will convene a meeting with the Project Applicant, Project Archaeologist, and tribe(s) to discuss the significance of the discovery and what mitigation measures are feasible in accordance with examples in PRC para. 21083.2(b). If the parties cannot reach agreement on a feasible mitigation measure, the City Planner with the assistance of a third-party archaeologist will make a final determination on the appropriate mitigation and treatment of the resources; if there are disagreements with the determination, a Project Issue Resolution (PIR) meeting will be facilitated.*
- c) Earthwork and ground-disturbing activities will not resume within the buffer area of the discovery until an agreement has been reached by all parties as to the appropriate mitigation and treatment of the resources. Earthwork and ground-disturbing activities will be allowed to continue outside of the buffer area and will be monitored by archaeological and tribal monitor(s).*
- d) Treatment and avoidance of any newly discovered resources will be consistent with these mitigation measures and the Cultural Resources Monitoring Plan as required by MM CUL-2.*

**CUL-2** *At least thirty (30) days prior to submittal of the final grading plans to the City, the Project Applicant, Project Archaeologist, City planner and tribe(s) will meet and develop a Cultural Resources Monitoring Plan ("CRMP) for the treatment and mitigation of Native American cultural resources discovered during Project development. Treatment of the newly discovered resource(s) will be consistent with the terms and provisions of the CRMP, and may be amended by the parties as agreed upon. Prior to its finalization, the Project Archaeologist will circulate the draft CRMP to the City Planner and any tribe(s) requesting monitoring of the Project for review and comment. The final document will include information provided by the tribe(s) concerning tribal methods and practices and other appropriate issues that may be relevant to culturally appropriate treatment of the resources. The involved parties will make good-faith efforts to incorporate the Tribe's comments. The City Planner will have final review and approval authority for the CRMP. If there are disagreements with the approval, a Project Issue Resolution (PIR) meeting will be facilitated. All parties are required to withhold public disclosure of information related to the treatment and mitigation of cultural resource(s) pursuant to the specific exemption set forth in CGC para. 6254(r).*

*The CRMP will include/address each of the following:*

- a) The parties entering into the CRMP, and their contact information.*
- b) The Project schedule including the frequency and location of monitoring of earthwork and ground disturbing activities and details regarding what types of construction-related activities will require monitoring.*

**CUL-3** *Should any subsurface cultural resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection shall be performed immediately by a qualified archaeologist. Responsibility for making this determination shall be with the City's onsite inspector. The archaeological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act. Measures in accordance with CUL-1 and CUL-2 shall be followed if the accidentally exposed cultural material is also a Tribal Cultural Resource.*

**CUL-4** *On-Site Preservation/Reburial Location for Sensitive Native American Resources. All Native American sensitive resources including, without limitation, ceremonial items, sacred items, and grave goods as those same are identified by the tribe(s) during Project earthwork and ground-disturbing activities, will be reburied on the Project property. At least thirty (30) days prior to submittal of final grading plans to the City, the Project Applicant, Project Archaeologist, City Planner, and the tribe(s) will meet to identify the location(s) for on-site reburial (the "Preservation Site(s)"). During the meeting, the group will develop a confidential exhibit depicting and describing the Preservation Site(s), which exhibit will be kept by the City Planner under confidential cover and not subject to a Public Records Act request.*

*The Preservation Site(s) will be located within the Project site development envelope of the Project, outside of any known and identified cultural resource sites. Prior to the issuance of the first building permit for the applicable tract or phase that includes a Preservation Site location, the Project Applicant will record a restrictive covenant over the Preservation Site with the intent to ensure the site remains in an undisturbed state in perpetuity.*

*Any Preservation Site that includes relocated/reburied Native American cultural resources will be capped by first placing a layer of geomat fabric over the reburied resources, and then filling the site with clean, sterile soil and contouring the site to appear in a natural state. Once a Preservation Site has been filled and contoured, no earthwork or ground-disturbing activities or subsurface facilities will be permitted in the Preservation Site, with the exception of those activities and requirements that may be required pursuant to the Fire Protection Technical Report.*

Mitigation Measure (MM) **CUL-1** would ensure that additional field survey is completed once the site has been cleared of vegetation to enable complete ground visibility. This would enable the City and Native Americans to be confident that a definitive conclusion can be made as to the potential for resources that may be located within the project site. MM **CUL-2** would ensure that, should vegetation abatement require ground disturbance, an archaeological monitor is available to oversee ground disturbing activities that might significantly impact cultural resources. Finally, MM **CUL-2** would ensure a follow-up on Phase I Cultural Resources Investigation is finalized for the proposed Whitewood Condo / Apartment Project once the vegetation abatement has occurred. This mitigation measure includes several phases or steps beyond the completion of a Phase I Cultural Resources Investigation that would cover the identification, evaluation, mitigation, and monitoring should it be determined that sensitive cultural resources are located within the project site. This would ensure that adequate mitigation is provided in the event that significant cultural resources are located within the proposed project site, thus minimizing the potential for a significant impact to historical and archaeological resources to occur. With the implementation of MMs **CUL-1**, **CUL-2**, and **CUL-3**, the potential for impacts to cultural resources will be reduced to a less than significant level. No additional mitigation is required.



- c. *Less Than Significant Impact* – As noted in the discussion above, no available information suggests that human remains may occur within the APE, however given that the cultural resources team was unable to complete its field survey, there is a potential to encounter human remains. As such, in the event that human remains are inadvertently exposed during project construction activities, the human remains could be inadvertently damaged, which could result in a significant impact. Implementation of the proposed project would comply with provisions of state law regarding discovery of human remains, including PRC Section 5097.98 and Health and Safety Code Section 7050.5. If human remains are accidentally exposed during site grading, Section 7050.5 of the California Health and Safety Code requires a contractor to immediately stop work in the vicinity of the discovery and notify the County Coroner. The Coroner must then determine whether the remains are human and if such remains are human, the Coroner must determine whether the remains are or appear to be of a Native American origin. If deemed potential Native American remains, the Coroner contacts the NAHC to identify the most likely affected tribe and/or most likely descendant (MLD). Until the landowner has conferred with the MLD, the landowner shall ensure that the immediate vicinity where the discovery occurred is not disturbed by further activity, is adequately protected according to generally accepted cultural or archaeological standards or practices, and that further activities consider the possibility of multiple burials. Since this process is mandatory, no mitigation is required to ensure that the impacts to human remains will be treated with dignity and result in a less than significant impact.

City of Murrieta  
Whitewood Condo / Apartment Project

**INITIAL STUDY**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>VI. ENERGY:</b> Would the Project:				
a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: An Energy Analysis (EA) was prepared for the proposed project, it is provided as Appendix 6 to this Initial Study, is titled "Murrieta Apartments, Energy Analysis, City of Murrieta" prepared by Urban Crossroads dated August 10, 2021.

#### Existing Conditions

The most recent data for California's estimated total energy consumption and natural gas consumption is from 2018, released by the U.S. Energy Information Administration's (EIA) California State Profile and Energy Estimates in 2020 and included.

- Approximately 7,900 trillion British Thermal Unit (BTU) of energy was consumed;
- Approximately 3,444 trillion BTU of petroleum;
- Approximately 2,210 trillion BTU of natural gas;
- Approximately 33.3 trillion BTU coal.

The California Energy Commission's (CEC) Transportation Energy Demand Forecast 2019-2030 was released in order to support the 2020 Integrated Energy Policy Report. The Transportation energy Demand Forecast 2019-2030 lays out graphs and data supporting their projections of California's future transportation energy demand. The projected inputs consider expected variable changes in fuel prices, income, population, and other variables. Predictions regarding fuel demand included:

Gasoline demand in the transportation sector is expected to decline from approximately 15.5 billion gallons in 2019 to between 12.3 billion and 12.7 billion gallons in 2030.

Diesel demand in the transportation sector is expected to rise, increasing from approximately 3.9 billion diesel gallons in 2019 to approximately 4.3 billion in 2030.

- Data from the Department of Energy states that approximately 4 billion gallons of diesel fuel were consumed in 2019

The most recent data provided by the EIA for energy use in California by demand sector is from 2019 and is reported as follows:

- Approximately 39.4% transportation;
- Approximately 23.1% industrial;
- Approximately 18.7% residential; and
- Approximately 18.8% commercial

In 2020, total system electric generation for California was 277,704 gigawatt hours (GWh). California's massive electricity in-state generation system generated approximately 200,475 GWh which accounted for approximately 72.2% of the electricity it uses; the rest was imported from the Pacific Northwest (8.6%) and the U.S. Southwest (19.2%). Natural gas is the main source for electricity generation at 34.23% of the total in-state electric generation system power as shown in Table VI-1. Renewables account for 31.7% of the total electrical system power.

**Table VI-1  
TOTAL ELECTRICITY SYSTEM POWER (CALIFORNIA 2020)**

<b>Fuel Type</b>	<b>California In-State Generation (GWh)</b>	<b>Percent of California In-State Generation</b>	<b>Northwest Imports (GWh)</b>	<b>Southwest Imports (GWh)</b>	<b>Total California Energy Mix (GWh)</b>	<b>Total California Power Mix</b>
Coal	248	0.12%	219	7,765	8,233	2.96%
Natural Gas	86,136	42.97%	62	8,859	95,057	34.23%
Oil	36	0.02%	0	0	36	0.01%
Other	411	0.20%	0	11	422	0.15%
Nuclear	16,163	8.06%	39	8,743	24,945	8.98%
Large Hydro	33,145	16.53%	6,387	1,071	40,603	14.62%
Unspecified	0	0.00%	6,609	13,767	20,376	7.34%
Non-Renewables and Unspecified Totals	136,139	67.91%	13,315	40,218	189,672	68.30%
Biomass	5,851	2.92%	903	33	6,787	2.44%
Geothermal	10,943	5.46%	99	2,218	13,260	4.77%
Small Hydro	5,349	2.67%	292	4	5,646	2.03%
Solar	28,513	14.22%	282	5,295	34,090	12.28%
Wind	13,680	6.82%	9,038	5,531	28,249	10.17%
Renewables Totals	64,336	32.09%	10,615	13,081	88,032	31.70%
Total	200,475	100.00%	23,930	53,299	277,704	100.00%

Source: [https://www.energy.ca.gov/almanac/electricity\\_data/total\\_system\\_power.html](https://www.energy.ca.gov/almanac/electricity_data/total_system_power.html)

An updated summary of, and context for energy consumption and energy demands within the State is presented in "U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts" excerpted below:

- California was the seventh-largest producer of crude oil among the 50 states in 2019, and, as of January 2020, it ranked third in oil refining capacity.
- California is the largest consumer of jet fuel among the 50 states and accounted for 17% of the nation's jet fuel consumption in 2019.
- California's total energy consumption is second highest in the nation, but, in 2018, the state's per capita energy consumption was the fourth-lowest, due in part to its mild climate and its energy efficiency programs.
- In 2019, California ranked first in the nation as a producer of electricity from solar, geothermal, and biomass resources and fourth in the nation in conventional hydroelectric power generation.
- In 2019, California was the fourth-largest electricity producer in the nation, but the state was also the nation's largest importer of electricity and received about 28% of its electricity supply from generating facilities outside of California, including imports from Mexico.

As indicated above, California is one of the nation's leading energy-producing states, and California's per capita energy use is among the nation's most efficient. Given the nature of the project, the remainder of this discussion will focus on the three sources of energy that are most relevant to the project—namely, electricity, natural gas, and transportation fuel for vehicle trips associated with the uses planned for the project.



*Electricity*

The usage associated with electricity use were calculated using the California Emissions Estimator Model (CalEEMod) Version 2020.4.0. The Southern California region's electricity reliability has been of concern for the past several years due to the planned retirement of aging facilities that depend upon once-through cooling technologies, as well as the June 2013 retirement of the San Onofre Nuclear Generating Station (San Onofre). While the once-through cooling phase-out has been ongoing since the May 2010 adoption of the State Water Resources Control Board's once-through cooling policy, the retirement of San Onofre complicated the situation. California Independent Service Operator (ISO) studies revealed the extent to which the South California Air Basin and the San Diego Air Basin region were vulnerable to low-voltage and post-transient voltage instability concerns. A preliminary plan to address these issues was detailed in the 2013 Integrative Energy Policy Report (IEPR) after a collaborative process with other energy agencies, utilities, and air districts. Similarly, the 2020 IEPR's identifies broad strategies that are aimed at maintaining electricity system reliability.

Electricity is currently provided to the project by Southern California Edison (SCE). SCE provides electric power to more than 15 million persons in 15 counties and in 180 incorporated cities, within a service area encompassing approximately 50,000 square miles. Based on SCE's 2018 Power Content Label Mix, SCE derives electricity from varied energy resources including: fossil fuels, hydroelectric generators, nuclear power plants, geothermal power plants, solar power generation, and wind farms. SCE also purchases from independent power producers and utilities, including out-of-state suppliers.

California's electricity industry is an organization of traditional utilities, private generating companies, and state agencies, each with a variety of roles and responsibilities to ensure that electrical power is provided to consumers. The California Independent Service Operator ISO is a nonprofit public benefit corporation and is the impartial operator of the State's wholesale power grid and is charged with maintaining grid reliability, and to direct uninterrupted electrical energy supplies to California's homes and communities. While utilities still own transmission assets, the ISO routes electrical power along these assets, maximizing the use of the transmission system and its power generation resources. The ISO matches buyers and sellers of electricity to ensure that enough power is available to meet demand. To these ends, every five minutes the ISO forecasts electrical demands, accounts for operating reserves, and assigns the lowest cost power plant unit to meet demands while ensuring adequate system transmission capacities and capabilities.

Part of the ISO's charge is to plan and coordinate grid enhancements to ensure that electrical power is provided to California consumers. To this end, transmission file annual transmission expansion/modification plans to accommodate the State's growing electrical needs. The ISO reviews and either approves or denies the proposed additions. In addition, and perhaps most importantly, the ISO works with other areas in the western United States electrical grid to ensure that adequate power supplies are available to the State. In this manner, continuing reliable and affordable electrical power is assured to existing and new consumers throughout the State.

Table VI-2 identifies SCE's specific proportional shares of electricity sources in 2019. As indicated in Table VI-2, the 2019 SCE Power Mix has renewable energy at 35.1% of the overall energy resources. Geothermal resources are at 5.9%, wind power is at 11.5%, large hydroelectric sources are at 7.9%, solar energy is at 16%, and coal is at 0%.

**Table VI-2  
SCE 2019 POWER CONTENT MIX**

<b>Energy Resources</b>	<b>2019 SCE Power Mix</b>
<b><i>Eligible Renewable</i></b>	<b>35.1%</b>
Biomass & waste	0.6%
Geothermal	5.9%
Small Hydroelectric	1.0%
Solar	16.0%
Wind	11.5%
<b><i>Coal</i></b>	<b>0%</b>
<b><i>Large Hydroelectric</i></b>	<b>7.9%</b>
<b><i>Natural Gas</i></b>	<b>16.1%</b>
<b><i>Nuclear</i></b>	<b>8.2%</b>
<b><i>Other</i></b>	<b>0.1%</b>
Unspecified Sources of power*	32.6%
<b>Total</b>	<b>100%</b>
* "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources.	

#### *Natural Gas*

Natural gas is available from a variety of in-state and out-of-state sources and is provided throughout the state in response to market supply and demand. Complementing available natural gas resources, biogas may soon be available via existing delivery systems, thereby increasing the availability and reliability of resources in total. The CPUC oversees utility purchases and transmission of natural gas to ensure reliable and affordable natural gas deliveries to existing and new consumers throughout the State.

#### *Transportation Energy Sources*

The project would generate additional vehicle trips with resulting consumption of energy resources, predominantly gasoline and diesel fuel. In February 2021, the Department of Motor Vehicles identified 35.8 million registered vehicles in California, and those vehicles consume an estimated 17.8 billion gallons of fuel each year.<sup>2</sup> Gasoline (and other vehicle fuels) are commercially provided commodities and would be available to the project patrons and employees via commercial outlets.

California's on-road transportation system includes 394,383 land miles, more than 27.5 million passenger vehicles and light trucks, and almost 8.1 million medium- and heavy-duty vehicles. While gasoline consumption has been declining since 2008 it is still by far the dominant fuel. Petroleum comprises about 91% of all transportation energy use, excluding fuel consumed for aviation and most marine vessels. Nearly 17.8 billion gallons of on-highway fuel are burned each year, including 14.6 billion gallons of gasoline (including ethanol) and 3.2 billion gallons of diesel fuel (including biodiesel and renewable diesel). In 2019, Californians also used 194 million cubic feet of natural gas as a transportation fuel, or the equivalent of 183 billion gallons of gasoline.

#### *Evaluation Criteria*

In compliance with Appendix G of the *State CEQA Guidelines*, this report analyzes the project's anticipated energy use during construction and operations to determine if the project would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency

<sup>2</sup> Fuel consumptions estimated utilizing information from EMFAC2017.

In addition, Appendix F of the *State CEQA Guidelines*, states that the means of achieving the goal of energy conservation includes the following:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas and oil; and
- Increasing reliance on renewable energy sources.

#### Summary of Energy Demands

##### *Construction Energy Demands*

The estimated power cost of on-site electricity usage during the construction of the project is assumed to be approximately \$49,049. Additionally, based on the assumed power cost, it is estimated that the total electricity usage during construction, after full project build-out, is calculated to be approximately 466,313 kWh.

Construction equipment used by the project would result in single event consumption of approximately 66,858 gallons of diesel fuel. Construction equipment use of fuel would not be atypical for the type of construction proposed because there are no aspects of the project's proposed construction process that are unusual or energy-intensive, and project construction equipment would conform to the applicable CARB emissions standards, acting to promote equipment fuel efficiencies.

CCR Title 13, Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. BACMs inform construction equipment operators of this requirement. Enforcement of idling limitations is realized through periodic site inspections conducted by County building officials, and/or in response to citizen complaints.

Construction worker trips for full construction of the project would result in the estimated fuel consumption of 109,707 gallons of fuel. Additionally, fuel consumption from construction vendor and hauling trips (MHDTs and HHDTs) will total approximately 4,242 gallons. Diesel fuel would be supplied by regional commercial vendors. Indirectly, construction energy efficiencies and energy conservation would be achieved using bulk purchases, transport and use of construction materials. The 2020 Integrated Energy Policy Report (IEPR) released by the CEC has shown that fuel efficiencies are getting better within on and off-road vehicle engines due to more stringent government requirements. As supported by the preceding discussions, project construction energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

##### *Operational Energy Demands*

Annual vehicular trips and related VMT generated by the operation of the project would result in a fuel demand of 357,358 gallons of fuel.

Fuel would be provided by current and future commercial vendors. Trip generation and VMT generated by the project are consistent with other mixed residential and commercial uses of similar scale and configuration, as reflected respectively in the Institute of Transportation Engineers Trip Generation Manual (10th Ed., 2017); and CalEEMod. As such, project operations would not result in excessive and wasteful vehicle trips and VMT, nor excess and wasteful vehicle energy consumption compared to other residential developments of similar size.

In addition, enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT in the future. Location of the project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands. The project would implement sidewalks, facilitating and encouraging pedestrian access. Facilitating pedestrian and bicycle access would reduce VMT and associated energy consumption. In compliance with the California Green Building Standards Code and City requirements, the project would promote the use of bicycles as an alternative mean of transportation by providing short-term and/or long-

term bicycle parking accommodations. As supported by the preceding discussions, project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Project facility operational energy demands are estimated at: 7,060,380 kBTU/year of natural gas; and 2,103,982 kWh/year of electricity. Electricity consumption will be reduced because solar facilities will be required for each apartment and condo. Natural gas would be supplied to the project by SoCalGas; electricity would be supplied by SCE. The project proposes conventional residences that reflect contemporary energy efficient/energy conserving designs and occupancy. This includes solar systems on both the apartments and condominiums as required by the 2020 State Building Code (Title 24). The project does not propose uses that are inherently energy intensive and the energy demands in total would be comparable to other residential developments of similar scale and configuration.

Lastly, the project will comply with the applicable Title 24 standards. Compliance itself with applicable Title 24 standards will ensure that the project energy demands would not be inefficient, wasteful, or otherwise unnecessary.

#### Impact Analysis

- a. *Less Than Significant Impact* – As supported by the preceding analyses, project construction and operations would not result in the inefficient, wasteful, or unnecessary consumption of energy. The project would therefore not cause or result in the need for additional energy producing or transmission facilities. The project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservation goals within the State of California, as such, impacts under this issue would be less than significant.
- b. *Less Than Significant Impact* – The project's consistency with the applicable state and local plans is discussed below.

#### Consistency with Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)

Transportation and access to the project site is provided by the local and regional roadway systems. The project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be realized pursuant to the ISTEA because Southern California Association of Governments is not planning for intermodal facilities on or through the project site.

#### Consistency with the Transportation Equity Act for the 21st Century (TEA-21)

The project site is located near major transportation corridors with proximate access to the Interstate freeway system. The site selected for the project facilitates access acts to reduce vehicle miles traveled, takes advantage of existing infrastructure systems, and promotes land use compatibilities through collocation of similar uses. The project supports the strong planning processes emphasized under TEA-21. The project is therefore consistent with, and would not otherwise interfere with, nor obstruct implementation of TEA-21.

#### Consistency with Integrated Energy Policy Report (IEPR)

Electricity may be provided to the project by SCE. SCE's Clean Power and Electrification Pathway white paper builds on existing state programs and policies. As such, the project is consistent with, and would not otherwise interfere with, nor obstruct implementation the goals presented in the 2020 IEPR.

#### Consistency with State of California Energy Plan

The project site is located proximate to transportation corridors with access to the Interstate freeway system. The site selected for the project is infill and facilitates access and takes advantage of existing infrastructure systems. The project therefore supports urban design and planning processes identified under the State of California Energy Plan, is consistent with, and would not otherwise interfere with, nor obstruct implementation of the State of California Energy Plan.



Consistency with California Code Title 24, Part 6, Energy Efficiency Standards

The 2019 version of Title 24 was adopted by the California Energy Commission (CEC) and became effective on January 1, 2020. It should be noted that the analysis herein assumes compliance with the 2019 Title 24 Energy Efficiency Standards, which are incorporated into CalEEMod.

Consistency with AB 1493 (Pavley Regulations and Fuel Efficiency Standards)

AB 1493 is not applicable to the project as it is a statewide measure establishing vehicle emissions standards. No feature of the project would interfere with implementation of the requirements under AB 1493.

Consistency with California's Renewable Portfolio Standard (RPS)

California's Renewable Portfolio Standard is not applicable to the project as it is a statewide measure that establishes a renewable energy mix. No feature of the project would interfere with implementation of the requirements under RPS.

Consistency with the Clean Energy and Pollution Reduction Act of 2015 (SB 350)

The proposed project would use energy from SCE, which have committed to diversify their portfolio of energy sources by increasing energy from wind and solar sources. No feature of the project would interfere with implementation of SB 350. Additionally, the project would be designed and constructed to implement energy efficiency measures (such as solar systems, energy efficient irrigation system and appliances, etc.) for new residential developments and would include several measures designed to reduce energy consumption.

As shown above, the project would not conflict with any of the state or local plans. As such, the proposed project would have a less than significant potential to conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

City of Murrieta  
Whitewood Condo / Apartment Project

**INITIAL STUDY**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>VII. GEOLOGY AND SOILS:</b> Would the Project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
(i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(iv) Landslides?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the a, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: A "Geotechnical Interpretive Report" has been prepared to evaluate the potential geology and geotechnical constraints and impacts within the project area dated February 22, 2021 prepared by Earth Strata Geotechnical Services (Appendix 7a). The U.S. Department of Agriculture Web Soil Survey is provided as Appendix 7b. Additionally, CRM TECH prepared a Paleontological Resources Assessment Report titled "Paleontological Resources Assessment Assessor's Parcel Number 900-030-036" which is dated September 28, 2021 and is provided as Appendix 7c.

a. i. Ground Rupture

*Less Than Significant Impact* – The project site is located in the City of Murrieta, which is an area with several active faults, including two Alquist-Priolo Special Study Zones classified as such under the Alquist-Priolo Earthquake Fault Zoning Act. Figure VII-1 shows where these faults are located as indicated by the City of Murrieta General Plan 2035. According to Figure VII-1, the larger Alquist Priolo zone traverses along Jefferson Avenue. The City of Murrieta requires any proposed tracts of four or more dwelling units to investigate the potential for and setback from ground rupture hazards.

According to existing published geological information, the proposed project is not located within an Alquist-Priolo Special Study Zone, as the nearest fault zone is over 3.5 miles to the southwest. Based on this information, the risk for ground rupture at the site location is low; therefore, it is not likely that future visitors and residents of the Murrieta Whitewood Condos and Apartments will be subject to seismic hazards from rupture of a known earthquake fault. Therefore, any impacts under this issue are considered less than significant; no mitigation is required.

#### ii. Strong Seismic Ground Shaking

*Less Than Significant With Mitigation Incorporated* – Several faults run through the City, and as with much of Southern California, and the proposed structures will be subject to strong seismic ground shaking impacts should any major earthquakes occur in the future. The proposed project is located in an area of the City containing few active faults, as most of the active fault zones are located in the southern two thirds of the City (shown in Figure VII-1 which depicts the City's General Plan Map of Riverside County Earthquake Fault Zones that traverse the City). As a result, while the proposed project is located about two miles from the nearest fault, like all other development projects in the City and throughout the Southern California Region, the proposed project will be subject to seismic ground shaking, and will required to comply with all applicable seismic design standards contained in the 2020 California Building Code (CBC), including Section 1613 Earthquake Loads. Compliance with the CBC will ensure that structural integrity of the occupied buildings will be maintained in the event of an earthquake. Furthermore, the Geotechnical Investigation concluded that there is no indication of active faulting; however, however, the seismic design parameters outlined in the Geotechnical Report shall be enforced through the following mitigation measure:

**GEO-1** *Based upon the geotechnical investigation (Appendix 7a of this document), all of the recommended seismic design parameters identified in Appendix 7a (listed on Pages 12-13) shall be implemented by the Applicant. Implementation of these specific measures will address all of the identified geotechnical constraints identified at project site, including seismic soil stability on future project-related structures.*

With implementation of the mitigation measure above, impacts associated with strong ground shaking will be less than significant.

#### iii. Seismic-Related Ground Failure Including Liquefaction

*Less Than Significant With Mitigation Incorporated* – According to the Liquefaction Susceptibility Map prepared for the Murrieta General Plan 2035, the project is not located in an area that is considered susceptible to seismic-related ground failure, including liquefaction (Figure VII-3). The Geotechnical Investigation includes seismic design measures that apply to liquefaction potential. As such, the seismic design parameters identified in the Geotechnical Report and enforced through mitigation measure **GEO-1** above will minimize impacts related to liquefaction. Therefore, with the implementation of mitigation, the project will have a less than significant potential to expose people or structures to substantial adverse liquefaction hazards, including the risk of loss, injury, or death involving liquefaction.

#### iv. Landslides

*Less Than Significant With Mitigation Incorporated* – The project site is located in the City of Murrieta, and according to the City of Murrieta State Seismic Hazard Zone Map (Figure VII-4), the proposed project is not located in an area with an earthquake induced landslide potential. Seismically induced landslides and other slope failures are common occurrences during or soon after earthquakes, but due to the topography of the site, the landslide potential has been deemed to be minimal. Additionally, according to the Geotechnical Investigation, the potential for seismically induced landsliding to occur is very low. Furthermore, the seismic design parameters identified in the Geotechnical Report and enforced through mitigation measure **GEO-1** above will minimize impacts related to landslides.



Therefore, with implementation of mitigation measure **GEO-1**, the potential impacts related to landslide at the project site are considered less than significant.

- b. *Less Than Significant With Mitigation Incorporated* – The potential for soil erosion, loss of topsoil, and/or placing structures on unstable soils is anticipated to be marginally possible at the site during ground disturbance associated with construction. The project site is vacant with the majority of the site covered by native vegetation. The topography of the site generally slopes from the highest point to the south. City grading standards, best management practices and the Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP) are required to control the potential significant erosion hazards.

During project construction when soils are exposed, temporary soil erosion could occur, which could be exacerbated by rainfall. project grading would be managed through the preparation and implementation of a SWPPP, and will be required to implement best management practices to achieve concurrent water quality controls after construction is completed and the Whitewood Condos and Apartments are in operation. The following mitigation measures or equivalent best management practices (BMPs) shall be implemented to address these issues:

**GEO-2** *Stored backfill material shall be covered with water resistant material during periods of heavy precipitation to reduce the potential for rainfall erosion of stored backfill material. Where covering is not possible, measures such as the use of straw bales or sand bags shall be used to capture and hold eroded material on the project site for future cleanup such that erosion does not occur.*

**GEO-3** *All exposed, disturbed soil (trenches, stored backfill, etc.) shall be sprayed with water or soil binders twice a day, or more frequently if fugitive dust is observed migrating from the site within which the Murrieta Whitewood Condos and Apartments are being constructed.*

With implementation of the above mitigation measures, implementation of the SWPPP, WQMP, and associated BMPs, any impacts under this issue are considered less than significant.

- c. *Less Than Significant With Mitigation Incorporated* – Refer to the discussion under VII(a), above. Potential instability associated with slope stability related to the project was determined to be less than significant, as was the potential for liquefaction hazards at the site, as the site itself is not mapped as being located within a liquefaction or landslide zone. According to the United States Department of Agriculture Web Soil Survey (Appendix 7b), the project Area of Potential Effect (APE) is underlain by various types of loam and fine sandy loam (Cajalco fine sandy loam, Cajalco rocky fine sandy loam, Honcut loam, and Las Posas loam). These soils are typically well drained, and are therefore considered stable with a low potential for lateral spreading or subsidence. The City of Murrieta GPEIR Subsidence Susceptibility Map (Figure VII-5) indicates that the project is not located within an area delineated as having subsidence potential, as does the Geotechnical Investigation (Appendix 7a). However, the following mitigation measure addresses potential onsite geotechnical constraints:

**GEO-4** *Based upon the geotechnical investigation (Appendix 7a of this document), all of the recommended design and construction measures identified in Appendix 7a (listed on Pages 13-20) shall be implemented by the Applicant. Implementation of these specific measures will address all of the identified geotechnical constraints identified at project site, including soil stability on future project-related structures.*

The above measure would minimize potential for subsidence, lateral spreading or collapse, though the Geotechnical Investigation has indicated that the site has minimal potential for either of the above to occur. Furthermore, the Geotechnical Report identified several recommendations for site

construction that will ensure that the proposed project is constructed to address the geotechnical constraints of the project site. Thus, with the above mitigation measure, the project will not have a significant potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse. Any impacts are considered less than significant with mitigation.

- d. ***Less Than Significant Impact*** – As stated in the preceding section, according to the United States Department of Agriculture Web Soil Survey, the project's Area of Potential Effect (APE) is underlain by various types of loam and fine sandy loam (Cajalco fine sandy loam, Cajalco rocky fine sandy loam, Honcut loam, and Las Posas loam). These soils are typically well drained, and are therefore considered stable with a low potential to encounter expansive soils. The Geotechnical Investigation concluded that the underlying soil/bedrock at the site possess very low expansive characteristics. The expansion potential of these materials is not considered to pose a hazard for the proposed site development. Therefore, the development of the Whitewood Condo / Apartment Project at this site will not create a substantial risk to life or property by being placed on expansive soils because none exist on the site. Any impacts are considered less than significant. No mitigation is required.
- e. ***No Impact*** – The project does not propose any septic tanks or alternative wastewater disposal systems. Therefore, determining if the project site soils are capable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater does not apply. No impacts are anticipated. No mitigation is required.
- f. ***Less Than Significant With Mitigation Incorporated*** – The potential for discovering paleontological resources during development of the project is considered not likely based on the data gathered within the Paleontological Resources Assessment Report prepared by CRM TECH, provided as Appendix 7c. In order to identify any paleontological resource localities that may exist in or near the project area and to assess the probability for such resources to be encountered during the project, CRM TECH initiated a paleontological records search, conducted a literature review, and carried out a field inspection of the project area. The results of these research procedures suggest that the project area is situated entirely upon Cretaceous-age gabbro and monzogranite, which has a low potential to contain significant, nonrenewable paleontological resources. Furthermore, the Riverside County Parcel Report for the project site indicates that the project is not mapped as being located in an area containing high paleontological resources. No unique geologic features are known or suspected to occur on or beneath the site. However, because paleo resources are located beneath the surface and can only be discovered as a result of ground disturbance activities, the following measure shall be implemented:

***GEO-5 Should any paleontological resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection should be performed immediately by a qualified paleontologist. Responsibility for making this determination shall be with City's onsite inspector. The paleontological professional shall assess the find, determine its significance, and determine appropriate mitigation measures within the guidelines of the California Environmental Quality Act that shall be implemented to minimize any impacts to a paleontological resource.***

With incorporation of this contingency mitigation, the potential for impact to paleontological resources will be reduced to a less than significant level. No additional mitigation is required.

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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>VIII. GREENHOUSE GAS EMISSIONS:</b> Would the Project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: A Greenhouse Gas Analysis was prepared for the proposed project, it is provided as Appendix 8 to this Initial Study, is titled "Murrieta Apartments, Greenhouse Gas Analysis, City of Murrieta," (GHGIA) prepared by Urban Crossroads dated August 19, 2021.

#### Climate Change Setting

Global Climate Change (GCC) is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The majority of scientists believe that the climate shift taking place since the Industrial Revolution is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of GHGs in the earth's atmosphere, including carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and fluorinated gases. The majority of scientists also believe that this increased rate of climate change is the result of GHGs resulting from human activity and industrialization over the past 200 years.

An individual project like the proposed project evaluated in this GHGA cannot generate enough GHG emissions to affect a discernible change in global climate. However, the proposed project may participate in the potential for GCC by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on GCC.

#### *Greenhouse Gases and Health Effects*

GHGs trap heat in the atmosphere, creating a GHG effect that results in global warming and climate change. The potential health effects related directly to the emissions of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O as they relate to development projects such as the proposed project are still being debated in the scientific community. Their cumulative effects to GCC have the potential to cause adverse effects to human health. Increases in Earth's ambient temperatures would result in more intense heat waves, causing more heat-related deaths. Scientists also purport that higher ambient temperatures would increase disease survival rates and result in more widespread disease. Climate change will likely cause shifts in weather patterns, potentially resulting in devastating droughts and food shortages in some areas.

#### *Global Warming Potential*

GHGs have varying Global Warming Potential (GWP) values. GWP of a GHG indicates the amount of warming a gas, causes over a given period of time and represents the potential of a gas to trap heat in the atmosphere. CO<sub>2</sub> is utilized as the reference gas for GWP, and thus has a GWP of 1. Carbon dioxide equivalent (CO<sub>2</sub>e) is a term used for describing the difference GHGs in a common unit. CO<sub>2</sub>e signifies the amount of CO<sub>2</sub> which would have the equivalent GWP.

GWP for the Second Assessment Report, the Intergovernmental Panel on Climate Change (IPCC)'s scientific and socio-economic assessment on climate change, range from 1 for CO<sub>2</sub> to 23,900 for SF<sub>6</sub> and GWP for the IPCC's 5th Assessment Report range from 1 for CO<sub>2</sub> to 23,500 for SF<sub>6</sub>.

*Greenhouse Gas Emissions Inventories*

State of California: California has significantly slowed the rate of growth of GHG emissions due to the implementation of energy efficiency programs as well as adoption of strict emission controls but is still a substantial contributor to the U.S. emissions inventory total. The California Air Resource Board (CARB) compiles GHG inventories for the State of California. Based upon the 2020 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2018. In 2018, emissions from GHG emitting activities statewide were 425 million metric tons of carbon dioxide equivalent (MMT CO<sub>2</sub>e), 0.8 MMT CO<sub>2</sub>e higher than 2017 levels and 6 MMT CO<sub>2</sub>e below the 2020 GHG Limit of 431 MMT CO<sub>2</sub>e. (MMT CO<sub>2</sub>e/yr).

Significance Thresholds*South Coast Air Quality Management District (SCAQMD)*

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the SCAB. The Working Group developed several different options that are contained in the SCAQMD Draft Guidance Document – Interim CEQA GHG Significance Threshold, which could be applied by lead agencies. The working group has not provided additional guidance since release of the interim guidance in 2008. The SCAQMD Board has not approved the thresholds; however, the Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by the lead agency in adopting its own threshold. The current interim thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the project is consistent with a GHG reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.
- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to the project's operational emissions. If a project's emissions are below one of the following screening thresholds, then the project is less than significant:
  - Residential and Commercial land use: 3,000 MT CO<sub>2</sub>e/yr
  - Industrial land use: 10,000 MT CO<sub>2</sub>e/yr
  - Based on land use type: residential: 3,500 MT CO<sub>2</sub>e/yr; commercial: 1,400 MT CO<sub>2</sub>e/yr; or mixed use: 3,000 MT CO<sub>2</sub>e/yr
- Tier 4 has the following options:
  - Option 1: Reduce BAU emissions by a certain percentage; this percentage is currently undefined.
  - Option 2: Early implementation of applicable AB 32 Scoping Plan measures
  - Option 3: 2020 target for service populations (SP), which includes residents and employees: 4.8 MT CO<sub>2</sub>e/SP/year for projects and 6.6 MT CO<sub>2</sub>e/SP/year for plans;
  - Option 3, 2035 target: 3.0 MT CO<sub>2</sub>e/SP/year for projects and 4.1 MT CO<sub>2</sub>e/SP/year for plans
- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD's interim thresholds used the Executive Order S-3-05-year 2050 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap CO<sub>2</sub> concentrations at 450 ppm, thus stabilizing global climate.

SCAQMD only has authority over GHG emissions from development projects that include air quality permits. At this time, it is unknown if the project would include stationary sources of emissions subject to SCAQMD permits. Notwithstanding, if the project requires a stationary permit, it would be subject to the applicable SCAQMD regulations.



*City of Murrieta Climate Action Plan (CAP)*

In order to aggressively address the threats of global climate change, the City has prepared a CAP, which provides a framework for reducing GHG emissions and managing resources to best prepare for a changing climate. The CAP recommends GHG emissions targets that are consistent with the reduction targets of the State of California and presents several strategies that will make it possible for the City of Murrieta to meet the recommended targets. Projects that demonstrate consistency with the strategies, actions, and emission reduction targets contained in the CAP would have a less than significant impact on climate change.

The project will be compliant with the goal and objectives set forth in the City of Murrieta's CAP. Therefore, project consistency with the CAP would result in a less than significant impact with respect to GHG emissions.

*Establishing Significance Thresholds*

The City of Murrieta has not established local CEQA significance thresholds for GHG emissions, as described in Section 15064.7 of the CEQA guidelines. According to the Final Statement of Reasons (FSOR) for Regulatory Action, the revised Section 15064.7 gives lead agencies the discretion to determine their methodology for quantifying GHG emissions.

The Association of Environmental Professionals (AEP) Climate Change Committee has prepared a white paper to provide guidance to local governments on how to develop thresholds for use in CEQA based on Section 15064.7 and guidance developed by several air quality districts and the California Air Pollution Control Officers Association (CAPCOA) guidance on addressing climate change. The AEP white paper identified seven thresholds for operational emissions. The following four methods described are the most widely used evaluation criteria.

- (1) **Consistency with a Qualified GHG Reduction Plan.** For a project located within a jurisdiction that has adopted a qualified GHG reduction plan (as defined by CEQA Guidelines Section 15183.5), GHG emissions would be less than significant if the project is anticipated by the plan and fully consistent with the plan. However, projects with a horizon year beyond 2020 should not tier from a plan that is qualified up to 2020.
- (2) **Bright line Thresholds.** There are two types of bright line thresholds: a. Standalone Threshold. Emissions exceeding standalone thresholds would be considered significant. b. Screening Threshold. Emissions exceeding screening thresholds would require evaluation using a second-tier threshold, such as an efficiency threshold or other threshold concept to determine whether project emissions would be considered significant. However, projects with a horizon year beyond 2020 should take into account the type and amount of land use projects and their expected emissions out to the year 2030.
- (3) **Efficiency Thresholds.** Land use sector efficiency thresholds are currently based on AB 32 targets and should not be used for projects with a horizon year beyond 2020. Projects with a horizon year beyond 2020 should use efficiency metrics that are adjusted for 2030 and include applicable land uses.
- (4) **Percent Below "Business as Usual" (BAU).** GHG emissions would be less than significant if the project reduces BAU emissions by the same amount as the statewide 2020 reductions. However, this method is no longer recommended following the Newhall Ranch ruling.

The AEP recommendations are similar to the recommendation developed by the SCAQMD Working group. As the City has not adopted a Climate Action Plan or similar qualified GHG reduction plan, method 1 is not applicable. Based on CEQA case law, method 4 is also not applicable. Operational emissions threshold method 2 would be applicable to smaller projects using the SCAQMD screening threshold. However, due to the size of the project method 4 is most applicable to the proposed project.

The SCAQMD Working Group developed efficiency thresholds, or SP thresholds, for project level and plan level analysis for 2020 and suggested a potential threshold for 2035. However, these are largely based on the goals and information available in 2008 and have thus been reevaluated based on the emission estimates and goals of the 2017 Scoping Plan.

Efficiency thresholds are thresholds based on the measurement of GHG efficiency for a given project, regardless of the amount of mass emissions. The intent of these thresholds is to identify the level of GHG emissions below which new development would not interfere with the achievement of statewide GHG emission goals. A project that attains a specific efficiency as measured by the SP, would result in less than significant impact under CEQA. A locally appropriate 2030 project-specific threshold is derived from CARB's recommendations in the 2017 Climate Change Scoping Plan Update, as discussed below.

In the 2017 Scoping Plan, CARB identified the need to balance population growth with GHG emissions reduction goals and in doing so, provided a plan level methodology for target setting that provides consistency with state GHG reduction goals using per capita GHG emissions limits. However, CARB stopped short of identifying a project level threshold, but provided ideas of how they may be developed. A project-specific efficiency threshold can be calculated by dividing statewide GHG emissions by the sum of statewide jobs and residents, similar to how CARB developed the plan level threshold. However, not all statewide emission sources would be impacted by the proposed land use. Accordingly, consistent with the concerns raised in the Golden Door (2018) and Newhall Ranch (2015) decisions regarding the correlation between state and local conditions, the 2030 statewide inventory target was modified based on evidence provided to establish a locally-appropriate, project-specific threshold consistent with the SB 32 target.

To develop this threshold, the local planning area, i.e., the City of Murrieta, was first evaluated to determine emissions sectors that are present and would be directly affected by potential land-use changes. A description of major sources of emissions that are included in the State Scoping Plan emissions sectors and representative sources in City of Murrieta are shown in Table VIII-2.

According to the City's General Plan Land Use Map and Zoning Map, there are no existing or planned large scale agricultural land uses within the City. Therefore, the Agricultural Emissions Sector was considered locally inappropriate and was removed from the State 2030 emissions forecast. Furthermore, industrial development within the City is limited to light industrial and limited commercial activities, such as auto repair, food processing and packaging, and art studios. Industrial Sector source emissions (i.e., oil, gas, and hydrogen production; refineries; general fuel use; and mining operations) are not found within the City and would not be directly impacted by the proposed land uses; therefore, the Industrial Emissions Sector was removed from the State 2030 emissions forecast to retain a more conservative locally-appropriate target. Additionally, Cap and Trade emissions reductions occur independent of any local jurisdictional land use decisions and the effects of Cap and Trade excluded from the locally-appropriate target.

After removing Agricultural, Industrial, and the effects of Cap and Trade emissions, the remaining emissions sectors with sources within the City of Murrieta were then used to create a locally appropriate emissions total for projects in City of Murrieta. This locally-appropriate emissions total is divided by the statewide 2030 service person population to determine a project-level threshold of 3.2 MT of CO<sub>2</sub>e per SP that is consistent with SB 32 targets, as shown in Table VIII-1 and Table VIII-2.

**Table VIII-1  
STATEWIDE EMISSIONS SECTORS – 2017 SCOPING PLAN**

<b>GHG Emissions Sector</b>	<b>2030 State Emissions Target (MMT)<sup>1</sup></b>	<b>Locally Appropriate</b>	<b>Project Specific</b>	<b>Major Sources<sup>2</sup></b>
Residential and Commercial Sectors	38	Yes	Yes	Natural gas end users, including space and water heating of buildings
Industrial Sector	83	No	No	Oil, gas, and hydrogen production, refineries, general fuel use, and mining operations.
Agriculture	24	No	No	Enteric fermentation, crop residue burning, and manure management.
Electricity	53	Yes	Yes	Electricity users, including lighting, appliances, machinery, and heating
Recycling and Waste	8	Yes	Yes	Waste generated by all land uses
Transportation	103	Yes	Yes	Passenger vehicles, heavy duty, and other on-road vehicle emissions
High GWP Sources	11	Yes	Yes	SF <sub>6</sub> from power stations, HFCs from refrigerants, and air conditioning
Cap and Trade <sup>3</sup>	-60	No	No	Reductions from facilities emitting more than 10,000 MT CO <sub>2</sub> e per year
<b>Scoping Plan Target (All Sectors)</b>	260	--	--	<b>All emissions sectors</b>
<b>Sectors Not Applicable</b>	-47			
<b>2030 Locally Applicable Emissions Sectors</b>	213	--	--	<b>Emissions applicable to the City of Wildomar</b>
<b>MMT = million metric tons</b> <sup>1</sup> 2017 Climate Change Scoping Plan. <sup>2</sup> CARB GHG Emissions Inventory Scoping Plan Categorization <sup>3</sup> Cap and Trade is excluded as reductions will occur independent of local project land use decisions and are therefore not locally appropriate.				

**Table VIII-2  
LOCALLY APPROPRIATE PROJECT LEVEL THRESHOLD**

<b>California 2017 Climate Change Scoping Plan</b>	California 2030 Population (persons) <sup>1</sup>	43,939,250
	California 2030 Employment Projection (persons) <sup>2</sup>	23,459,500
	SP	67,398,750
<b>Locally Appropriate 2030 Project Threshold</b>	2030 Locally Appropriate Emissions Sectors (MT CO <sub>2</sub> e)	213,000,000
	2030 SP	67,398,750
	2030 SP Target (MT CO <sub>2</sub> e per SP)	3.2

<sup>1</sup> California Department of Finance 2018

<sup>2</sup> Average of employment range projections under implementation scenario. 2017 Scoping Plan.

The State has codified a target of reducing emissions to 40 percent below 1990 emissions levels by 2030 (SB 32) and has developed the 2017 Scoping Plan to demonstrate how the State will achieve the 2030 target and make substantial progress toward the 2050 goal of an 80 percent reduction in 1990 GHG emission levels set by Executive Order (EO) S-3-05. The 2030 goal is currently the only legislatively codified statewide GHG reduction target.

The AEP Climate Change Committee recommends that CEQA GHG analyses evaluate project emissions in light of the trajectory of state climate change legislation and assess their “substantial progress” toward



achieving long-term reduction targets identified in available plans, legislation, or EOs. Consistent with AEP Climate Change Committee recommendations, GHG impacts are analyzed in terms of whether the anticipated project development would impede “substantial progress” toward meeting the reduction goal identified in SB 32. Avoiding interference with and making substantial progress toward long-term State targets is important because these targets have been set at levels that achieve California’s fair share of international emissions reduction targets that will stabilize global climate change effects.

#### *Service Population*

The project would provide 483 residential dwelling units. As the project is primarily residential the entire service population (SP) is based on future residents. Based on the 2010 Census the City of Murrieta has an average of 3.49 persons per household. Therefore, the project is estimated to generate a SP of 1,686 people. The remainder of this document utilizes the Southern California Association of Governments (SCAG) Population estimates, as these are more recent and up to date based on current trends. However, the utilization of Census data would not change the findings herein, and thus, for the purposes of the GHGIA, the Census calculations are utilized.

#### *California Emissions Estimator Model™ Employed to Analyze GHG Emissions*

In June, 2021 the SCAQMD in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the California Emissions Estimator Model (CalEEMod) Version 2020.40.0. The purpose of this model is to calculate construction-source and operational-source criteria pollutant and GHG emissions (CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O) from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation. Accordingly, the latest version of CalEEMod has been used for this project to determine construction and operational air quality emissions. CalEEMod output for construction and operational activity are provided in Appendix 3.1 to the GHGIA.

Emissions Factors Model: On August 19, 2019, the EPA approved the 2017 version of the Emissions Factor model (EMFAC) web database for use in SIP and transportation conformity analyses. EMFAC2017 is a mathematical model that was developed to calculate emission rates, fuel consumption, VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the CARB to project changes in future emissions from on-road mobile sources. The EMFAC emission factors used in this analysis include adjustment factors for the SAFE Rule and thus represent a conservative scenario.

#### *Life-Cycle Analysis Note Required*

A full life-cycle analysis (LCA) for construction and operational activity is not included in this analysis due to the lack of consensus guidance on LCA methodology at this time. Life-cycle analysis (i.e., assessing economy-wide GHG emissions from the processes in manufacturing and transporting all raw materials used in the project development, infrastructure, and on-going operations) depends on emission factors or econometric factors that are not well established for all processes. At this time, an LCA would be extremely speculative and thus has not been prepared.

Additionally, the SCAQMD recommends analyzing direct and indirect project GHG emissions generated within California and not life-cycle emissions because the life-cycle effects from a project could occur outside of California, might not be very well understood or documented, and would be challenging to mitigate. Additionally, the science to calculate life cycle emissions is not yet established or well defined; therefore, SCAQMD has not recommended, and is not requiring, life-cycle emissions analysis.

#### Impact Analysis

- a. *Less Than Significant Impact* – GHG emissions associated with the proposed project would occur during both construction (short-term) and operations (long-term).

Construction Emissions

Project construction activities would generate CO<sub>2</sub> and CH<sub>4</sub> emissions. The AQIA provided as Appendix 3 contains detailed information regarding project construction activities. Construction related emissions are expected from the following activities:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

Construction Duration

Construction is expected to commence in February 2022 and will continue through September 2026. The construction schedule utilized in the analysis, shown in Table VIII-3, represents a “worst-case” analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent.<sup>3</sup> The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per CEQA Guidelines. The duration of construction activities was based on CalEEMod defaults and an opening year of 2023.

**Table VIII-3  
CONSTRUCTION DURATION**

Phase Name	Start Date	End Date	Days
Site Preparation	2/7/2022	2/18/2022	10
Grading	2/19/2022	4/8/2022	35
Building Construction	4/9/2022	9/8/2023	370
Paving	7/26/2023	9/8/2023	33
Architectural Coating	7/26/2023	9/8/2023	33

Construction Equipment

Site specific construction fleet may vary due to specific project needs at the time of construction. The construction equipment estimates are generally based on CalEEMod standard inputs. A detailed summary of construction equipment assumptions by phase is provided at Table VIII-4. Please refer to specific detailed modeling inputs/outputs contained in Appendix 3.1 of the GHGIA.

**Table VIII-4  
CONSTRUCTION EQUIPMENT ASSUMPTIONS**

Phase Name	Equipment	Amount	Hours Per Day
Site Preparation	Crawler Tractors	4	8
	Rubber Tired Dozers	3	8
Grading	Crawler Tractors	2	8
	Crawler Tractors	2	8
	Graders	1	8
	Rubber Tired Dozers	1	8
	Scrapers	2	8

<sup>3</sup> As shown in the CalEEMod User's Guide Version 2016.3.2, Section 4.3 “Offroad Equipment” as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

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Phase Name	Equipment	Amount	Hours Per Day
Building Construction	Cranes	1	8
	Forklifts	3	8
	Generator Sets	1	8
	Tractors/Loaders/Backhoes	3	8
	Welders	1	8
Paving	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8
Architectural Coating	Air Compressors	1	8
Source: CalEEMod, Appendix 3.1			

*Construction Emissions Summary*

To evaluate project construction emissions, GHG emissions are quantified and amortized over the life of the project and added to the operations emissions. To amortize the emissions over the life of the project, the SCAQMD recommends calculating the total GHG emissions for the construction activities, dividing it by a 30-year project life then adding that number to the annual operational GHG emissions. Therefore, project construction emissions have been amortized over a 30-year period and added to the annual operational GHG emissions. The amortized construction emissions are presented in Table 3-3.

**Table VIII-5  
AMORTIZED ANNUAL CONSTRUCTION EMISSIONS**

Year	Emissions (MT/yr)			
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	Total CO <sub>2</sub> e
2022	1131.13	0.12	0.05	1149.75
2023	995.39	0.09	0.05	1011.71
Total Annual Construction Emissions	2,126.52	0.20	0.10	2,161.45
<b>Amortized Construction Emissions (MTCO<sub>2</sub>e)</b>	<b>70.88</b>	<b>0.01</b>	<b>0.00</b>	<b>72.05</b>
Source: CalEEMod, Appendix 3.1				

Operational Emissions

Operational activities associated with the proposed project will result in emissions of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- Water Supply, Treatment, and Distribution
- Solid Waste

*Area Source Emissions*

Landscape maintenance equipment are typically the only area sources that would generate emissions GHG emissions, which are primarily due to fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the project. The emissions associated with landscape maintenance equipment were calculated based on standard assumptions included in CalEEMod.

*Energy Source Emissions*

Combustion Emissions Associated with Natural Gas and Electricity: GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO<sub>2</sub> and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a building; the building energy use emissions do not include street lighting<sup>4</sup>. GHGs are also emitted during the generation of electricity from fossil fuels; these emissions are indirect emissions. Unless otherwise noted, CalEEMod default parameters were used.

Renewable Portfolio Standard: Indirect emissions from electricity use were modeled based on electricity intensity factors for the project utility provider, Southern California Edison (SCE). CalEEMOD derives energy intensity factors from 2019 data, which indicates that in 2019 SCE generated 393 pounds of CO<sub>2</sub>e for each megawatt-hour (MWh) of electricity delivered. Projected 2026 energy-intensity factors for SCE were interpolated based on SCE's existing power mix and the requirements of the Renewables Portfolio Standard. As SCE had a power mix with 38% renewables in 2019 and is projected to meet the 44% renewables requirement in 2024.

Title 24 Energy Efficiency Standards: California's Energy Efficiency Standards for Residential and Nonresidential Buildings was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity. The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020. The 2019 Energy Code is estimated to make non-residential and high-rise residential buildings to be 30% more efficient than the same buildings built under the 2016 Energy Code.

*Mobile Source Emissions*

Project mobile source GHG impacts are dependent on both overall daily vehicle trip generation and the effect of the project on peak hour traffic volumes and traffic operations in the vicinity of the project. The project-related GHG impacts are derived primarily from vehicle trips generated by the project. Trip characteristics available from the Traffic Impact Analysis (TIA) report were utilized in this analysis.

*Water Supply, Treatment, and Distribution*

Indirect GHG emissions result from the production of electricity used to convey, treat, and distribute water and wastewater. The amount of electricity required to convey, treat and distribute water depends on the volume of water as well as the sources of the water. CalEEMod default parameters were reduced by 20% to demonstrate compliance with CalGreen.

*Solid Waste*

Residential land uses will result in the generation and disposal of solid waste. A large percentage of this waste will be diverted from landfills by a variety of means, such as reducing the amount of waste generated, recycling, and/or composting. The remainder of the waste not diverted will be disposed of at a landfill. GHG emissions from landfills are associated with the anaerobic breakdown of material. GHG emissions associated with the disposal of solid waste associated with the proposed project were calculated by CalEEMod using standard generation rates.

Emissions Summary

The annual GHG emissions associated with the operation of the proposed project without mitigation are estimated to be approximately 4,493.12 MT CO<sub>2</sub>e/yr as summarized in Table VIII-6. The project is estimated to have a SP of 1,594. This would result in an efficiency of 2.82 MT CO<sub>2</sub>e/SP. This would be below the 3.2 MT CO<sub>2</sub>e/SP threshold used by the City of Murrieta. As such, the proposed

<sup>4</sup> The CalEEMod emissions inventory model does not include indirect emission related to street lighting. Indirect emissions related to street lighting are expected to be negligible and cannot be accurately quantified at this time as there is insufficient information as to the number and type of street lighting that would occur.

project would have a less than significant potential to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

**Table VIII-6  
PROJECT GHG EMISSIONS**

Emission Source	Emissions (MT/yr)			
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	Total CO <sub>2</sub> e
Annual construction-related emissions amortized over 30 years	70.88	0.01	0.00	72.05
Area	112.62	0.01	0.00	113.44
Energy	749.90	0.04	0.01	754.07
Mobile	3,261.62	0.21	0.14	3,309.68
Waste	45.16	2.67	0.00	111.89
Water Use	105.21	0.83	0.02	132.00
<b>Total CO<sub>2</sub>e (All Sources)</b>	<b>4,493.12</b>			
<b>Service Population</b>	<b>1,686</b>			
<b>project Efficiency</b>	<b>2.67</b>			
<b>Efficiency Threshold</b>	<b>3.20</b>			
<b>Exceed Efficiency Threshold?</b>	<b>No</b>			
Source: CalEEMod 2016, Appendix 3.1 -- = Emission factor only provided in MT CO <sub>2</sub> e				

- b. *Less Than Significant Impact* – As previously stated, pursuant to 15604.4 of the CEQA Guidelines, a lead agency may rely on qualitative analysis or performance-based standards to determine the significance of impacts from GHG emissions. As such, the project's consistency with SB 32 (2017 Scoping Plan), is discussed below. It Consistency with AB 32 and the 2008 Scoping Plan is not necessary, since the target year for AB 32 and the 2008 Scoping Plan was 2020, and the project's buildout year for modeling is 2023. As such the 2017 Scoping Plan is the most relevant statewide plan. Project consistency with SB 32 and City's General Plan Measures, Energy Efficiency, and CAS is evaluated in the following discussion.

SB 32/2017 Scoping Plan Consistency

The 2017 Scoping Plan Update reflects the 2030 target of a 40% reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Table VIII-7 summarizes the project's consistency with the 2017 Scoping Plan.



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**Table VIII-7  
2017 SCOPING PLAN CONSISTENCY SUMMARY**

Action	Responsible Parties	Consistency
Implement SB 350 by 2030		
Increase the Renewables Portfolio Standard to 50% of retail sales by 2030 and ensure grid reliability.	CPUC, CEC, CARB	Consistent. This measure is not directly applicable to development projects, but the proposed project would use energy from Southern California Edison, which has committed to diversify its portfolio of energy sources by increasing energy from wind and solar sources.
Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.		Consistent. Although this measure is directed towards policymakers, the proposed project would be designed consistent with Title 24 2019, which increases in overall energy efficiency from Title 24 2016.
Reduce GHG emissions in the electricity sector through the implementation of the above measures and other actions as modeled in Integrated Resource Planning (IRP) to meet GHG emissions reductions planning targets in the IRP process. Load-serving entities and publicly- owned utilities meet GHG emissions reductions planning targets through a combination of measures as described in IRPs.		Not applicable. This measure is not within the purview of this project.
Implement Mobile Source Strategy (Cleaner Technology and Fuels)		
At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025.	CARB, California State Transportation Agency (CalSTA), Strategic Growth Council (SGC), California Department of Transportation (Caltrans), CEC, OPR, Local Agencies	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
At least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030.		Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean cars regulations.		Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Medium- and Heavy-Duty GHG Phase 2.		Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20% of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100% of new sales in 2030. Also,		Not applicable. This measure is not within the purview of this project.

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Action	Responsible Parties	Consistency
new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NO <sub>x</sub> standard.		
Last Mile Delivery: New regulation that would result in the use of low NO <sub>x</sub> or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5% of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10% in 2025 and remaining flat through 2030.		Not applicable. This project is not responsible for implementation of SB 375 and would therefore not conflict with this measure.
Further reduce VMT through continued implementation of SB 375 and regional Sustainable Communities Strategies; forthcoming statewide implementation of SB 743; and potential additional VMT reduction strategies not specified in the Mobile Source Strategy but included in the document "Potential VMT Reduction Strategies for Discussion."		Not applicable. This project is not responsible for implementation of SB 375 and would therefore not conflict with this measure.
Increase stringency of SB 375 Sustainable Communities Strategy (2035 targets).	CARB	Not applicable. The project is not within the purview of SB 375 and would therefore not conflict with this measure.
By 2019, adjust performance measures used to select and design transportation facilities		
Harmonize project performance with emissions reductions and increase competitiveness of transit and active transportation modes (e.g., via guideline documents, funding programs, project selection, etc.).	CalSTA, SGC, OPR, CARB, Governor's Office of Business and Economic Development (GO-Biz), California Infrastructure and Economic Development Bank, Department of Finance, California Transportation Commission (CTC), Caltrans	Not applicable. Although this is directed towards CARB and Caltrans, the proposed project would be designed to promote and support pedestrian activity on-site and in the project Site area.
By 2019, develop pricing policies to support low-GHG transportation (e.g., low-emission vehicle zones for heavy duty, road user, parking pricing, transit discounts).	CalSTA, Caltrans, CTC, OPR, SGC, CARB	Not applicable. Although this measure is directed towards policymakers, the proposed project would comply with AB 939, which sets a statewide policy that not less than 65% of solid waste generated be source reduced, recycled, or composted.



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Action	Responsible Parties	Consistency
		Additionally, the proposed project would be required to participate in the City of Murrieta recycling program and recycling collection. During construction, the proposed project shall recycle and reuse construction and demolition waste per City of Murrieta solid waste procedures.
Implement California Sustainable Freight Action Plan		
Improve freight system efficiency.	CalSTA, CalEPA, CNRA, CARB, Caltrans, CEC, GO-Biz	Not applicable. This measure is not within the purview of this project.
Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.		Not applicable. This measure is not within the purview of this project.
Adopt a Low Carbon Fuel Standard with a Carbon Intensity reduction of 18%.	CARB	Consistent. This measure would apply to all fuel purchased and used by the project in the state.
Implement the Short-Lived Climate Pollutant Strategy by 2030		
40% reduction in methane and hydrofluorocarbon emissions below 2013 levels.	CARB, CalRecycle, CDFA, SWRCB, Local Air Districts	Not applicable. This measure is not within the purview of this project.
50% reduction in black carbon emissions below 2013 levels.		Not applicable. This measure is not within the purview of this project.
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	CARB, CalRecycle, CDFA SWRCB, Local Air Districts	Not applicable. This measure is not within the purview of this project.
Implement the post-2020 Cap-and-Trade Program with declining annual caps.	CARB	Not applicable. This measure is not within the purview of this project.
By 2018, develop Integrated Natural and Working Lands Implementation Plan to secure California's land base as a net carbon sink		
Protect land from conversion through conservation easements and other incentives.	CNRA, Departments Within CDFA, CalEPA, CARB	Not applicable. This measure is not within the purview of this project.
Increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity		Not applicable. This measure is not within the purview of this project.
Utilize wood and agricultural products to increase the amount of carbon stored in the natural and built environments		Not applicable. This measure is not within the purview of this project.
Establish scenario projections to serve as the foundation for the Implementation Plan		Not applicable. This measure is not within the purview of this project.
Establish a carbon accounting framework for natural and working lands as described in SB 859 by 2018	CARB	Not applicable. This measure is not within the purview of this project.

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Action	Responsible Parties	Consistency
Implement Forest Carbon Plan	CNRA, California Department of Forestry and Fire Protection, CalEPA and Departments Within	Not applicable. This measure is not within the purview of this project.
Identify and expand funding and financing mechanisms to support GHG reductions across all sectors.	State Agencies & Local Agencies	Not applicable. This measure is not within the purview of this project.

As shown above, the project would not conflict with any of the 2017 Scoping Plan elements as any regulations adopted would apply directly or indirectly to the project. Further, recent studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40% below 1990 levels by 2030.

City of Murrieta CAP Consistency

The CAP recommends GHG emissions targets that are consistent with the reduction targets of the State of California and presents a number of strategies that will make it possible for the City of Murrieta to meet the recommended targets. The CAP also suggests best practices for implementation and makes recommendations for measuring progress. As indicated in Table VIII-8, the proposed project would be consistent with, or otherwise would not conflict with, the CAP's strategies, goals, and measures.

**Table VIII-8  
PROJECT CONSISTENCY WITH THE CITY OF MURRIETA CAP**

CAP Strategy	Analysis of Project Consistency
Strategy 1: Community Involvement Strategy	Not Applicable. The CAP's Community Involvement Strategy provides guidance to the City for conducting outreach programs to involve residents and businesses in GHG-reducing activities, assessments, and actions. The proposed project would not affect the City's ability to conduct community outreach.
Strategy 2: Land Use and Community Vision Strategy	Consistent. The proposed project would aid in creating a complementary balance of land uses throughout the community.
Strategy 3: Transportation and Mobility Strategy	Consistent. Any potential roadway improvements planned by the project have been designed to City standards and would safely accommodate pedestrians and bicycles. The remaining goals and measures under the Transportation and Mobility Strategy are not applicable to the proposed project.
Strategy 4: Energy Use and Conservation Strategy	Consistent. The project would be required to comply with the California Building Code, which establishes stringent energy efficiency requirements for new development including installation of solar PV systems on dwelling units less than 4 stories high. The remaining goals and measures under the Energy Use and Conservation Strategy are not applicable to the proposed project.

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<b>CAP Strategy</b>	<b>Analysis of Project Consistency</b>
Strategy 5: Water Use and Efficiency Strategy	Consistent. The project would be required to comply with Murrieta Municipal Code Section 16.28 (Landscaping Standards and Water Efficient Landscaping), which would reduce the project's energy demand associated with landscaping and water use. The remaining goals and measures under the Water Use and Efficiency Strategy are not applicable to the proposed project.
Strategy 6: Waste Reduction and Recycling Strategy	Consistent. The project has been designed to accommodate adequate infrastructure for water, sewer, storm water, and energy. The remaining goals and measures under the Waste Reduction and Recycling Strategy are not applicable to the proposed project.
Strategy 7: Open Space Strategy	Consistent. The project incorporates a variety of trees, bushes, and groundcover.

Summary of Impact

As shown, the project does not directly conflict with any applicable plans or policies adopted for the purpose of reducing GHG emissions. Additionally, the project would not exceed the locally appropriate evidence-based threshold of 3.2 MT CO<sub>2</sub>e/SP, which is based on the 2017 Scoping Plan per capita reduction goal for 2030. Therefore, project-related emissions would be less than significant relative to GHG reduction plans.

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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>IX. HAZARDS AND HAZARDOUS MATERIALS:</b> Would the Project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: A Phase I Environmental Site Assessment has been prepared to evaluate the potential environmental constraints and hazards within the project area dated May 18, 2021 prepared by LOR Geotechnical Group (Appendix 9).

- a. *Less Than Significant With Mitigation Incorporated* – The project may create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. The Whitewood Condo / Apartments Project is a multi-family residential project that will consist of 483 dwelling units; operation of such uses would not involve the use of a substantial amount of hazardous materials. Household cleaning supplies would be used in small quantities to support the condos and apartments. Compliance with all Federal, State, and local regulations governing the storage and use of hazardous materials is required, and will ensure that the project operates in a manner that poses no substantial hazards to the public or the environment.

Additionally, during construction there would be the transport, use, and disposal of hazardous materials and wastes that are typical of construction projects. This would include fuels and lubricants for construction machinery, paint and other coating materials, etc. Routine construction control measures and best management practices for hazardous materials storage, application, waste disposal, accident prevention and clean-up, etc. would be sufficient to reduce potential impacts to a less than significant level.

Therefore, because the transport, use, storage, and disposal of hazardous materials pertaining to the proposed project would be relatively minor and subject to existing regulations, the impact is considered less than significant. Use of common household hazardous materials and their disposal does not present a substantial health risk to the community. Impacts associated with the routine transport and use of hazardous materials or wastes will be less than significant.

- b. *Less Than Significant With Mitigation Incorporated* – The project may create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. A Phase I Environmental Site Assessment (ESA) has been prepared for the project site by LOR Geotechnical Group, Inc., provided as Appendix 9. Based on readily available historic information, the site has historically been vacant land with apparent encroachment by dryland farming in/near the southwest corner. This Phase I ESA has revealed no evidence of recognized environmental conditions (RECs), historical recognized environmental conditions (HRECs), or controlled recognized environmental conditions (CRECs) indicative of releases or threatened releases of hazardous substances on, at, in, or to the subject site, therefore existing circumstances at the project site are not anticipated to exacerbate the potential for accidental exposure to hazardous materials.

During construction there is a potential for accidental release of petroleum products in sufficient quantity to pose a significant hazard to people and the environment. This is due to the types of materials that would be handled during construction. Additionally, during the Phase I ESA site reconnaissance, it was concluded that no evidence of the following were observed onsite: petroleum products (excluding waste oil), solvent degreasers, aboveground storage tanks, underground storage tanks, heating oil use, drums, unidentified containers, pools of liquid likely to contain hazardous substances/petroleum products, polychlorinated biphenyls (PCBs), stressed vegetation, fill areas with solid waste, sumps, pits/ponds/lagoons, wells (i.e. dry, irrigation, injection, abandoned, monitor or other wells), underground septic systems, and stormwater and/or wastewater generated from industrial/manufacturing processes. No strong, pungent, or noxious odors were detected. However, in to prevent accidental release of hazardous materials, the following mitigation measure will be incorporated into the SWPPP prepared for the project and implementation of this measure can reduce this potential hazard to a less than significant level.

**HAZ-1** *All spills or leakage of petroleum products during construction activities will be remediated in compliance with applicable state and local regulations regarding cleanup and disposal of the contaminant released. The contaminated waste will be collected and disposed of at an appropriately licensed disposal or treatment facility. This measure will be incorporated into the SWPPP prepared for the project development.*

With implementation of the above mitigation measure, as well as adherence to existing local, state and federal regulations as they pertain to the treatment of hazardous materials, the proposed project will not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

- c. *Less Than Significant Impact* – The project site is located within one-quarter mile from a public school as Vista Murrieta High School is located across the street at the southwest corner of the intersection of Whitewood Road and Clinton Keith Road. As stated above, operation of the condo and apartments would not involve the use of a substantial amount of hazardous materials. Furthermore, as stated above compliance with all Federal, State, and local regulations governing the storage and use of hazardous materials is required, and will ensure that the project operates in a manner that poses no substantial hazards to the public or the environment. Thus, while the proposed project is located adjacent to a school, the proposed use would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. No adverse impacts are anticipated and therefore impacts under this issue are considered less than significant.



- d. *No Impact* – The proposed project consists of an approximately 28.6-acre parcel consisting entirely of vacant land with native vegetation coverage that is in an area containing existing residential and institutional (school) development. The project will not be located on a site that is included on a list of hazardous materials sites that are currently under remediation. According to the California State Water Board's GeoTracker website (consistent with Government Code Section 65962.5), which provides information regarding Leaking Underground Storage Tanks (LUST), there are no open LUST clean-up sites within 2,500 feet of the project site (Figure IX-1), and there are no clean-up sites that have been closed and remediated. Furthermore, according to the Phase I ESA (Appendix 9) concluded that there are no sites, including the subject site, listed in environmental regulatory databases within 1 mile of the project site and there are no environmentally impaired properties within 0.33 mile of the subject site with known current or former releases of hazardous substances and/or petroleum products. Therefore, a vapor encroachment conditions (VEC) at the project site can be ruled out. Therefore, the proposed construction and operation of the site as the Murrieta Whitewood Project will not create a significant hazard to the population or to the environment from their implementation. No impacts are anticipated. No mitigation is required.
- e. *Less Than Significant Impact* – The project site is located within two miles of an airport or private airstrip. French Valley Airport is located about 1.89 miles to the southeast of the project site. According to the Riverside County Airport Land Use Commission Airport Land Use Compatibility Plan Policy Document Compatibility Map (Figure IX-2)<sup>5</sup>, the proposed project is not located within the Airport influence area. As such, the proposed project would not conflict with any airport compatibility regulations. Furthermore, the proposed project is located outside of the CNEL Noise Contour as delineated on the 2030 Aircraft Noise Exposure Map (Figure IX-3), and therefore the proposed project would not result in a safety hazard or excessive noise for people residing or working in the project area. Impacts are considered less than significant, and no mitigation is required.
- f. *Less Than Significant Impact* – According to the City's General Plan, no evacuation routes have been identified, though effectively I-215 and I-15 could be considered evacuation routes within the City. The proposed project will occur within the project site and is not anticipated to impact circulation of surrounding roadways. The project site is located along Clinton Keith Road and Whitewood Road just east of the I-215 freeway. It is not anticipated that development of the project site would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan because the site activities will be confined within the proposed project site. The proposed onsite parking and circulation plans will be reviewed by the local Fire Department and City Engineering Department to ensure that the project's ingress/egress are adequate for accommodating emergency vehicles. Therefore, there is no potential for the development of the project to physically interfere with any adopted emergency response plans, or evacuation plans. No impacts are anticipated and no mitigation is required.
- g. *Less Than Significant With Mitigation Incorporated* – According to the City of Murrieta General Plan 2035 High Fire Hazard Zones map (Figure IX-4), the proposed project is located in a high fire hazard zone. The City of Murrieta Fire & Rescue requires that a fire master plan / Fuel Modification and Fire Impact Study be generated for projects located in High Fire Hazard Severity Zones. As a result, a Fire Protection Plan Whitewood Condo/Apartment Project City of Murrieta" has been prepared by Dudek and is provided as Appendix 13 to this IS/MND. The Fire Protection Plan (FPP) indicates that the proposed project can be developed with several mitigation measures that would minimize the potential for persons or structures to be subjected to devastating fire hazards. MMs **WF-1** and **WF-2** would ensure that adequate emergency access is provided during construction of the proposed project, and that primary access and internal circulation will comply with requirements of the City of Murrieta Fire & Rescue. MMs **WF-3** through **WF-8** would control the future fire exposure of the site to a less than significant level through specific design measures intended to minimize this effect. Furthermore, the City of Murrieta Fire & Rescue reviews the site plan, and requires that the development meet the Fire Department access requirements, utilize acceptable fencing material, provides acceptable ground cover adjacent to the buildings in the High Fire Hazard area, and meets

<sup>5</sup> <http://www.rcfva.com/Portals/0/French%20Valley%20MP%20Draft%20Final.pdf>

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the Fire Department requirements for landscape material. Therefore, with the implementation of MMs **WF-1** through **WF-8**, provided in the Wildfire Section of this Initial Study, project implementation would have a less than significant potential to result in a potential to expose people or structures to fire hazards.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>X. HYDROLOGY AND WATER QUALITY:</b> Would the Project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the Project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) result in substantial erosion or siltation onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?; or,	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION**

- a. *Less Than Significant With Mitigation Incorporated* – The proposed project is located within the planning area of the San Diego Regional Water Quality Control Board (RWQCB). The project would be supplied with water by Eastern Municipal Water District (Eastern or EMWD) that uses a mix of groundwater and imported surface water to meet customer demand.

For a developed area, the only three sources of potential violation of water quality standards or waste discharge requirements are from generation of municipal wastewater, stormwater runoff, and potential discharges of pollutants, such as accidental spills. Municipal wastewater is delivered to one of Eastern's five regional water reclamation facilities which treat 46 million gallons of wastewater per



day. The District is responsible for the collection, transmission, treatment, and disposal of wastewater within its service area, which includes portions of the City of Murrieta, California.

To address stormwater and accidental spills within this environment, any new project must ensure that site development implements an SWPPP and a National Pollutant Discharge Elimination System (NPDES) to control potential sources of water pollution that could violate any standards or discharge requirements during construction and a Water Quality Management Plan (WQMP) to ensure that project-related after development surface runoff meets discharge requirements over the short- and long-term. The WQMP would specify stormwater runoff permit BMPs requirements for capturing, retaining, and treating on site stormwater once the apartment units have been occupied. Because the project site consists of pervious surfaces, the project has identified onsite drainage that will generally be directed to the onsite retention ponds that will be developed as part of the project. The SWPPP would specify the BMPs that the project would be required to implement during construction activities to ensure that all potential water pollutants of concern are prevented, minimized, and/or otherwise appropriately treated prior to being discharged from the subject property. With implementation of these mandatory Plans and their BMPs, as well as mitigation measure **HAZ-1** above, the development of Whitewood Condo / Apartment Project will not cause a violation of any water quality standards or waste discharge requirements.

- b. *Less Than Significant Impact* – Implementation of the proposed project will not deplete groundwater supplies that would substantially affect the water availability for existing or planned land uses or biological resources. It is anticipated that, based on previous studies at the project site, the potential to intercept groundwater during grading of both the project site and offsite roadways is considered to be less than significant. The groundwater basin would not be physically altered or impacted as a result of the proposed project. The design of the drainage and retention facilities of the proposed project would encourage groundwater recharge.

The Whitewood Condo / Apartments Project is a multi-family residential project that will consist of 483 dwelling units. The project would be supplied with water by Eastern Municipal Water District (EMWD or Eastern) that uses imported surface water to meet primary customer demand. Using imported surface water helps prevent overdraft of local groundwater basins. The District's 2020 Urban Water Management Plan (UMWP) identifies sufficient water resources to meet demand in its service area. The total retail water supply for Eastern in 2015 for retail customers, was 123,087 acre-feet per year (AFY) inclusive of both potable and recycled water, while the demand for both potable and recycled water was 127,087 AFY. According to Eastern, multi-family uses accounted for 7.39% of the overall potable water demand in 2015, equal to 5,830 AFY. EMWD served a population of 546,146 persons in 2015, given that the average household size in the City of Murrieta is 3.3 persons, the proposed project is anticipated to house a population of about 1,594 persons. According to EMWD's UWMP, EMWD's actual 2015 per capita use is 129 gallons per capita per day (GPCD). Based on the above, the population generated by the proposed project would demand 199,176 gallons per day (GPD) ( $129 \times 1,594 = 205,626$  GPD) equal to about 230.33 AFY of water from EMWD. Based on the projected water demand for multi-family units within EMWD's retail service area in 2025 at 9,300 AFY, and in 2040 at 96,800 AFY, it is anticipated that the 230.33 AFY demand by the project can be accommodated into the future, particularly given that the overall available retail water supply is anticipated to be 159,834 AFY in 2025, and 197,800 AFY in 2040. The anticipated available water supply within Eastern's retail service area is anticipated to be greater than the demand for water in the future, which indicates that Eastern has available capacity to serve the proposed project without significant adverse impacts on area groundwater basins.

While the development of the project may result in a slight reduction in the amount of surface runoff recharge associated with natural runoff, this reduction is expected to be off-set/replaced by infiltration from the three onsite bioretention basins and porous concretes, as well as the required onsite landscaping. The development of the project will, therefore, not substantially interrupt the existing percolation of the site, or any flow of groundwater under the project site. No significant adverse

impacts to groundwater resources are forecast to occur from implementing the proposed project. No mitigation is required.

c. i. Result in substantial erosion or siltation onsite or offsite?

*Less Than Significant Impact* – The proposed project is not anticipated to significantly change the volume of flows downstream of the project site, and would not be anticipated to change the amount of surface water in any water body in an amount that could initiate a new cycle of erosion or sedimentation downstream of the project site. The onsite drainage system will capture the incremental increase in runoff from the project site associated with project development. Onsite flows will be pretreated through flow through planters and then captured in the proposed site biofiltration basins. These systems will be designed to capture the peak 100-year flow runoff from the project site or otherwise detain this flow on site. Treated surface runoff will be discharged in conformance with Riverside County and City of Murrieta requirements. The downstream drainage system will not be altered given the control of future surface runoff from the project site; thus, the potential for downstream erosion or sedimentation will be controlled to a less than significant impact level.

c. ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite?

*Less Than Significant Impact* – The proposed project will alter the existing drainage courses or patterns onsite but will maintain the existing offsite downstream drainage system through control of future discharges from the site through the bioretention basin, which would prevent flooding onsite or offsite from occurring. Onsite flows will be pretreated through flow through planters and then captured in the proposed site biofiltration basins. These systems will be designed to capture any excess runoff from the project site after development. Refer to the data contained in Appendix 10, which contains the WQMP prepared for the site for the quantitative verification of this finding. Thus, the implementation of onsite drainage improvements and applicable requirements included in the WQMP will ensure that stormwater runoff will not substantially increase the rate or volume of runoff in a manner that would result in substantial flooding on- or off-site. Impacts under this issue are considered less than significant with no mitigation required.

c. iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

*Less Than Significant With Mitigation Incorporated* – The proposed project will alter the site such that stormwater runoff within the site will be increased, but will maintain the existing off-site downstream drainage system through control of future discharges from the site. This would prevent the project from exceeding the capacity of existing or planned stormwater drainage systems and from providing substantial additional sources of polluted runoff. The drainage throughout the project site will be captured and treated in the proposed biofiltration basins. Onsite flows will be pretreated through flow through planters and/or then captured in the proposed site biofiltration basins. These systems will be designed to capture the flows above the peak 100-year flow runoff from the project site without development or otherwise be detained on site and discharged in conformance with Riverside County requirements. The runoff points from the site are shown on Figure X-1, the WQMP Site Plan. The biofiltration basins will achieve maximum feasible retention of the water quality volume through evapotranspiration and infiltration with any overflow being directed into the public storm drain system. This project would discharge into the regional system that flows into Warm Springs Creek, Murrieta Creek, and eventually the Santa Margarita River. Varying amounts of urban pollutants, such as motor oil, antifreeze, gasoline, pesticides, detergents, trash, animal wastes, and fertilizers, could be introduced into downstream stormwater. However, the proposed project is not anticipated to generate discharges that would require pollution controls beyond those already designed into the project and/or required by the City as a standard operating procedure to meet water quality management requirements from the RWQCB. The proposed development would install onsite and offsite drainage improvements, including the bioretention basins, and connect to existing the drainage system

downstream. The project is not anticipated to result in a significant adverse impact to water quality or flows downstream of the project with implementation of mitigation outlined below.

The City and County have adopted stringent best management practices designed to control discharge of non-point source pollution that could result in a significant adverse impact to surface water quality. The City in particular has implemented a stringent non-point source water pollution control program. The City has identified BMPs that when implemented, can ensure that neither significant erosion and sedimentation, nor other water quality degrading impacts will occur as a result of developing the project. Although BMPs are mandatory for the project to comply with established pollutant discharge requirements, the following mitigation measure is designed to establish a performance standard to ensure that the degree of water quality control is adequate to ensure the project does not contribute significantly to downstream water quality degradation.

**HYD-1** *The project proponent will select best management practices from the range of practices identified by the City and reduce future non-point source pollution in surface water runoff discharges from the site to the maximum extent practicable, both during construction and following development. The Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP) shall be submitted to the City for review and approval prior to ground disturbance and the identified BMPs installed in accordance with schedules contained in these documents.*

Compliance will also be ensured through fulfilling the requirements of a SWPPP and WQMP monitored by the City and the RWQCB. The SWPPP must incorporate the BMPs that meet the performance standard established in **HYD-1** for both construction and occupancy stages of the project. Thus, the implementation of onsite drainage improvements and applicable requirements will ensure that that drainage and stormwater will not create or contribute runoff that would exceed the capacity of existing or planned offsite stormwater drainage systems or provide substantial additional sources of polluted runoff. Impacts under this issue are considered less than significant with mitigation required.

c. iv. Impede or redirect flood flows?

*Less Than Significant Impact* – As shown on the Federal Emergency Management Agency (FEMA) Federal Insurance Rate Map (FIRM) #06065C2710G provided as Figure X-2, the project site is located within Zone X, which represents an area with minimal flood hazard. Furthermore, development of this site is not anticipated to redirect or impede flood flow at the project site, particularly given that surface flows on site will be directed to the onsite drainage features which will be capable of intercepting the peak 100-year flow rate from the project site or otherwise be detained on site and discharged in conformance with Riverside County requirements. Therefore, impacts under this issue are considered less than significant and no mitigation is required.

d. *Less Than Significant Impact* – Implementation of the project will not expose people or structures to a significant risk of inundation by seiche, tsunami, or other flood hazards. According to the City's General Plan Inundation Map (Figure X-3), the proposed project is not located in an area of dam inundation by any of the surrounding reservoirs. Additionally, given the approximately 10-mile distance between Lake Elsinore and the 7-mile difference between Diamond Valley Lake and the project site, seiche risk at the site is considered minimal. Furthermore, the project is located about 25 miles from the Pacific Ocean, and is separated by the Peninsular Range from the Ocean. Therefore, the potential to expose people or structures to a significant risk of flood hazard due to dam inundation, tsunami, or seiche would be minimal. No mitigation is required.

e. *Less Than Significant Impact* – The proposed Whitewood Condo / Apartment Project is located in an area with no underlying groundwater basin. The Temecula Valley Groundwater Basin is located south



of the project site.<sup>6</sup> The Whitewood Condo / Apartment Project will be served with water supply by EMWD. EMWD's local supplies include groundwater, desalinated groundwater, and recycled water. Groundwater is pumped from the Hemet/San Jacinto and West San Jacinto areas of the San Jacinto Groundwater Basin. However, EMWD utilizes imported water for a large portion of their water supply. The San Jacinto Groundwater Basin is considered high priority by the Sustainable Groundwater Management Act (SGMA) and Department of Water Resources (DWR). The San Jacinto Groundwater Basin is deemed a high priority basin, but not critically overdrafted, by DWR, and the GSA is required to develop by 2022 and implement by 2042 a Groundwater Sustainability Plan (GSP). The GSP will document basin conditions and basin management will be based on measurable objectives and minimum thresholds defined to prevent significant and unreasonable impacts to the sustainability indicators defined in the GSP. Water consumption and effects in nearby basins indicates that the proposed project's water demand is considered to be less than significant. By controlling water quality during construction and operations through implementation of both short- (SWPPP) and long- (WQMP) term best management practices at the site, no potential for conflict or obstruction of the Regional Board's water quality control plan has been identified.

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<sup>6</sup> <https://gis.water.ca.gov/app/bp-dashboard/final/>

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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>XI. LAND USE AND PLANNING:</b> Would the Project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION**

- a. *No Impact* – Refer to the aerial photos provided as Figures 1 and 2, which depict the project's regional and site-specific location. The project site would be installed within a site zoned for multi-family residential development. The project is located within a vacant site, with open space, civic/institutional (the adjacent High School) or residential development. The project site contains vegetation throughout the site as it has not been developed beyond some vegetation removal or lack of vegetation growth in areas used for unauthorized off-roading. The development of a multi-family apartment and condo development at this location would be consistent with both the uses surrounding the project and the surrounding land use designations and zoning classifications. Consequently, the development of the project site with the proposed use will not divide any established community in any manner. Therefore, no significant impacts under this issue are anticipated and no mitigation is necessary.
- b. *Less Than Significant Impact* – The project site encompasses about 29.18 acres, and it is zoned for Multi-Family Residential. The project proposes a total of 483 units at a density of 16.55 dwelling units per acre (DU/A). The Condo side of the project would be developed at a DU/A of 15.32, while the apartment side will be developed at a DU/A of 17.21. With approval of the Development Permit application on this property, the proposed Whitewood Condo / Apartment Project will be fully consistent the General Plan Land Use Map, shown on Figures XI-1 and XI-2, which depict the City of Murrieta General Plan Land Use Designation Map and the City of Murrieta Zoning Map, respectively. A review of the Land Use Element Goals indicates that of the 26 goals, the proposed project is consistent with Goals LU-1, LU-3, LU-4, LU-9, LU-10, and LU-20. All other Land Use Element Goals are not applicable to the proposed project.

A review of all other General Plan Element Goals (Economic Development, Circulation, Infrastructure, Healthy Community, Conservation, Recreation and Open Space, Air Quality, Noise, Safety, and Housing) indicates that the proposed project is consistent with all applicable Goals, often with mitigation, as demonstrated by the findings in the pertinent sections of this Initial Study. The proposed project can be implemented without significant effects on the circulation system; all infrastructure exists at or can be extended to the site to support the 483 condo and apartment units; it can meet the City's urban design objectives and supports a safe and sustainable transportation system in the City; it can be developed with no conflicts with the Conservation Element issues (natural environment, watershed, cultural resources, and energy demands); it will provide the City with additional facilities to support human resident recreation needs; it will not generate significant air emissions or GHG emissions; it will meet noise design requirements with mitigation; it can meet all Safety Element requirements; and it implements the City's Housing Element, specifically Goals 1 and 5 which state:

- *Goal 1: Provide adequate housing opportunities.*
  - *Policy 1.1: Provide a range of residential development types in Murrieta, including low density single-family homes, moderate density townhomes, higher density multifamily units, and residential/commercial mixed use in order to address the City's share of regional housing needs.*

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- *Policy 1.5: Design new higher-density residential projects at a scale, (number of units, height, etc.) that are compatible in design with adjacent residential areas.*
- *Goal 5: Identify adequate sites to achieve housing variety.*

Therefore, the implementation of this project at this site is consistent with the City's plans and policies. Based on the preceding information, implementation of the Whitewood Condo / Apartment Project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, zone classification, or the City's Municipal Code) adopted for the purpose of avoiding or mitigating an environmental effect. No adverse impacts are anticipated under this issue and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>XII. MINERAL RESOURCES:</b> Would the Project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**SUBSTANTIATION**

- a&b. *No Impact* – The proposed site for the Whitewood Condo / Apartment Project is lightly disturbed as it currently consists of a few paths within a dense canopy of chemise chaparral. The site is in an urbanized area surrounded by development to the west and north within the City of Murrieta. According to the map prepared for the Murrieta General Plan depicting Mineral Resources, provided as Figure XII-1, the project is not located on a site that contains known mineral resources of any type. Therefore, the development of the proposed project will not cause any loss of mineral resource values to the region or residents of the state, nor would it result in the loss of any locally important mineral resources identified on the City of Murrieta General Plan. No impacts would occur under this issue. No mitigation is required.

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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>XIII. NOISE:</b> Would the Project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of a Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION: A Noise Impact Analysis (NIA) was prepared for the proposed project, it is provided as Appendix 11 to this Initial Study, is titled "Murrieta Apartments, Noise Impact Analysis, City of Murrieta," prepared by Urban Crossroads dated August 19, 2021.

Background

Noise is generally described as unwanted sound. The proposed Whitewood Condo / Apartment Project will include 24 condo buildings and 11 apartment buildings with a total of 483 dwelling units. The site is located on the southeast corner of the intersection of Whitewood Road and Clinton Keith Road in the City of Murrieta. Please refer to the aerial photo in Figure 2. The existing noise environment is dominated by traffic noise from the adjacent roadways. The nearest receptors are located across the street at the Vista Murrieta High School.

The unit of sound pressure ratio to the faintest sound detectable to a person with normal hearing is called a decibel (dB). Sound or noise can vary in intensity by over one million times within the range of human hearing. A logarithmic loudness scale, similar to the Richter scale for earthquake magnitude, is therefore used to keep sound intensity numbers at a convenient and manageable level. The human ear is not equally sensitive to all sound frequencies within the entire spectrum. Noise levels at maximum human sensitivity from around 500 to 2,000 cycles per second are factored more heavily into sound descriptions in a process called "A-weighting," written as "dBA."

Leq is a time-averaged sound level; a single-number value that expresses the time-varying sound level for the specified period as though it were a constant sound level with the same total sound energy as the time-varying level. Its unit is the decibel (dB). The most common averaging period for Leq is hourly.

Because community receptors are more sensitive to unwanted noise intrusion during more sensitive evening and nighttime hours, state law requires that an artificial dBA increment be added to quiet time noise levels. The State of California has established guidelines for acceptable community noise levels that are based on the Community Noise Equivalent Level (CNEL) rating scale (a 24-hour integrated noise measurement scale). The guidelines rank noise land use compatibility in terms of "normally acceptable," "conditionally acceptable," and "clearly unacceptable" noise levels for various land use types. The State Guidelines, Land Use Compatibility for Community Noise Exposure, single-family homes are "normally acceptable" in exterior noise environments up to 60 dB CNEL and "conditionally acceptable" up to 70 dB CNEL based on this scale. Multiple family residential uses are "normally acceptable" up to 65 dB CNEL and "conditionally acceptable" up to 70 CNEL. Schools, libraries and churches are "normally acceptable"



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up to 70 dB CNEL, as are office buildings and business, commercial and professional uses with some structural noise attenuation.

### Significance Thresholds

While the City of Murrieta General Plan Guidelines provide direction on noise compatibility and establish noise standards by land use type that are sufficient to assess the significance of noise impacts, they do not define the levels at which increases are considered substantial. Table XIII-1 shows the significance criteria summary matrix.

**Table XIII-1  
SIGNIFICANCE CRITERIA SUMMARY**

Analysis	Land Use	Condition(s)	Significance Criteria	
			Daytime	Nighttime
On-Site Traffic Noise	Noise-Sensitive	Exterior Noise Level Criteria <sup>1</sup>	See Exhibit 3-A	
		Interior Noise Level Standard <sup>2</sup>	45 dBA CNEL	
Mobile Equipment Noise Level Threshold <sup>3</sup>		75 dBA L <sub>max</sub>		
Stationary Equipment Noise Level Threshold <sup>3</sup>		60 dBA L <sub>max</sub>		
Construction Noise & Vibration		Vibration Level Threshold <sup>4</sup>	0.04 PPV in/sec	

<sup>1</sup> Source: City of Murrieta General Plan Noise Element, Table 11-2.

<sup>2</sup> Source: California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2.

<sup>3</sup> Source: City of Murrieta Municipal Code, Section 16.30.130 (A) (Appendix 3.1).

<sup>4</sup> Source: City of Murrieta Municipal Code, Section 16.30.130 (K) (Appendix 3.1).

"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

### *On-Site Traffic Noise*

If the on-site noise levels:

1. Exceed the exterior land use compatibility criteria of the Murrieta General Plan Noise Element at an exterior use area, Table 11-2, for project land uses; and
2. Exceed an interior noise level of 45 dBA CNEL for residential uses within the project site (California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2 as discussed in Section 3.2).

### *Construction Noise and Vibration*

If project-related construction activities:

1. Occur anytime other than between the permitted hours of 7:00 a.m. to 8:00 p.m. daily, with no activity allowed on Sundays or holidays (Murrieta Municipal Code, Section 16.30.130(A)(2)(a)(1)); or
2. Create noise levels which exceed the mobile 75 dBA L<sub>max</sub> or stationary 60 dBA L<sub>max</sub> equipment noise level limits at the nearby single-family residential land uses (City of Murrieta Municipal Code, Section 16.30.130 (A)).

If short-term project generated construction vibration levels could exceed the City of Murrieta maximum acceptable vibration standard of 0.01 RMS in/sec (0.04 in/sec PPV) at sensitive receiver locations (City of Murrieta Municipal Code, Section 16.30.130 (K)). For clarity this report uses the PPV threshold to be consistent with the reference levels.

### Existing Noise Level Measurements

To assess the existing noise level environment, four 24-hour noise level measurements were taken at sensitive receiver locations in the project study area. The receiver locations were selected to describe and document the existing noise environment within the project study area. Figure XIII-1 provides the boundaries of the project study area and the noise level measurement locations. To fully describe the

existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Wednesday, April 7<sup>th</sup>, 2021.

Measurement procedures and criteria are described in the NIA. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013.

#### *Noise Measurement Locations*

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent any part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources. Further, FTA guidance states, that it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community.

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before and after project noise levels and is necessary to assess potential noise impacts due to the project's contribution to the ambient noise levels.

#### *Noise Measurement Results*

The noise measurements presented below focus on the average or equivalent sound levels ( $L_{eq}$ ). The  $L_{eq}$  represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location. Appendix 5.1 provides a summary of the existing hourly ambient noise levels described below:

- Location L1 represents Vista Murrieta High School at 28251 Clinton Keith Road east of the project site. The noise level measurements collected show an overall 24-hour exterior noise level of 79.4 dBA CNEL. The hourly noise levels measured at location L1 ranged from 68.8 to 76.2 dBA  $L_{eq}$  during the daytime hours and from 53.1 to 70.0 dBA  $L_{eq}$  during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 71.1 dBA  $L_{eq}$  with an average nighttime noise level of 72.7 dBA  $L_{eq}$ .
- Location L2 represents existing residences northwest of the project site. The noise level measurements collected show an overall 24-hour exterior noise level of 55.4 dBA CNEL. The hourly noise levels measured at location L2 ranged from 58.4 to 66.6 dBA  $L_{eq}$  during the daytime hours and from 48.0 to 61.1 dBA  $L_{eq}$  during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 59.3 dBA  $L_{eq}$  with an average nighttime noise level of 60.6 dBA  $L_{eq}$ .
- Location L3 represents existing residences north of Clinton Keith Road. The 24-hour CNEL indicates that the overall exterior noise level is 49.0 dBA CNEL. At location L3 the background ambient noise levels ranged from 50.5 to 58.4 dBA  $L_{eq}$  during the daytime hours to levels of 39.5 to 53.4 dBA  $L_{eq}$  during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 53.3 dBA  $L_{eq}$  with an average nighttime noise level of 54.6 dBA  $L_{eq}$ .
- Location L4 represents an existing residence at 36263 Los Alamos Road south of the project site. The noise level measurements collected show an overall 24-hour exterior noise level of 44.5 dBA

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CNEL. The hourly noise levels measured at location L4 ranged from 43.8 to 52.2 dBA  $L_{eq}$  during the daytime hours and from 38.1 to 49.7 dBA  $L_{eq}$  during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 46.7 dBA  $L_{eq}$  with an average nighttime noise level of 47.7 dBA  $L_{eq}$ .

Table XIII-2 provides the (energy average) noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.1 of the NIA provides summary worksheets of the noise levels for each hour as well as the minimum, maximum,  $L_1$ ,  $L_2$ ,  $L_5$ ,  $L_8$ ,  $L_{25}$ ,  $L_{50}$ ,  $L_{90}$ ,  $L_{95}$ , and  $L_{99}$  percentile noise levels observed during the daytime and nighttime periods.

The background ambient noise levels in the project study area are dominated by the transportation-related noise associated with the arterial roadway network. The 24-hour existing noise level measurements shown on Table XIII-2 present the existing ambient noise conditions.

**Table XIII-2  
24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS**

Location <sup>1</sup>	Distance to Site (Feet)	Description	Energy Average Hourly Noise Level (dBA $L_{eq}$ ) <sup>2</sup>		CNEL
			Daytime	Nighttime	
L1	100'	Located 28251 Clinton Keith Road, Vista Murrieta High School	71.1	72.7	79.4
L2	270'	Located west of 35992 Lindstrand Avenue	59.3	60.6	55.4
L3	200'	Located west of 355765 Ardent Lane, along Ardent Lane	53.3	54.6	49.0
L4	700'	Located east of 36263 Los Alamos Road	46.7	47.7	44.5
<sup>1</sup> See Exhibit 5-A for the noise level measurement locations. <sup>2</sup> The long-term 24-hour measurement printouts are included in Appendix 5.1. "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.					

### Impact Analysis

- a. *Less Than Significant With Mitigation Incorporated* – The proposed project is located in an area of mostly residential development, with open space to the south of the project site, and Vista Murrieta High School to the west of the project site.

#### Short-Term Noise

Section 16.30.130 of the City of Murrieta Noise Ordinance regulates construction noise. The Noise Ordinance prohibits noise generated by construction activities between the hours of 7:00 PM and 7:00 AM and on Sundays and holidays. The City of Murrieta Construction Noise standards are as follows:



**Table XIII-3  
CITY OF MURRIETA CONSTRUCTION NOISE STANDARDS**

	<b>Single Family Residential</b>	<b>Multi-Family Residential</b>	<b>Commercial</b>
<b>Mobile Equipment</b>			
Daily, except Sundays and holidays, 7:00 AM to 8:00 PM	75 dBA	80 dBA	85 dBA
Daily, except Sundays and holidays, 8:00 PM to 7:00 AM	60 dBA	64 dBA	70 dBA
<b>Stationary Equipment</b>			
Daily, except Sundays and holidays, 7:00 AM to 8:00 PM	60 dBA	65 dBA	70 dBA
Daily, except Sundays and holidays, 8:00 PM to 7:00 AM	50 dBA	55 dBA	60 dBA

The City of Murrieta Municipal Code prohibits the operation of tools or equipment used in construction, drilling, repair, alteration, or demolition work between weekday hours of 7:00 PM and 7:00 AM, or at any time on Sundays or holidays. Further, noise associated with mobile equipment at the property line of commercial land uses is not allowed to exceed 85 dBA Leq between the hours of 7:00 AM and 8:00 PM or exceed 70 dBA Leq between the hours of 8:00 PM and 7:00 AM. Noise associated with mobile equipment at the property line of single-family residential land uses is not allowed to exceed 75 dBA Leq between the hours of 7:00 AM and 8:00 PM or exceed 60 dBA Leq between the hours of 8:00 PM and 7:00 AM.

#### On-Site Traffic Noise

The NIA provided as Appendix 11 has been completed to determine the noise exposure levels that would result from off-site traffic noise sources, and to identify potential noise mitigation measures that would achieve acceptable project exterior and interior noise levels. The primary source of traffic noise affecting the project site is anticipated to be from Clinton Keith Road and Whitewood Road. The project would also be exposed to nominal traffic noise from the project's internal local streets. However, due to low traffic volume/speed, traffic noise from these roads will not make a substantive contribution to ambient noise conditions.

The estimated roadway noise impacts from vehicular traffic were calculated using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model-FHWA-RD-77-108.

The on-site roadway parameters including the ADT volumes used for this analysis are presented on Table XIII-4. Based on the City of Murrieta General Plan Circulation Element, Exhibit 5-6, Clinton Keith Road is an Urban Arterial roadway and Whitewood is classified as a Major roadway. To predict the future on-site noise environment at the project site, the City of Murrieta General Plan Circulation Element Table 5-2 Daily Roadway Capacity Values were used. The traffic volumes shown on Table XIII-7 reflect future long-range traffic conditions needed to assess the future on-site traffic noise environment and to identify potential mitigation measures (if any) that address the worst-case future conditions. For the purposes of this analysis, soft site conditions were used to analyze the on-site traffic noise impacts for the project study area. Soft site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation. Research conducted by Caltrans has shown that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model used in this analysis.

**Table XIII-4  
ON-SITE ROADWAY PARAMETERS**

Roadway	Lanes	Classification <sup>1</sup>	Daily Roadway Capacity Volume <sup>2</sup>	Posted Speed Limit (mph) <sup>3</sup>	Site Conditions
Clinton Keith Rd	6	Urban Arterial	43,100	55	Soft
Whitewood Rd	4	Major	27,300	45	Soft

<sup>1</sup> Source: City of Murrieta General Plan Circulation Element, Exhibit 5-10.  
<sup>2</sup> Roadway traffic volumes were obtained from the City of Murrieta General Plan Circulation Element, Table 5-2.  
<sup>3</sup> Posted speed limit on Whitewood Road.

Table XIII-5 presents the time of day vehicle splits by vehicle type, and Table XIII-6 presents the total traffic flow distributions (vehicle mixes) used for this analysis. The vehicle mix provides the hourly distribution percentages of automobile, medium trucks and heavy trucks for input into the FHWA Model based on roadway types.

**Table XIII-5  
TIME OF DAY VEHICLE SPLITS**

Time Period	Vehicle Type		
	Autos	Medium Trucks	Heavy Trucks
Daytime (7:00 a.m. - 7:00 p.m.)	77.5%	84.8%	86.5%
Evening (7:00 p.m. - 10:00 p.m.)	12.9%	4.9%	2.7%
Nighttime (10:00 p.m. - 7:00 a.m.)	9.6%	10.3%	10.8%
Total:	100.0%	100.0%	100.0%

Source: Typical Southern California vehicle mix.

**Table XIII-6  
DISTRIBUTION OF TRAFFIC FLOW BY VEHICLE TYPE (VEHICLE MIX)**

Roadway	Total % Traffic Flow			Total
	Autos	Medium Trucks	Heavy Trucks	
All Roadways	97.42%	1.84%	0.74%	100.00%

Source: Typical Southern California vehicle mix.

To predict the future noise environment at multi-family residential buildings within the project site, coordinate information was collected to identify the noise transmission path between the noise source and receiver. The coordinate information is based on the project site plan showing the plotting of the residential building in relationship to Clinton Keith Road and Whitewood Road.

The exterior noise level impacts at the first-floor building facade were placed five feet above the pad elevation. All second-floor receivers were located 14 feet above the proposed finished floor elevation. All third-floor receivers were located 23 feet above the proposed finished floor elevation.

#### *Exterior Noise Analysis*

Using the FHWA traffic noise prediction model, and the parameters outlined above, the expected future exterior noise levels at the first-floor building façades were calculated. Table XIII-7 presents a summary of future exterior noise level impacts at the first-floor receiver locations. The on-site transportation noise level impacts indicate that the unmitigated exterior noise levels will range from

58.9 to 75.1 dBA CNEL. The on-site traffic noise analysis calculations are provided in Appendix 7.1 to the NIA.

**Table XIII-7  
UNMITIGATED EXTERIOR TRAFFIC NOISE LEVELS**

Receiver Location	Roadway	First-Floor Unmitigated Noise Level (dBA CNEL)	Noise Element Land Use Compatibility <sup>1</sup>	Resulting Requirements <sup>1</sup>
Pool	Clinton Keith Rd	68.2	<i>Conditionally Acceptable</i>	Barrier
Bldg 1	Clinton Keith Rd	67.6	<i>Conditionally Acceptable</i>	Interior Analysis
Bldg 2	Clinton Keith Rd	67.3	<i>Conditionally Acceptable</i>	Interior Analysis
Bldg 3	Clinton Keith Rd	67.8	<i>Conditionally Acceptable</i>	Interior Analysis
Condo 1	Clinton Keith Rd	69.4	<i>Conditionally Acceptable</i>	Interior Analysis
Condo 2	Clinton Keith Rd	69.7	<i>Conditionally Acceptable</i>	Interior Analysis
Condo 3	Clinton Keith Rd	71.1	<i>Normally Unacceptable</i>	Interior Analysis
Condo 4	Clinton Keith Rd	71.1	<i>Normally Unacceptable</i>	Interior Analysis
Condo 5	Clinton Keith Rd	72.1	<i>Normally Unacceptable</i>	Interior Analysis
Condo 6a	Clinton Keith Rd	75.1	<i>Clearly Unacceptable</i>	Interior Analysis
Condo 6b	Whitewood Rd	68.8	<i>Conditionally Acceptable</i>	Interior Analysis
Condo 7	Whitewood Rd	67.5	<i>Conditionally Acceptable</i>	Interior Analysis
Condo 8	Whitewood Rd	61.8	<i>Normally Acceptable</i>	NA
Condo 9	Whitewood Rd	59.9	<i>Normally Acceptable</i>	NA
Condo 10	Whitewood Rd	58.9	<i>Normally Acceptable</i>	NA
Apt Bldg = Apartment Building; Condo = Condominium Building				
<sup>1</sup> Based on the Table 11-2 compatibility criteria of the City of Murrieta General Plan Noise Element (Exhibit 3-A)				

Based on the results of the traffic noise modeling, the common exterior use area for the apartments, i.e., the swimming pool and recreation area, would be exposed to noise levels of 68.2 dBA CNEL, which would exceed the City of Murrieta General Plan Noise Element land use/noise level compatibility criteria for multiple-family residential uses. Therefore, MM **NOI-1** is required to shield the apartment pool and recreation area from traffic noise on Clinton Keith Road as shown in Figure XIII-2.

**NOI-1** *An 8-foot-high noise barrier shall be erected along the northern side of the swimming pool as shown on Exhibit ES-A (source: NIA) titled Figure XIII-2 as part of the Initial Study. The noise barrier shall be constructed of material with a minimum weight of 4 pounds per square foot with no gaps or perforations. This can be accomplished with a solid block wall that meets this design requirement or a combination of a low berm with a short wall that meets the 8-foot high noise barrier requirement.*

The above mitigation measure is sufficient to minimize the noise impacts at the apartment pool and recreation area from traffic noise.

With the exception of Condominium Building 6, residential uses adjacent to Clinton Keith Road are generally shown to experience *conditionally acceptable* to *normally unacceptable* exterior noise levels of 67.3 to 72.1 dBA CNEL. Condominium building 6 is exposed to the minimum *clearly unacceptable* noise level of 75.1 dBA CNEL. Adjacent to Whitewood Road, residential uses are shown to experience *normally acceptable* to *conditionally unacceptable* exterior noise levels of 58.9 to 68.8 dBA CNEL. Noise levels further from these roadways within the development will be lower

than the noise levels along Clinton Keith Road and Whitewood Road due to distance and shielding from structures. Noise levels at the condominium pool and recreation area are anticipated to be within the normally acceptable range and would not require any mitigation.

Due to the noise levels at building facades along Clinton Keith Road and Whitewood Road, additional interior noise analysis is required to satisfy the General Plan Noise Element residential land use requirements within the project site. This analysis follows.

#### *Interior Noise Analysis*

To ensure that the project provides an acceptable interior noise environment, this analysis relies on the City of Murrieta 45 dBA CNEL interior noise limit for new construction.

The interior noise level is the difference between the predicted exterior noise level at the building façade and the noise reduction of the structure. Typical building construction will provide a Noise Reduction (NR) of approximately 12 dBA with "windows open" and a minimum 25 dBA noise reduction with "windows closed." However, sound leaks, cracks and openings within the window assembly can greatly diminish its effectiveness in reducing noise. Several methods are used to improve interior noise reduction, including: [1] weather-stripped solid core exterior doors; [2] upgraded dual glazed windows; [3] mechanical ventilation/air conditioning; and [4] exterior wall/roof assemblies free of cut outs or openings.

Tables XIII-8 to XIII-10 show that all residential units will require a windows-closed condition and a means of mechanical ventilation (e.g., air conditioning). Interior noise levels are provided for each floor. The apartment, the swimming pool and recreation area are an outdoor location it is not included in the interior analysis. The condominiums will be 2-stories; thus, the condominium buildings are not included in Table XIII-10.

Table XIII-8 shows that the future noise levels at the first-floor building façade are estimated to range from 58.9 to 75.2 dBA CNEL. Based on 25 dBA CNEL reduction, the interior noise levels would range from 33.9 to 50.2 dBA CNEL.

The first-floor interior noise level analysis shows that condominium buildings 2, 3, 4, 5, and 6, as shown in Figure XIII-3, would require window or dwelling unit entry door to have STC 26 to 31 to comply with the City of Murrieta 45 dBA CNEL interior noise standards. All other apartment and condominium buildings can satisfy the City of Murrieta 45 dBA CNEL interior noise standards with standard windows and dwelling unit entry doors and mechanical ventilation.

The following measure (MM **NOI-2**) is required to comply with the City of Murrieta 45 dBA CNEL interior noise standards and minimize significant interior noise impacts at the future referenced condominium buildings:

- NOI-2**    ***All windows and entry doors facing Clinton Keith Road shall have the following minimum Sound Transmission Class (STC) ratings:***
- ***condominium building number 2 should have a minimum STC of 26;***
  - ***condominium buildings 3 and 4 should have a minimum STC of 27;***
  - ***condominium building 5 should have a minimum STC of 28;***
  - ***on condominium building 6 should have a minimum STC of 31.***

Refer to Exhibit ES-A (source: NIA) titled Figure XIII-2 as part of the Initial Study for building numbers.



**Table XIII-8  
FIRST FLOOR INTERIOR TRAFFIC NOISE LEVELS**

Receiver Location	Noise Level at Façade <sup>1</sup>	Required Interior Noise Reduction <sup>2</sup>	Estimated Interior Noise Reduction <sup>3</sup>	Upgraded Windows <sup>4</sup>	Interior Noise Level <sup>5</sup>
Bldg 1	67.9	22.9	25.0	No	42.9
Bldg 2	67.7	22.7	25.0	No	42.7
Bldg 3	68.2	23.2	25.0	No	43.2
Condo 1	69.7	24.7	25.0	No	44.7
Condo 2	70.1	25.1	25.0	Yes	45.1
Condo 3	71.4	26.4	25.0	Yes	46.4
Condo 4	71.4	26.4	25.0	Yes	46.4
Condo 5	72.4	27.4	25.0	Yes	47.4
Condo 6a	75.2	30.2	25.0	Yes	50.2
Condo 6b	69.1	24.1	25.0	No	44.1
Condo 7	67.9	22.9	25.0	No	42.9
Condo 8	61.8	16.8	25.0	No	36.8
Condo 9	59.9	14.9	25.0	No	34.9
Condo 10	58.9	13.9	25.0	No	33.9

Apt Bldg = Apartment Building; Condo = Condominium Building  
<sup>1</sup> Exterior noise level at the façade with a windows closed condition requiring a means of mechanical ventilation (e.g. air conditioning).  
<sup>2</sup> Noise reduction required to satisfy the 45 dBA CNEL interior noise standards.  
<sup>3</sup> A minimum of 25 dBA noise reduction is assumed with standard building construction.  
<sup>4</sup> Does the required interior noise reduction trigger upgraded windows with a minimum STC rating of greater than 27?  
<sup>5</sup> Estimated interior noise level with minimum STC rating for all windows.

Table XIII-9 shows the future noise levels at the second-floor building façade are estimated to range from 58.9 to 75.0 dBA CNEL with interior noise levels ranging from 33.9 to 50 dBA CNEL.

The second-floor interior noise level analysis shows that condominium buildings 3, 4, 5, and as shown in Figure XIII-3, would require windows and dwelling unit entry doors to have STC 27 to 30 to comply with the City of Murrieta 45 dBA CNEL interior noise standards, which is required through the implementation of MM **NOI-2**. All other apartment and condominium buildings can satisfy the City of Murrieta 45 dBA CNEL interior noise standards with standard windows and dwelling unit entry doors.

MM **NOI-2** would also ensure that that windows and doors facing Clinton Keith Road on condominium buildings 3 and 4 should have a minimum STC of 27; on condominium building 5 should have a minimum STC of 28; and on condominium building 6 should have a minimum Sound Transmission Class (STC) of 30.

**Table XIII-9  
SECOND FLOOR INTERIOR TRAFFIC NOISE LEVELS**

Receiver Location	Noise Level at Façade <sup>1</sup>	Required Interior Noise Reduction <sup>2</sup>	Estimated Interior Noise Reduction <sup>3</sup>	Upgraded Windows <sup>4</sup>	Interior Noise Level <sup>5</sup>
Bldg 1	67.9	22.9	25.0	No	42.9
Bldg 2	67.6	22.6	25.0	No	42.6
Bldg 3	68.1	23.1	25.0	No	43.1
Condo 1	69.6	24.6	25.0	No	44.6
Condo 2	70.0	25.0	25.0	No	45.0
Condo 3	71.3	26.3	25.0	Yes	46.3
Condo 4	71.3	26.3	25.0	Yes	46.3
Condo 5	72.2	27.2	25.0	Yes	47.2
Condo 6a	75.0	30.0	25.0	Yes	50.0
Condo 6b	68.9	23.9	25.0	No	43.9
Condo 7	67.7	22.7	25.0	No	42.7
Condo 8	62.2	17.2	25.0	No	37.2
Condo 9	59.9	14.9	25.0	No	34.9
Condo 10	58.9	13.9	25.0	No	33.9

Apt Bldg = Apartment Building; Condo = Condominium Building  
<sup>1</sup> Exterior noise level at the facade with a windows closed condition requiring a means of mechanical ventilation (e.g. air conditioning).  
<sup>2</sup> Noise reduction required to satisfy the 45 dBA CNEL interior noise standards.  
<sup>3</sup> A minimum of 25 dBA noise reduction is assumed with standard building construction.  
<sup>4</sup> Does the required interior noise reduction trigger upgraded windows with a minimum STC rating of greater than 27?  
<sup>5</sup> Estimated interior noise level with minimum STC rating for all windows.

Table XIII-10 shows the future noise levels at the third-floor apartment building façades are estimated to range from 67.5 to 68.0 dBA CNEL with interior noise levels ranging from 42.5 to 43 dBA CNEL. The third-floor interior noise level analysis shows that the City of Murrieta 45 dBA CNEL interior noise standards can be satisfied using standard windows for all third-floor units, based on the minimum 25 dBA interior noise reduction for typical construction. As such, with the implementation of the above mitigation measures (MMs **NOI-1** and **NOI-2**), interior and exterior traffic noise impacts would be fully mitigated.

**Table XIII-10  
THIRD FLOOR INTERIOR TRAFFIC NOISE LEVELS**

Receiver Location	Noise Level at Façade <sup>1</sup>	Required Interior Noise Reduction <sup>2</sup>	Estimated Interior Noise Reduction <sup>3</sup>	Upgraded Windows <sup>4</sup>	Interior Noise Level <sup>5</sup>
Apt Bldg 1	67.8	22.8	25.0	No	42.8
Apt Bldg 2	67.5	22.5	25.0	No	42.5
Apt Bldg 3	68.0	23.0	25.0	No	43.0

Apt Bldg = Apartment Building  
<sup>1</sup> Exterior noise level at the facade with a windows closed condition requiring a means of mechanical ventilation (e.g. air conditioning).  
<sup>2</sup> Noise reduction required to satisfy the 45 dBA CNEL interior noise standards.  
<sup>3</sup> A minimum of 25 dBA noise reduction is assumed with standard building construction.  
<sup>4</sup> Does the required interior noise reduction trigger upgraded windows with a minimum STC rating of greater than 27?  
<sup>5</sup> Estimated interior noise level with minimum STC rating for all windows.

Receiver Locations

To assess the potential for the project related operational noise sources and short-term construction noise source impacts, the following five receiver locations as shown on Figure XIII-4 were identified as representative locations for focused analysis. Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

Sensitive receivers near the project site include existing single-family residential homes adjacent to, the project site across Clinton Keith Road to the north and east, with the Vista Murrieta High School to the west across Whitewood Road. Other sensitive land uses in the project study area are located at greater distances than those identified in this noise study will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures.

- R1: Location R1 represents Vista Murrieta High School at 28251 Clinton Keith Road, approximately 372 feet east of the project site. Receiver R1 is placed at nearest location someone may stand for up to one hour. A 24-hour noise level measurement was taken near this location, L1, to describe the existing ambient noise environment.
- R2: Location R2 represents an existing residence at 35992 Lindstrand Avenue, approximately 255 feet northwest of the project site. Receiver R2 is placed at the private outdoor use area. A 24-hour noise level measurement was taken near this location, L2, to describe the existing ambient noise environment.
- R3: Location R3 represents an existing residence at 28680 Clinton Keith Road, approximately 270 feet north of the project site. Receiver R3 is placed at the private outdoor living area (backyard). A 24-hour noise level measurement was taken near this location, L3, to describe the existing ambient noise environment.
- R4: Location R4 represents the existing residence at 35960 Ardent Lane, approximately 342 feet northwest of the project site. Receiver R4 is placed at the private outdoor living area (backyard). A 24-hour noise level measurement was taken near this location, L3, to describe the existing ambient noise environment.
- R5: Location R5 represents an existing residence at 36263 Los Alamos Road, approximately 437 feet south of the project site. Receiver R5 is placed at the private outdoor living area (backyard). A 24-hour noise level measurement was taken near this location, L4, to describe the existing ambient noise environment.

Operational Noise Impacts

This section analyzes the potential stationary-source operational noise impacts at the nearest receiver locations, identified above, resulting from the operation of the proposed Murrieta Whitewood project. This operational noise analysis is intended to describe noise level impacts associated with the expected typical of daytime and nighttime activities at the project site. The project is not expected to include any specific type of operational noise levels beyond the typical noise sources associated with similar residential land use in the project study area, such as people and children, parking lot activity, garage doors, trash collection, and air conditioners. Furthermore, the project is considered a noise-sensitive receiving land use. Therefore, no potential operational noise impacts for the residential land use are analyzed in the noise study.

*Construction Noise Impacts*

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the project. Figure XIII-5 shows the construction noise source locations in relation to the nearby sensitive receiver locations described above.

Noise generated by the project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators that when combined can reach high levels. The number and mix of construction equipment are expected to occur in the following stages:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

To describe peak construction noise activities, this construction noise analysis was prepared using reference noise level measurements published in the Update of Noise Database for Prediction of Noise on Construction and Open Sites by the Department for Environment, Food and Rural Affairs (DEFRA). The DEFRA database provides the most recent and comprehensive source of reference construction noise levels. Table XIII-11 provides a summary of the DEFRA construction reference noise level measurements expressed in hourly average dBA  $L_{eq}$  using the estimated FHWA Roadway Construction Noise Model (RCNM) usage factors to describe the typical construction activities for each stage of project construction.

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the project construction noise level impacts at the nearby sensitive receiver locations were completed. To assess the worst-case construction noise levels, the project construction noise analysis relies on the highest noise level impacts when the equipment with the highest reference noise level is operating at the closest point from the edge of primary construction activity (project site boundary) to each receiver location. As shown on Table XIII-12, the highest construction noise levels are expected to range from 72.6 to 74.4 dBA  $L_{eq}$  at the nearest receiver locations. Appendix 10.1 to the NIA includes the detailed CadnaA construction noise model inputs.

**Table XIII-11  
CONSTRUCTION REFERENCE NOISE LEVELS**

Construction Stage	Reference Construction Activity <sup>1</sup>	Reference Noise Level @ 50 Feet (dBA $L_{eq}$ )	Highest Reference Noise Level (dBA $L_{eq}$ )
Site Preparation	Crawler Tractors	77	77
	Hauling Trucks	71	
	Rubber Tired Dozers	71	
Grading	Graders	79	79
	Excavators	64	
	Compactors	67	
Building Construction	Cranes	67	72
	Tractors	72	
	Welders	65	

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Construction Stage	Reference Construction Activity <sup>1</sup>	Reference Noise Level @ 50 Feet (dBA L <sub>eq</sub> )	Highest Reference Noise Level (dBA L <sub>eq</sub> )
Paving	Pavers	70	70
	Paving Equipment	69	
	Rollers	69	
Architectural Coating	Cranes	67	67
	Air Compressors	67	
	Generator Sets	67	
<sup>1</sup> Update of noise database for prediction of noise on construction and open site expressed in hourly average L <sub>eq</sub> based on estimated usage factor.			

The construction noise analysis presents a conservative approach with the highest noise-level-producing equipment for each stage of project construction operating at the closest point from primary construction activity to the nearby sensitive receiver locations. This scenario is unlikely to occur during typical construction activities and likely overstates the construction noise levels which will be experienced at each receiver location.

**Table XIII-12**  
**CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY**

Receiver Location <sup>1</sup>	Construction Noise Levels (dBA L <sub>eq</sub> )					
	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels <sup>2</sup>
R1	51.7	72.6	46.7	44.7	41.7	72.6
R2	53.7	68.0	48.7	46.7	43.7	68.0
R3	52.7	74.4	47.7	45.7	42.7	74.4
R4	69.5	71.4	64.5	62.5	59.5	71.4
R5	62.1	71.1	57.1	55.1	52.1	71.1
<sup>1</sup> Construction noise source and receiver locations are shown on Exhibit 9-A.						
<sup>2</sup> Construction noise level calculations based on distance from the project site boundaries (construction activity area) to nearby receiver locations. CadnaA construction noise model inputs are included in Appendix 9.1.						

To evaluate whether the project will generate potentially significant short-term noise levels at nearest receiver locations, a construction-related daytime noise level threshold of 75 dBA L<sub>eq</sub> is used as a reasonable threshold to assess the daytime construction noise level impacts. The construction noise analysis shows that the nearest receiver locations will satisfy the reasonable daytime 75 dBA L<sub>eq</sub> significance threshold during project construction activities as shown on Table XIII-13. Therefore, the noise impacts due to project construction noise are considered less than significant at all receiver locations.



**Table XIII-13  
CONSTRUCTION NOISE LEVEL COMPLIANCE**

Receiver Location <sup>1</sup>	Construction Noise Levels (dBA L <sub>eq</sub> )		
	Highest Construction Noise Levels <sup>2</sup>	Threshold <sup>3</sup>	Threshold Exceeded? <sup>4</sup>
R1	72.6	75	No
R2	68.0	75	No
R3	74.4	75	No
R4	71.4	75	No
R5	71.1	75	No
<sup>1</sup> Noise receiver locations are shown on Exhibit 10-A.			
<sup>2</sup> Highest construction noise level operating at the project site boundary to nearby receiver locations (Table 10-2).			
<sup>3</sup> Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual.			
<sup>4</sup> Do the estimated project construction noise levels exceed the construction noise level threshold?			

### Conclusion

Given the discussion above, interior and exterior traffic noise, operational noise, and construction noise impacts are all either less than significant or less than significant with the application of MMs **NOI-1** and **NOI-2**. These measures are sufficient to reduce any significant short- or long-term noise impact from occurring as a result of project implementation. Therefore, the proposed project would have a less than significant potential to result in Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of a project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies with the implementation of MMs **NOI-1** and **NOI-2**.

- b. *Less Than Significant Impact* – Vibration is the periodic oscillation of a medium or object. The rumbling sound caused by vibration of room surfaces is called structure borne noises. Sources of groundborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous or transient. Vibration is often described in units of velocity (inches per second), and discussed in decibel (dB) units in order to compress the range of numbers required to describe vibration. Vibration impacts related to human development are generally associated with activities such as train operations, construction, and heavy truck movements.

The Federal Transit Association (FTA) Assessment states that in contrast to airborne noise, ground-borne vibration is not a common environmental problem. Although the motion of the ground may be noticeable to people outside structures, without the effects associated with the shaking of a structure, the motion does not provoke the same adverse human reaction to people outside. Within structures, the effects of ground-borne vibration include noticeable movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. FTA Assessment further states that it is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. However, some common sources of vibration are trains, trucks on rough roads, and construction activities, such as blasting, pile driving, and heavy earth-moving equipment. The FTA guidelines identify a level of 80 VdB for sensitive land uses. This threshold provides a basis for determining the relative significance of potential project related vibration impacts.

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from project construction activities would cause only intermittent, localized intrusion. Ground-borne vibration levels resulting from typical construction activities occurring within the project site were estimated by data published by the FTA. However, while vehicular traffic is rarely



perceptible, construction has the potential to result in varying degrees of temporary ground vibration, depending on the specific construction activities and equipment used. Ground vibration levels associated with various types of construction equipment are summarized on Table XIII-14. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential project construction vibration levels using the following vibration assessment methods defined by the FTA. To describe the human response (annoyance) associated with vibration impacts the FTA provides the following equation:  $PPV_{\text{equip}} = PPV_{\text{ref}} \times (25/D)^{1.5}$ .

**Table XIII-14**  
**Vibration Source Levels for Construction Equipment**

Equipment	PPV (in/sec) at 25 feet
Small bulldozer	0.003
Jackhammer	0.035
Loaded Trucks	0.076
Large bulldozer	0.089
Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual	

Using the vibration source level of construction equipment provided on Table XIII-14 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the project vibration impacts. Table XIII-15 presents the expected project related vibration levels at the nearby receiver locations. At distances ranging from 255 to 437 feet from the project construction activities, construction vibration velocity levels are estimated to range from 0.001 to 0.003 PPV in/sec. Based on maximum acceptable continuous vibration threshold of 0.04 PPV in/sec, the typical project construction vibration levels will satisfy the City of Murrieta thresholds at all receiver locations. Therefore, the project-related vibration impacts are considered less than significant during the construction activities at the project site.

**Table XIII-15:**  
**PROJECT CONSTRUCTION VIBRATION LEVELS**

Receiver Location <sup>1</sup>	Distance to Const. Activity (Ft) <sup>2</sup>	Typical Construction Vibration Levels PPV (in/sec) <sup>3</sup>					Thresholds PPV (in/sec) <sup>4</sup>	Thresholds Exceeded? <sup>5</sup>
		Small bulldozer	Jack-hammer	Loaded Trucks	Large Bulldozer	Highest Vibration Level		
Reference Level	25	0.003	0.035	0.076	0.089			
R1	327'	0.0001	0.0007	0.0016	0.0019	0.0019	0.04	No
R2	255'	0.0001	0.0011	0.0023	0.0027	0.0027	0.04	No
R3	270'	0.0001	0.0010	0.0021	0.0025	0.0025	0.04	No
R4	342'	0.0001	0.0007	0.0015	0.0018	0.0018	0.04	No
R5	437'	0.0000	0.0005	0.0010	0.0012	0.0012	0.04	No

<sup>1</sup> Construction receiver locations are shown on Exhibit 10-A.

<sup>2</sup> Distance from receiver location to project construction boundary.

<sup>3</sup> Based on the Vibration Source Levels of Construction Equipment (Table 10-5).

<sup>4</sup> City of Redlands Municipal Code Section 8.06.020

<sup>5</sup> Does the peak vibration exceed the acceptable vibration thresholds?

"PPV" = Peak Particle Velocity

In addition, the typical construction vibration levels at the nearest sensitive receiver locations are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating adjacent to the project site boundaries. No operational vibration impacts are anticipated due to the residential nature of the proposed project. Impacts under this issue are less than significant.

- c. *No Impact* – According to page 5.7-17 (Noise of the GP EIR), there is one source of air traffic affecting noise levels within the City of Murrieta; the French Valley Airport, located outside the City's sphere of influence. Aircraft flyovers are heard occasionally in the City; however, the aircraft do not contribute a significant amount of routine noise in the City. Based on this information, the project site is not located within an airport land use plan, as it is located just to the west of the Zone E Boundary shown on Figure IX-2. Furthermore, the proposed project is located outside of the French Valley Airport's CNEL Noise Contour (Figure IX-3). As such, as the proposed project is outside of the nearby Airport land use plan and noise contour, the project would not expose people residing in the project area to excessive noise levels. Therefore, no impacts are anticipated.



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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>XIV. POPULATION AND HOUSING:</b> Would the Project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**SUBSTANTIATION**

- a. *Less Than Significant Impact* – The proposed Whitewood Condo / Apartment Project would convert vacant land located within the City of Murrieta within the City's multi-family residential land use designation. The project will develop 35 multi-family buildings, 24 of which will be developed as condos, while the remaining 11 will be developed as apartment buildings. A total of 483 dwelling units will be constructed. The Southern California Association of Government (SCAG) 2019 Local Profile for the City of Murrieta indicates that the 2018 population was 113,541.<sup>7</sup> The SCAG Connect SoCal Demographics and Growth Forecast (2020) projects an estimated City population of 127,700 by the year 2045.<sup>8</sup> The SCAG 2019 Local Profile for the City of Murrieta indicates that the average household size is 3.3 persons. As such, the development of 483 multi-family housing units is anticipated to house 1,594 persons. Given that the current population of Murrieta is over 14,000 persons less than the projected 2045 population, and about 20,000 persons less than the City of Murrieta General Plan build-out population projection of 133,452 persons, the potential for an additional 1,594 residents within the City of Murrieta is considered less than significant as the project represents only about 8.0% of the potential growth anticipated between the present population and the City's projected build-out population.

Additionally, the SCAG Connect SoCal Demographics and Growth Forecast (2020) projects that the total number of households within the City by 2040 will be 42,300, while the SCAG 2019 Local Profile for the City indicates that the total number of households within the City is 34,498, while the City's General Plan EIR indicates that the buildout population is anticipated to require 44,484 households. As such, the addition of 483 residential units would be well within the projected number of households that would be developed in the next 20 years. These units would contribute to the housing needs within the City, which, as determined by the SCAG 6<sup>th</sup> Cycle Regional Housing Needs Assessment (RHNA) Allocation Plan,<sup>9</sup> was determined to be 3,043 units.<sup>10</sup> Given the above, the proposed project would not induce population growth beyond that which has been planned for in the City General Plan or SCAG planning documents, or that can be accommodated by the project and the City. Therefore, impacts would be less than significant. No mitigation is required.

- b. *No Impact* – No occupied residences homes are located on the vacant project site; therefore, implementation of the proposed project will not displace substantial numbers of existing housing or

<sup>7</sup> [https://scag.ca.gov/sites/main/files/file-attachments/murrieta\\_localprofile.pdf](https://scag.ca.gov/sites/main/files/file-attachments/murrieta_localprofile.pdf)

<sup>8</sup> [https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial\\_demographics-and-growth-forecast.pdf?1606001579](https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial_demographics-and-growth-forecast.pdf?1606001579)

<sup>9</sup> According to SCAG, "the RHNA does not necessarily encourage or promote growth, but rather allows communities to anticipate growth, so that collectively the region and subregion can grow in ways that enhance quality of life, improve access to jobs, promotes transportation mobility, and addresses social equity, fair share housing needs."; The intent of the future needs allocation by income groups is to relieve the undue concentration of very low and low-income households in a single jurisdiction and to help allocate resources in a fair and equitable manner.

<sup>10</sup> <http://www.scag.ca.gov/Documents/5thCyclePFinalRHNAplan.pdf>;

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persons, necessitating the construction of replacement housing elsewhere. No impacts will occur; therefore, no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>XV. PUBLIC SERVICES:</b> Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION**

- a. *Less Than Significant Impact* – The proposed project site is served by City of Murrieta Fire & Rescue. The closest station to the proposed project site is Station 4, and is located on 28155 Baxter Road, Murrieta, CA 92563, approximately one mile north of the project site. According to the City General Plan EIR, fire protection for the City at buildout should be feasible based on the existing fire stations, with perhaps some additional equipment. Murrieta's fire fleet of 79 units is comprised of:

- 35 pieces of miscellaneous equipment (i.e., chainsaws, blowers, portable generators)
- 14 light duty units
- 13 heavy-duty units
- 11 trailers
- 5 stationary generators
- A forklift

The heavy-duty units include:

- 5 pumpers
- 4 brush trucks
- 2 quints
- A water tender
- A utility stake-side truck

The light duty units include:

- various sedans
- pickups
- SUVs
- all-terrain vehicle (ATV)

The General Plan EIR finding is based on continuing to be able to meet 90% of urban calls within a 6.5-minute target response time. The project site is clearly within a distance (approximately 1 mile) where any future calls can be responded to within 6.5 minutes. Further, the City Fire Department must review this project to ensure that adequate fire flow will occur at the project site, especially given that 483 new residences will be developed.

The proposed project will incrementally add to the existing demand for fire protection services. Cumulative impacts are mitigated through the payment of the Development Impact Fee (DIF), which

contains a Fire Facilities component. There is no identified near term need to expand facilities in a manner that could have adverse impacts on the environment. The City's General Fund covers operational expenses, and the proposed project will contribute property taxes to the general fund to offset this incremental demand for fire protection services. Any impacts are considered less than significant and no mitigation is required.

- b. *Less Than Significant Impact* – The proposed project would have law enforcement services available from the City of Murrieta Police Department and the California Highway Patrol. According to the City General Plan EIR, law enforcement protection for the City at buildout should be feasible based on incremental expansion of the number of officers, with perhaps some additional office space at the police station at One Town Square. The project site is located within existing patrol routes and future calls can be responded to within the identified priority call target response times. The City seeks to respond to priority 1 calls within six minutes; Priority 2 calls with 15 minutes and Priority 3 calls within 35 minutes. The City performs slightly below the objectives, but not by much.

The proposed project will incrementally add to the existing demand for police protection services. These incremental impacts are mitigated through the payment of the DIF, which contains a Law Enforcement component. The City's General Fund covers operational expenses. The project will contribute property taxes to the General Fund to offset this incremental demand for police protection services. Any impacts are considered less than significant and no additional mitigation is required.

- c. *Less Than Significant Impact* – The proposed project would develop 153 condos, and 330 apartment units, and would likely generate a new demand for school services within the area. The estimated school generation rates for the project are as follows based on the generation rates included in the City's General Plan EIR:
- The project would generate between about 77 to 435 K-5 students
  - The project would generate between about 73 to 145 Middle School students
  - The project would generate between about 77 to 293 High School students

The Murrieta Valley Unified School District (MVUSD) currently requires a mitigation payment per square foot of residential development. The development impact fee mitigation program of the MVUSD adequately provides for mitigating the impacts of the proposed project in accordance with current state law. Furthermore, the MVUSD Director of Facilities and Planning indicated that the MVUSD would be able to accommodate the student growth that would correspond the overall growth identified in the City's DEIR—which indicated that an additional 10,734 dwelling units may be developed by City buildout. No other mitigation is identified or needed. Since this is a mandatory requirement, no additional mitigation measures are required to reduce school impacts of the proposed project to a less than significant level.

- d. *Less Than Significant Impact* – The proposed project would develop 153 condos, and 330 apartment units, and would likely generate a new demand for parks and recreation. However, the project does include the following park/recreation related and other amenities: club house, BBQ areas at the swimming pools; swimming pools with spa; tot lot; recreation center; trails; parks; basketball courts and more. The potential increase in population related to the Whitewood Condo / Apartment Project is about 1,594 persons. The City has an adopted standard of 5 acres of parkland for every 1,000 persons, as such the project would require 7.97 acres of parkland to accommodate the project. The addition of parkland within the City relies on funds generated by the Quimby Act, which the proposed project will be subject to. Given that the General Plan EIR deems the use of Quimby Act fees as appropriate mitigation for parkland, it is anticipated that, through payment of any necessary Quimby Act fees, which is considered a standard condition, the proposed project will have a less than significant impact to parks and recreation facilities.
- e. *Less Than Significant Impact* – As stated above, the proposed project will install amenities, some of which may be considered other public facilities that will accommodate many of the project residents' needs. The proposed project will incrementally add to the existing demand for library services. These



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incremental impacts are mitigated through the payment of the DIF, which contains a Library component. Payment of DIF is deemed adequate mitigation for the proposed project as it will offset future demand generated by potential new residents. Any impacts are considered less than significant and no additional mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>XVI. RECREATION:</b>				
a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION**

- a. *Less Than Significant Impact* – As addressed in the discussion under XIV, Population and Housing, and XV(d) above, the proposed project would develop 483 multi-family units, and as such may induce population, 1,594 persons may reside at the new Whitewood Condo and Apartments. The Apartments include park- and recreation-like amenities that would support some of the new residents' park and recreation needs. These onsite amenities include: club house, BBQ areas at the swimming pools; swimming pools with spa; tot lot; recreation center; trails; parks; basketball courts and more. In addition, the nearest park to the project is located adjacent to the project site, though this the Vista Murrieta High School facility. There are two parks located west of the Interstate 215 (I-215): Antelope Hills Nature Park, and Antelope Hills Neighborhood Play area. Additionally, there is a Citywide park—Los Alamos Hills Sports Park—located south of the project along Los Alamos Road. These parks and recreational facilities provide a full range of related amenities. Additionally, the proposed project will be required to comply with the payment of any required Quimby Act fees to enhance park and recreation facilities within the City. Thus, with the above provisions, the proposed project will not generate a substantial increase in residents of the City who would increase the use of existing recreational facilities. Therefore, any impacts under this issue are considered less than significant. No mitigation is required.
- b. *Less Than Significant Impact* – The proposed project consists of the 153 condos, and 330 apartment units for a total of 483 multi-family units in the City of Murrieta. The project will not include any recreational facilities beyond those installed for resident and resident guest use only. The site is mostly vacant with no existing recreational facilities on or near the project site and is designated for multi-family residential use. As described throughout this Initial Study, the construction of the proposed Whitewood Condo / Apartment Project would not cause a significant adverse physical effect on the environment under any issue. As a result, no recreational facilities beyond the minor facilities proposed to be provided for resident use only are required to serve the project, thus any impacts under this issue are considered less than significant. No mitigation is required.



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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>XVII. TRANSPORTATION:</b> Would the Project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION:** The following section is based on the “Murrieta Residential Traffic Analysis City of Murrieta” (TA) prepared by Urban Crossroads dated April 14, 2022. The TA is provided as Appendix 12a. Additionally, Urban Crossroads prepared the “Murrieta Apartments Vehicle Miles Traveled (VMT) Analysis” dated June 3, 2021 and provided as Appendix 12b. Finally, a Parking Evaluation was prepared by Urban Crossroads; this report is titled “Murrieta Residential Parking Evaluation” is dated July 21, 2021, and is provided as Appendix 12c.

- a. *Less Than Significant With Mitigation Incorporated* – The proposed project consists of the 153 condos, and 330 apartment units for a total of 483 multi-family units in the City of Murrieta. The development of the proposed project is not anticipated to require the construction of any off-site improvements, however, there are improvement needs identified at off-site intersections for future traffic analysis scenarios where the project would contribute traffic. A TA was prepared for this project by Urban Crossroads. This report analyzed potential deficiencies to traffic and circulation for the following three conditions, the latter of which considers the worst-case traffic impacts that might occur under the proposed project in the context of cumulative area traffic: Existing (2021), Opening Year (2023) Without Project Conditions, and Opening Year (2023) With Project Conditions.

The proposed project is anticipated to generate 2,916 two-way trips per day, with 189 AM peak hour trips and 232 PM peak hour trips. Access to each section of the site—the Condos and Apartments—will be provided by a single driveway. The condos will be accessible via a driveway on Whitewood Road, and the apartments will be accessible via a driveway on Clinton Keith Road.

As stated in the TA, the development of the project is anticipated to construct the following improvements for site adjacent and site access as design features in conjunction with development of the site. These are design features that would enhance traffic flow, and do not require mitigation to enforce as they have been incorporated into the project design. All improvements are shown on Figure XVII-1, Site Adjacent Roadway and Site Access Recommendations.

- The following improvements are necessary to accommodate site access at Whitewood Road & Clinton Keith Road, Figure XVII-1 Site #6: a) Project to construct a 2<sup>nd</sup> northbound left turn lane with a minimum of 400-feet of storage; b) Project to construct a 2<sup>nd</sup> southbound left turn lane with a minimum of 200-feet of storage.
- The following improvements are necessary to accommodate site access at Whitewood Road & Vista Murrieta High School Driveway/Driveway, Figure XVII-1 Site #7: a) Project to install a stop control on the westbound approach (Project Driveway) and construct a westbound right turn lane. Driveway to be restricted to right-in/right-out access only; b) Project to construct a northbound shared through-right turn lane; c) Project to construct a raised median along Whitewood Road along the Project’s frontage; and d) Project to restripe the eastbound

approach to provide a right-turn lane. The school driveway to be restricted to right-in/right-out access only (restricted by the installation of a raised median along Whitewood Road). Project to coordinate with the Murrieta Valley Unified School District regarding the restricted access. It should be noted, the northbound left-turn lane will remain.

- The following improvements are necessary to accommodate site access at Clinton Keith Road & Arendt Lane/Driveway 2, Figure XVII-1 Site #8: a) Project to install a stop control on the northbound approach (Project driveway) and construct a northbound right-turn lane. Driveway to be restricted to right-in/right-out access only. b) Project to construct an eastbound right turn lane with a minimum of 100-feet of storage.
- The following alternative improvements are necessary to accommodate site access at Clinton Keith Road & Arendt Lane/Driveway 2, Figure XVII-1 Site #8: a) Project to install a traffic signal and construct a northbound shared left-through-right turn lane. Driveway will allow for full access (no left turn restrictions); b) Project to construct an eastbound right-turn lane with a minimum of 150-feet of storage; c) Project to construct a westbound left turn lane with a minimum of 150-feet of storage.
- Project is required to construct Whitewood Road to its ultimate half-width as a Major Highway (100-foot right-of-way) from Clinton Keith Road to the southern Project boundary consistent with the City's standards. Project is required to construct a raised median along Whitewood Road along the Project's footage.  
Clinton Keith Road is currently constructed to its ultimate half-section width along the Project's frontage from Whitewood Road to the eastern Project boundary. However, the Project should improve the curb, gutter, sidewalk, and landscaping as needed to accommodate the site access.
- A queuing analysis was performed and all project driveways will incorporate sufficient Stacking Distance.

The development of the project is anticipated to construct the following Off-Site Improvements as design features in conjunction with development of the site. These are design features that would enhance traffic flow, and do not require mitigation to enforce as they have been incorporated into the project design. All improvements are shown on Figure XVII-1, Site Adjacent Roadway and Site Access Recommendations.

- The following improvement shall be constructed at the intersection of California Oaks Road & Clinton Keith Road. Modify the traffic signal to implement overlap phasing for the northbound right-turn lane. Restripe the northbound approach to provide one left-turn lane and dual right-turn lanes.
- The following improvements shall be constructed at the intersection of Whitewood Road & Clinton Keith Road. Add 2<sup>nd</sup> northbound left turn lane (restripe to increase pocket storage to 400-feet) and northbound right turn lane. Restripe to accommodate 2<sup>nd</sup> southbound left turn lane, southbound through, and southbound shared through-right turn lane. Modify the median on Clinton Keith Road to accommodate 365-feet of eastbound left turn storage. Restripe the west bound left turn pocket to accommodate 200-feet of storage.
- The following improvements shall be constructed at the intersection of Whitewood Road & Clinton Keith Road as an alternative to the preceding design. Add 2<sup>nd</sup> northbound left-turn lane (restripe to increase pocket storage to 300-feet) and northbound right-turn lane. Restripe to accommodate 2<sup>nd</sup> southbound left turn lane, southbound through lane, and southbound shared through-right turn lane. Modify the median on Clinton Keith Road to accommodate a 340-feet of eastbound left turn storage.

The City of Murrieta staff determined that the following intersections should be analyzed in the TA under the three conditions listed above:

**Table XVII-1  
INTERSECTIONS ANALYZED**

#	Intersections
1	Nutmeg St. & Clinton Keith Rd.
2	California Oaks Rd. & Clinton Keith Rd.
3	I-215 SB Ramps & Clinton Keith Rd.
4	I-215 NB Ramps & Clinton Keith Rd.
5	Whitewood Rd. & Clinton Keith Rd.
6	Whitewood Rd. & Murrieta High School Driveway/Driveway 1
7	Warm Springs Pkwy. & Clinton Keith Rd.
8	Whitewood Rd. & Arendt Ln./Driveway 2

The study area is also depicted on a map provided as Figure XVII-2. Additionally, the City of Murrieta staff required that the TA analyze impacts to the following roadway segments.

**Table XVII-2  
ROADWAY SEGMENTS ANALYZED**

#	Roadway	Segment Limits
1	Whitewood Rd.	Clinton Keith Rd. to Driveway 1
2	Clinton Keith Rd.	Warm Springs Pkwy. to Whitewood Rd.
3	Clinton Keith Rd.	Whitewood Rd. to Arendt Ln.

The Opening Year Cumulative (2023) With Project traffic volumes are shown on Figure XVII-2. The intersection analysis results are summarized on Table XVII-3 for Opening Year Cumulative (2023) Without Project traffic conditions, which indicates that the following study area intersections are anticipated to operate at an unacceptable Level of Service (LOS) during one or more peak hours:

- California Oaks Road & Clinton Keith Road (#2) – LOS E AM peak hour; LOS F PM peak hour
- Whitewood Road & Clinton Keith Road (#6) – LOS E AM peak hour; LOS F PM peak hour

With the addition of project traffic, there are no additional study area intersections anticipated to operate at an unacceptable LOS during the peak hours under Opening Year Cumulative (2023) With Project traffic conditions. Those intersections with an unacceptable LOS/delay shown in bold.

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**Table XVII-3  
INTERSECTION ANALYSIS FOR OPENING YEAR CUMULATIVE (2023) CONDITIONS**

#	Intersection	Traffic Control <sup>2</sup>	2023 Without Project				2023 With Project				Difference in Delay <sup>3</sup>	
			Delay (seconds) <sup>1</sup>		LOS		Delay (seconds) <sup>1</sup>		LOS			
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Nutmeg St. & Clinton Keith Rd.	TS	18.5	22.4	B	C	19.0	24.0	B	C	--	--
2	California Oaks Rd. & Clinton Keith Rd.	TS	66.0	179.3	E	F	67.9	186.3	E	F	1.9	7.0
3	I-215 SB Ramps & Clinton Keith Rd.	TS	17.7	30.3	B	C	18.3	31.5	B	C	--	--
4	I-215 NB Ramps & Clinton Keith Rd.	TS	9.7	51.2	A	D	9.8	52.3	A	C	--	--
5	Warm Springs Pkwy & Clinton Keith Rd.	TS	5.7	29.3	A	C	6.3	31.6	A	C	--	--
6	Whitewood Rd. & Clinton Keith Rd.	TS	83.5	128.4	F	F	93.0	133.2	F	F	9.5	4.8
	Alternative Access		Not Applicable				90.8	132.1	F	F	7.3	3.7
7	Whitewood Rd. & Murrieta High School/Driveway 1	CSS	21.7	17.9	C	C	13.6	13.8	B	B	--	--
	Alternative Access		Not Applicable				13.7	13.8	B	B	--	--
8	Clinton Keith Rd. & Arendt Ln.	CSS	0.0	0.0	A	A	17.3	24.4	C	C	--	--
	Alternative Access	<b>TS</b>	Not Applicable				7.5	9.3	A	A		

**BOLD** = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS)

<sup>1</sup>Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

<sup>2</sup>CSS = Cross-street Stop; TS = Traffic Signal; **TS** = Improvement

<sup>3</sup>Per the City of Murrieta traffic study guidelines, increase in delay is only calculated for intersections operating at a deficient LOS under pre-project conditions.

The City of Murrieta Traffic Study Guidelines provide roadway volume capacity values. These roadway segment capacities are approximate figures only and are used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet traffic demand. Table XVII-4 provides a summary of the Opening Year Cumulative (2023) Without Project conditions roadway segment capacity analysis based on the City of Murrieta Roadway Capacity Thresholds. As shown on Table XVII-4, Warm Springs Parkway to Whitewood Road is expected to operate at an unacceptable LOS.

**Table XVII-4  
ROADWAY SEGMENT ANALYSIS FOR OPENING YEAR CUMULATIVE (2023) CONDITIONS**

#	Intersection	Segment Limits	GP Classification	Roadway Section <sup>4</sup>	LOS Capacity <sup>1,5</sup>	2023 Without Project	V/C <sup>2</sup>	LOS <sup>3</sup>	2023 With Project	V/C <sup>2</sup>	LOS <sup>3</sup>	Increase in V/C <sup>6</sup>
1	Whitewood Road	Clinton Keith Rd to Driveway 1	Major Arterial	3D/ <b>4D</b>	25,575/ <b>34,100</b>	22,630	0.88	D	23,567	0.69	B	--
2	Clinton Keith Rd	Warm Springs Pkwy. to Whitewood Rd.	Urban Arterial	5D	44,917	<b>47,073</b>	<b>1.05</b>	<b>F</b>	<b>49,114</b>	<b>1.09</b>	<b>F</b>	0.045
3		Whitewood Rd. to Arendt Ln.	Urban Arterial	6D	53,900	34,770	0.65	B	36,811	0.68	B	--



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**BOLD** = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

<sup>1</sup> These maximum roadway capacities have been extracted from the following source: City of Murrieta General Plan 2035 Update (Table 4.2-2)

<sup>2</sup> V/C = Volume to Capacity Ratio

<sup>3</sup> LOS = Level of Service

<sup>4</sup> **4D** = Improvement

<sup>5</sup> **34.100** = Improvement

<sup>6</sup> Per the City of Murrieta traffic study guidelines, increase in V/C ratio is only calculated for roadway segments operating at a deficient LOS.

Queuing analysis findings for Opening Year Cumulative (2023) Without Project are presented on Table XVII-5. As shown on Table XVII-5, the following movements are anticipated to experience queuing issues during the weekday PM peak 95th percentile traffic flows:

- Whitewood Road & Clinton Keith Road (#5) EBL– AM and PM peak hours
- Whitewood Road & Clinton Keith Road (#5) NBL– PM peak hour only
- Whitewood Road & Clinton Keith Road (#5) SBL– AM and PM peak hours

**Table XVII-5  
PEAK HOUR QUEUING SUMMARY FOR OPENING YEAR CUMULATIVE (2023) CONDITIONS**

#	Intersection	Movement	Available Stacking Distance (feet)	2023 Without Project				2023 With Project			
				95 <sup>th</sup> Percentile Queue (feet)		Acceptable? <sup>1</sup>		95 <sup>th</sup> Percentile Queue (feet)		Acceptable? <sup>1</sup>	
				AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
1	I-215 SB Ramps & Clinton Keith Rd.	SBL/T	1,185	211	436 <sup>2</sup>	Yes	Yes	211	436 <sup>2</sup>	Yes	Yes
		SBR	960	386	363	Yes	Yes	386	363	Yes	Yes
2	I-215 NB Ramps & Clinton Keith Rd.	NBL	960	380	794 <sup>2</sup>	Yes	Yes	380	794 <sup>2</sup>	Yes	Yes
		NBR	1,525	368	797 <sup>2</sup>	Yes	Yes	368	797 <sup>2</sup>	Yes	Yes
3	Whitewood Rd. & Clinton Keith Rd.	EBL	255	<b>438<sup>2</sup></b>	<b>527<sup>2,3</sup></b>	<b>No</b>	<b>No</b>	<b>438<sup>2</sup></b>	<b>527<sup>2,3</sup></b>	<b>No</b>	<b>No</b>
		WBL	190	160 <sup>2</sup>	118 <sup>2</sup>	Yes	Yes	144 <sup>2</sup>	85 <sup>2</sup>	Yes	Yes
		WBR	195	55	81	Yes	Yes	87	130	Yes	Yes
		NBL	295	405 <sup>2</sup>	<b>537<sup>2</sup></b>	Yes	<b>No</b>	<b>405<sup>2</sup></b>	<b>437<sup>2</sup></b>	<b>No</b>	<b>No</b>
		SBL	100	<b>244<sup>2</sup></b>	<b>341<sup>2</sup></b>	<b>No</b>	<b>No</b>	<b>244<sup>2</sup></b>	<b>340<sup>2</sup></b>	<b>No</b>	<b>No</b>

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

<sup>2</sup> 95th percentile volume exceeds capacity; queue may be longer. Queue shown is maximum after two cycles.

<sup>3</sup> Volume for 95th percentile queue is metered by upstream signal.

The TA analyzed the efficacy of possible improvements to avoid significant impacts at intersections, roadways segments, and for queueing.

#### Intersection Deficiencies

The effectiveness of the recommended improvement strategies to address Opening Year Cumulative (2023) traffic deficiencies are presented on Table XVII-6.

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**Table XVII-6  
INTERSECTION ANALYSIS FOR OPENING YEAR CUMULATIVE (2023)  
CONDITIONS WITH IMPROVEMENTS**

#	Intersection	Traffic Control <sup>3</sup>	Intersection Approach Lanes <sup>1</sup>												Delay <sup>2</sup> (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
2	California Oaks Rd. & Clinton Keith Rd.																	
	- Pre-Project	TS	2	0	1	0	0	0	0	2	1	1	2	0	66.0	179.3	E	F
	- Without Improvements	TS	2	0	1	0	0	0	0	2	1	1	2	0	67.9	186.3	E	F
	- With Improvements	TS	2	0	1 <sub>I</sub>	0	0	0	0	2	1	1	2	0	43.6	166.9	D	F
6	Whitewood Rd. & Clinton Keith Rd.																	
	- Pre-Project	TS	1	2	0	1	2	0	2	2	1	2	3	1	83.5	128.4	F	F
	- Without Improvements	TS	1	2	0	1	2	0	2	2	1	2	3	1	93.0	133.2	F	F
	- With Improvements	TS	2	2	1 <sub>I</sub>	2	2	0	2	2	1	2	3	1	52.4	75.9	D	E
6	Whitewood Rd. & Clinton Keith Rd. (Alternative)																	
	- Pre-Project	TS	1	2	0	1	2	0	2	2	1	2	3	1	83.5	128.4	F	F
	- Without Improvements	TS	1	2	0	1	2	0	2	2	1	2	3	1	90.8	132.1	F	F
	- With Improvements	TS	2	2	1 <sub>I</sub>	2	2	0	2	2	1	2	3	1	49.7	74.5	D	E

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; <sub>I</sub> = Improvement

<sup>2</sup> Per the Highway Capacity Manual 6th Edition, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

<sup>3</sup> TS = Traffic Signal

#### Roadway Segment Deficiencies

Although the segment of Clinton Keith Road, from Warm Springs Parkway to Whitewood Road, is anticipated to operate at an unacceptable LOS under Opening Year Cumulative (2023) traffic conditions, the project is anticipated to increase the v/c ratio by less than 0.05. It should also be noted that the roadway segment LOS will improve with the completion of the widening/striping to accommodate the ultimate cross-section of Clinton Keith Road. As such, improvements have not been identified for the study area roadway segment as the more detailed peak hour intersection operations analysis does not identify the need to widen the segment.

#### Queues Deficiencies

Table XVII-7 shows the peak hour queuing summary, assuming the intersection improvements identified in Table XVII-6. The effectiveness of the recommended improvement strategies to address Opening Year Cumulative (2023) With Project 95th percentile queue deficiencies are presented on Table XVII-7. Improvements accounted for in Table XVII-6 include restriping and modifications to turn pocket widths.



**Table XVII-7  
PEAK HOUR QUEUING SUMMARY FOR OPENING YEAR CUMULATIVE (2023)  
CONDITIONS WITH IMPROVEMENTS**

Intersection	Movement <sup>3</sup>	Available Stacking Distance (Feet) <sup>3</sup>	2023 With Project			
			95th Percentile Queue (Feet)		Acceptable? <sup>1</sup>	
			AM Peak Hour	PM Peak Hour	AM	PM
Whitewood Rd. & Clinton Keith Rd.	EBL	<u>365</u>	322	366	Yes	Yes
	WBL	190	169	184	Yes	Yes
	WBR	<u>275</u>	264	155	Yes	Yes
	NBL	<u>400</u>	143	392	Yes	Yes
	SBL	<u>100</u>	95	141 <sup>4</sup>	Yes	Yes
	SBL	<u>280</u>	189	197	Yes	Yes
<b>Alternative:</b>						
Whitewood Rd. & Clinton Keith Rd.	EBL	<u>365</u>	333	365	Yes	Yes
	WBL	<u>250</u>	252	98	Yes	Yes
	WBR	<u>275</u>	276	158	Yes	Yes
	NBL	<u>300</u>	164	297	Yes	Yes
	SBL	<u>100</u>	82	154 <sup>4</sup>	Yes	Yes
	SBL	<u>280</u>	191	195	Yes	Yes

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance

<sup>2</sup> 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

<sup>3</sup> 365 = Improvement

<sup>4</sup> Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent left turn lane has sufficient storage to accommodate any spillover without spilling back and affecting the through southbound traffic on Whitewood Road.

### Mitigation and Project Improvements

Transportation improvements within the City of Murrieta are funded through a combination of direct project mitigation (project construction of the improvement), development impact fee programs or fair share contributions, such as the City of Murrieta Development Impact Fee (DIF) program. Identification and timing of needed improvements is generally determined through local jurisdictions based upon a variety of factors. Regardless, the above are considered adequate traffic impact minimization tools to prevent significant traffic impacts from occurring as a result of implementation of a traffic generating project.

### *Fair Share Contribution*

Project improvements may include a combination of fee payments to established programs, construction of specific improvements, payment of a fair share contribution toward future improvements or a combination of these approaches. Improvements constructed by development may be eligible for a fee credit or reimbursement through the program where appropriate (to be determined at the City's discretion).

When off-site improvements are identified with a minor share of responsibility assigned to proposed development, the approving jurisdiction may elect to collect a fair share contribution or require the development to construct improvements. Detailed fair share calculations, for each peak hour, has been provided on Table XVII-8 for the applicable deficient study area intersections.

Table XVII-8  
PROJECT FAIR SHARE CALCULATIONS

#	Roadway Segment	Project	Cumulative	Project % of New Traffic <sup>1</sup>
2	Clinton Keith Rd., Warm Springs Rd. to Whitewood Rd. (Restripe to accommodate a 3rd EB through lane)			
	ADT:	2,041	10,362	16.5%

<sup>1</sup> New Traffic is Project + Cumulative traffic only.

In order to minimize impacts to traffic levels of service within the City of Murrieta from the Whitewood Condo / Apartment Project, the proposed project will construct the improvements the intersections at California Oaks Rd. & Clinton Keith Rd. and Whitewood Rd. & Clinton Keith Rd. The only mitigation required is for the Clinton Keith roadway segment between Warm Springs and Whitewood. This shall be enforced through implementation of the following mitigation measure as recommended in the TA and as shown on Figure XVII-1.

**TRAN-1**    *The Project Applicant shall pay its fair share to the City of Murrieta towards the Clinton Keith roadway segment between Warm Springs and Whitewood by restriping Clinton Keith to accommodate a 3<sup>rd</sup> eastbound through lane thereby completing the 6-lane ultimate cross-section: FAIR SHARE: 16.5%*

The above measure is sufficient to address any circulation deficiencies that would result from project generated automobile traffic.

#### Alternative Modes of Transportation

##### *Transit Service*

The project area is currently served by Riverside Transit Agency (RTA) with bus service along Clinton Keith Road west of the I-215 Freeway to Whitewood Road, south of Clinton Keith Road. RTA Route 61 runs along Whitewood Road to the west of the project. The existing transit routes within the City are shown on Figure XVII-3 RTA Route 61 could potentially serve the project. An existing bus stop exists along Clinton Keith Road in front of Vista Murrieta High School and the project includes a walking path from the project to the bus turnout. Transit service is reviewed and updated by RTA periodically to address ridership, budget, and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate. Given that the proposed project would be developed with access to transit services, the proposed project would have a less than significant potential to conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

##### *Bicycle & Pedestrian Facilities*

The City of Murrieta's bicycle facilities are shown on Figure XVII-4. There are Class II (striped, on-road) bike lanes along Clinton Keith Road and Whitewood Road which are proposed to be striped with Class II bike lanes in the future along the project's frontage. Based on Figure XVII-4, there is also a proposed multipurpose trail located along the project's frontage on Clinton Keith Road and Whitewood Road. As shown on Figure XVII-4, pedestrian facilities are built out around intersections along Clinton Keith Road. Field observations indicate nominal pedestrian and bicycle activity within the study area. Given that the proposed project would be developed with access to bicycle and pedestrian facilities, the proposed project would have a less than significant potential to conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.



Conclusion

Given the above, the proposed project would have a less than significant impact on area circulation with the implementation of project construction at three intersections and MM **TRAN-1**.

- b. *Less Than Significant Impact* – Senate Bill 743 mandates that California Environmental Quality Act (CEQA) guidelines be amended to provide an alternative to Level of Service for evaluating transportation impacts. The amended CEQA guidelines, specifically Section 15064.3, recommend the use of Vehicle Miles Traveled (VMT) for transportation impact evaluation. Urban Crossroads prepared a VMT analysis to determine whether the proposed project would result in a significant VMT impact (refer to Appendix 12b). Appendix 12b utilizes the City of Murrieta Traffic Impact Analysis Preparation Guidelines (City Guidelines) to prepare the VMT screening evaluation.

The proposed project does not meet the City's Project Screening program for compliance with VMT requirements. Therefore, it will be necessary to conduct a project-specific VMT evaluation.

Additionally, the project was evaluated with the Western Riverside Council of Governments (WRCOG) VMT Screening Tool. Based on the Screening Tool results, the project is not located within a low VMT generating zone. Therefore, the project would not be eligible to screen out of further VMT analysis based on City's project type screening criteria. Further VMT analysis is required.

As stated in the City Guidelines "projects not screened out using the process above shall perform a limited analysis of VMT expected to be generated by the project and compare that to the VMT expected to be generated by the land use assumed in the General Plan." The project site is currently designated as Multiple-Family Residential land use based on the City of Murrieta's General Plan 2035 Land Use Policy Map. The Multiple-Family Residential land use density standard is between 10.1 and 30.0 dwelling units per acre. (5) The zoning for the site is Multiple Family 2 (MF-2), which allows between 15.1 and 18.0 dwelling units per acre. (6) As noted previously, the project consists of 483 dwelling units on approximately 29.18 net acres, which equates to 16.55 dwelling units per acre. The project's proposed density is within the land use and zoning assumptions evaluated by the City's updated General Plan and would therefore would not generate VMT in excess of the land uses assumed in the General Plan. As such, no further VMT analysis for this project is required by the City, and as a result, the project's VMT impact is less than significant. No mitigation is required.

- c. *Less Than Significant Impact* – Design of driveways, internal roadways, and intersections will be based on City Code, which sets the standard for such design. As such the project will construct the project access driveways in accordance with designs shown in Figure XVII-1. Based on these direct project design improvements in the circulation system, it is not anticipated that traffic hazards will increase. As such, the project development would have a less than significant potential to increase hazards due to geometric design features or incompatible uses.
- d. *Less Than Significant With Mitigation Incorporated*– Project access will be designed in accordance with all applicable design and safety standards required by adopted fire codes, safety codes, and building codes established by the City's Engineering and Fire Departments. The Fire Protection Plan (FPP) provided as Appendix 13 to this Initial Study details methods by which the project must comply to minimize wildfire impacts at the site. MM **WF-1** stipulates that fire apparatus access roads (i.e., public and private streets) will be provided throughout the development, and will provide at least the minimum required unobstructed travel lanes, lengths, turnarounds, and clearances required by applicable codes, and that the primary access and internal circulation will comply with the requirements of the MFRD. This MM would reduce potential significant adverse conflicts with emergency response and evacuation plans and would therefore enable adequate emergency access. Furthermore, the parking lots and site layouts will be designed to meet requirements to allow emergency vehicles adequate access. The design of the proposed project will be reviewed by the City and Fire & Rescue to ensure that adequate emergency access is provided. Therefore, the proposed project will have a less than significant potential with the implementation of MM **WF-1** to

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result in adequate emergency access. Measure **WF-1** is provided in the Wildfire Section of this Initial Study.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>XVIII. TRIBAL CULTURAL RESOURCES:</b> Would the Project cause a substantial change in the significance of tribal cultural resources, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to the California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION**

The project site consists of an undeveloped property that has experienced some disturbance from unauthorized off-road use. The project site is located at the southeast corner of the intersection of Clinton Keith Road and Whitewood Road. Based on contacts with the Native American Heritage Commission (NAHC), the site may contain any known resource sites of significance to Native Americans. Based on the consultation with the Pechanga Band of Luiseno Indians, initiated by the City in conformance with AB 52 consultation requirements, the Tribe has requested that the project developer enter into an agreement to allow Native Americans to monitor ground disturbing activities during construction of the proposed project. The objective is to ensure that if any subsurface cultural resources are accidentally unearthed they will be properly managed by the Band or other appropriate stakeholder agency.

- a. *Less Than Significant With Mitigation Incorporated* – The limited cultural resource surveys of the site determined that no historical or archaeological resources occur on the ground surface of the Project site. Therefore, the potential to encounter any cultural resource that would qualify for listing in the California Register of Historical resources is considered negligible. However, in an abundance of caution mitigation measures (MM) **CUL-1, CUL-2, and CUL-3** have been included to address the accidental exposure of subsurface cultural resources. These measures shall be implemented by the proposed Project, if it is approved, during construction.
- b. *Less Than Significant With Mitigation Incorporated* – As indicated in the cultural resource technical studies (Appendix 5), the Project site does not contain any known historical or archaeological resources on the surface of the Project site. However, mitigation measures (MM) **CUL-1, CUL-2, and CUL-3** will be implemented to ensure that Tribal Cultural Resources will not incur significant adverse impacts.

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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>XIX. UTILITIES AND SERVICE SYSTEMS:</b> Would the Project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION**a. Water

*Less Than Significant Impact* – Water will be provided by the Eastern Municipal Water District (Eastern or EMWD). Water service is available through a connection located adjacent to the project site; however, the proposed project is not located within EMWD's service area, and will require annexation into the EMWD for water and sewer. The project would be supplied with water by EMWD that uses imported water from the Metropolitan Water District of Southern California (MWD), local groundwater, and recycled water to meet customer demand. Using imported surface water helps prevent overdraft of local groundwater basins. As previously stated under Section X, Hydrology and Water Quality, the EMWD's Urban Water Management Plan (2020) identifies sufficient water resources to meet demand in its service area. The anticipated available water supply within Eastern's retail service area is anticipated to be greater than the demand for water in the future, which indicates that Eastern has available capacity to serve the proposed project without requiring the construction of new water facilities beyond those that would be developed within the project site to serve residences within the project site. Because the proposed project contains less than 500 residential units, the preparation of a Water Supply Assessment (WSA) by Eastern was not required. Therefore, development of the Whitewood Condo / Apartment Project would not result in a significant environmental effect related to the relocation or construction of new or expanded water facilities. Impacts are less than significant.

Wastewater

*Less Than Significant Impact* – Wastewater collection will be provided by Eastern Municipal Water District and the project will connect to the sewer main adjacent to the project site; however, the proposed project is not located within EMWD's service area, and will require an annexation into the

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EMWD for water and sewer. Municipal wastewater is delivered to the one of Eastern's five regional water reclamation facilities which treat 46 million gallons of wastewater per day. The District is responsible for the collection, transmission, treatment, and disposal of wastewater within its service area, which includes portions of the City of Murrieta, California. As such, the project would connect to Eastern's existing wastewater collection system within the adjacent roadway, and would install an internal wastewater collection system to treat sewage generated by residents of the Whitewood Condo / Apartment Project, the development of which is not anticipated to cause a significant impact. Therefore, development of the Whitewood Condo / Apartment Project would not result in a significant environmental effect related to the relocation or construction of new or expanded wastewater facilities. Impacts are less than significant.

Stormwater

*Less Than Significant Impact* – The surface runoff from the site, nonpoint source storm water runoff, will be managed in accordance with the WQMP as discussed in the Hydrology and Water Quality Section (Section X) of this Initial Study. Onsite flows will be collected at the southeast corner of the project site within several retention basins developed throughout the site. This system will be designed to capture the peak 100-year flow runoff from the project site or otherwise be detained on site and discharged in conformance with Riverside County requirements. Therefore, surface water will be adequately managed on site and as such, development of Whitewood Condo / Apartment Project would not result in a significant environmental effect related to the relocation or construction of new or expanded stormwater facilities. Impacts are less than significant.

Electric Power

*Less Than Significant Impact* – Southern California Edison (SCE) will provide electricity to the site and the power distribution system located adjacent to the site will be able to supply sufficient electricity. The effort to connect to the existing electrical system, and to install electricity connections within the project site to serve future residents of the Whitewood Condo / Apartment Project with electricity is not anticipated to result in significant impacts, as evidenced by the discussions in preceding sections. The proposed project will install solar electric systems at the project site in accordance with the current building code requirements. Therefore, development of the Whitewood Condo / Apartment Project would not result in a significant environmental effect related to the relocation or construction of new or expanded electric power facilities. Impacts are less than significant.

Natural Gas

*Less Than Significant Impact* – Natural gas will be supplied by Southern California Gas. The site will connect to the existing natural gas line adjacent to the project site. The effort to connect to the existing gas line within the adjacent roadway, and to install natural gas lines within the project site to serve future residents of the Whitewood Condo / Apartment Project with natural gas is not anticipated to result in significant impacts, as evidenced by the discussions in preceding sections. Therefore, development of the Whitewood Condo / Apartment Project would not result in a significant environmental effect related to the relocation or construction of new or expanded natural gas facilities. Impacts are less than significant.

Telecommunications

*Less Than Significant Impact* – Development of the Whitewood Condo / Apartment Project would require a connection to telecommunication services, such as wireless internet service and phone service. This can be accomplished through connection to existing services that are available to the developer at the project site. Therefore, development of the Whitewood Condo / Apartment Project would not result in a significant environmental effect related to the relocation or construction of new or expanded telecommunications facilities. Impacts are less than significant.

- b. *Less Than Significant Impact* – Please refer to the discussion under Hydrology, Section X(b) above. The Whitewood Condo / Apartment Project is a multi-family residential project that will consist of 483 dwelling units, and is anticipated to demand about 230.33 AFY of water from EMWD. The anticipated available water supply within Eastern's retail service area is anticipated to be greater than the demand



for water in the future, which indicates that Eastern has available capacity to serve the proposed project. As such, given that Eastern's 2020 Urban Water Management Plan indicates that the water district anticipates ample water supply will be available to serve the project's daily/annual demand. Therefore, the project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years. Impacts under this issue are considered less than significant.

- c. *Less Than Significant Impact* – Municipal wastewater is delivered to the one of Eastern's five regional water reclamation facilities which treat 46 million gallons of wastewater per day. The District is responsible for the collection, transmission, treatment, and disposal of wastewater within its service area, which includes portions of the City of Murrieta, California. Given the available capacities at District wastewater treatment plants, it is anticipated that the District has available capacity to accommodate the anticipated wastewater generated from the new residences developed on the site. It is estimated that a 483 condo / apartment project would house approximately 1,594 persons, as discussed under Population and Housing above, and as such would generate 100 gallons of wastewater per person per day, according to the City of Murrieta General Plan EIR. The Project, therefore, would generate about 159,400 gallons of wastewater per day (GPD) or 0.1594 MGD. The generation of 0.1594 MGD of wastewater is well within the available capacities at EMWD's wastewater treatment facilities. As such, it is anticipated that there will be available capacity to accommodate the demand generated by the proposed project. Impacts under this issue are less than significant.
- d&e. *Less Than Significant Impact* – The proposed project will generate demand for solid waste service system capacity and has a potential to contribute to potentially significant cumulative demand impacts on the solid waste system. Solid waste generation rates included in the City of Murrieta General Plan EIR state that residential uses such as that which this Project proposes can produce 12.3 pounds of refuse per dwelling unit per day. It is estimated that 483 multi-family units would generate about 5,940.9 pounds per day (estimated to be 3 to 5 cubic yards of trash) or 1,084.2 tons per year ( $12.3 \times 483 \times 365 = 2,168,429$  pounds per year / 2,000 = 1,084.2 tons per year). The four proposed trash disposal areas will be sufficient to meet trash disposal demands within the proposed project. Solid waste capacity has been expanded to provide adequate disposal capacity for cumulative demand over at least the next five years. Combined with the City's mandatory source reduction and recycling program, the proposed project is not forecast to cause a significant adverse impact to the waste disposal system due to the available capacities at nearby landfills.

According to the Integrated Waste Management Board Jurisdiction Diversion and Disposal Profile for City of Murrieta, the following disposal facilities were used by the City of Murrieta in 2005 (the most recent year for which data was found) and the same landfills are still operating and available: Bakersfield Sanitary Landfill (Kern), Badlands Disposal Site (Riverside), Colton Refuse Disposal Site (San Bernardino), El Sobrante Sanitary Landfill (Riverside), Fontana Refuse Disposal Site (San Bernardino), Lamb Canyon Disposal Site (Riverside), and Puente Hills Landfill #6 (Los Angeles). More than 50% of waste produced within Riverside County is also disposed of within the County. Descriptions of the primary disposal facilities and their capacity are summarized below.

El Sobrante Sanitary Landfill is located at 10910 Dawson Canyon Road east of Interstate 15 in the Gavilan Hills. According to the State of California's Solid Waste Information System, the landfill is active and permitted with a Projected closure date of January 1, 2051. The site is currently permitted to a capacity of 209,910,000 cubic yards with a remaining capacity of 143,977,170 cubic yards and permitted throughput of 16,054 tons per day.<sup>11</sup>

Badland's disposal site is located at 31125 Ironwood Ave, Moreno Valley 92373. According to the State of California's Solid Waste Information System, the landfill is active and permitted with a Projected closure date of January 1, 2022. The site is currently permitted to a capacity of 34,400,000

<sup>11</sup> <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2256?siteID=2402>

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cubic yards with a remaining capacity of 15,748,799 cubic yards and permitted throughput of 4,800 tons per day.<sup>12</sup>

Lamb Canyon disposal site is located on Lamb Canyon Road three miles south of Beaumont 92223. According to the State of California's Solid Waste Information System, the landfill is active and permitted with a Projected closure date of April 1, 2029. The site is currently permitted to a capacity of 38,935,653 cubic yards with a remaining capacity of 19,242,950 cubic yards and permitted throughput of 5,000 tons per day.<sup>13</sup>

Any hazardous materials collected on the project site during either construction or operation of the project will be transported and disposed of by a permitted and licensed hazardous materials service provider. Therefore, the project is expected to comply with all regulations related to solid waste under federal, state, and local statutes and be served by a landfill(s) with sufficient permitted capacity to accommodate the project's solid waste disposal needs. No further mitigation is necessary.

<sup>12</sup> <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2245?siteID=2367>

<sup>13</sup> <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2245?siteID=2367>



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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>XX. WILDFIRE:</b> If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION:** A copy of the "Fire Protection Plan, Whitewood Condo/Apartment Project, City of Murrieta" prepared by Dudek in June 2021 is provided as Appendix 13 to this IS/MND. Most of the technical information provided in this section of the IS/MND is abstracted from this document.

The project site is located at the southeast corner of Clinton Keith Road and Whitewood Road, which is identified as a High Wildfire Hazard Zone in the City's General Plan Update (2020). Based on this circumstance, the City required the applicant to prepare a fire hazard evaluation for the project site.

The following text consists of two edited sections abstracted from the Whitewood Fire Protection Plan (FPP). Because it represents a good summary of the FPP, the first section incorporates most of the Executive Summary from the report. The second section addresses the existing environmental setting for the fire hazard issues at the proposed project site.

#### Background Information

The Fire Protection Plan (FPP) evaluates and identifies the potential fire risk associated with the proposed project's land uses and identifies requirements for water supply, fuel modification and defensible space, access, building ignition and fire resistance, and fire protection systems, among other pertinent fire protection criteria. The purpose of this plan is to generate and memorialize the fire safety requirements and standards of the Murietta Fire and Rescue Department (MFRD) along with project-specific measures based on the site, its intended use, and its fire environment. Requirements and recommendations in the FPP are based on site-specific fire environment analysis and Proposed Project characteristics and incorporates area fire planning documents, site risk analysis, and standard principles of fire protection planning.

As determined during the analysis of this site and its fire environment, the project site, in its current condition, may include characteristics that, under favorable weather conditions, could have the potential to facilitate fire spread. Under extreme conditions, seasonal wind-driven wildfires could cast embers onto the property. Once the project is built, the on-site fire potential will be much lower than its current condition due to conversion of wildland fuels to building footprints, parking areas, managed landscapes, fuel modification areas, improved accessibility for fire personnel, and structures built to the latest ignition and ember resistant fire codes.

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It is important to note that the fire safety requirements that will be implemented on this site, including ignition resistant construction standards, along with requirements for water supply, fire apparatus access, fuel modification and defensible space, interior fire sprinklers and five minute or less fire response travel times were integrated into the code requirements and internal guidelines based on results of post-fire assessments, similar to the After-Action Reports that are now prepared after large fire events. When it became clear that specifics of how structures were built, how fire and embers contributed to ignition of structures, what effects fuel modification had on structure ignition, how fast firefighters could respond, and how much (and how reliable) water was available, were critically important to structure survivability, the Fire and Building codes were revised appropriately.

The developed portion of this property is proposed for improvements that include construction of 483 dwelling units within 38 structures on roughly 29 gross-acres. The entire site has been designed with fire protection as a key objective. The site improvements are designed to facilitate emergency apparatus and personnel access throughout the site. Driveway and road improvements with turnarounds provide access throughout the project. Water availability and flow will be consistent with requirements including fire flow and hydrant distribution required by local and state codes. These features along with the ignition resistance of all buildings, the interior sprinklers, and the pre-planning, training and awareness will assist responding firefighters through prevention, protection and suppression capabilities.

As detailed in the FPP, the project site's fire protection systems will include a redundant layering of protection methods that have proven to reduce overall fire risk. The requirements and recommendations included herein are performance based and site-specific, considering the project's unique characteristics rather than a prescriptive, one-size-fits-all approach. The fire protection systems are designed to increase occupant and building safety, reduce the fire risk on site, to minimize risks associated with typical uses, and aid the responding firefighters during an emergency. No singular measure is intended to be relied upon for the site's fire protection, but rather, a system of fire protection measures, methods, and features combine to result in enhanced fire safety, reduced fire potential, and improved safety in the development.

Early evacuation for any type of wildfire emergency at Whitewood Condo/Apartment Project is the preferred method of providing for occupant and business safety, consistent with the Owner's and MFRD current approach for evacuation. As such, Whitewood Condo/Apartment Project's Owner and Property Management Company will formally implement pre-planning for emergencies, including wildfire emergencies, focused on being prepared, having a well-defined plan, minimizing potential for errors, maintaining the site's fire protection systems, and implementing a conservative (evacuate as early as possible) approach to evacuation and site uses during periods of fire weather extremes.

Based on the results of this FPP's analysis and findings, the following FPP implementation measures will be provided as part of the proposed development plan. Based on the analysis conducted herein, the project meets all fire and building code requirements and is considered to include appropriate protections for the fire environment in which it is located. For any areas where the project is not code-consistent, appropriate mitigation measures have been suggested. These measures are discussed in more detail throughout this FPP.

1. Project buildings will be constructed of ignition resistant<sup>14</sup> construction materials and include automatic fire sprinkler systems based on the latest adopted Building and Fire Codes for occupancy types.
2. Fuel Modification will be provided as needed around the perimeter of the site, as required by MFRD and will be 100 feet wide. On-going maintenance will be managed by Owner's, Property Management Company, or another approved entity, at least annually or as needed.
3. Landscape plantings will not utilize prohibited plants that have been found to be highly flammable.

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<sup>14</sup> A type of building material that resists ignition or sustained flaming combustion sufficiently to reduce losses from wildland-urban interface, conflagration under worst-case weather and fuel conditions with wildfire exposure of burning embers and small flames, as prescribed in CBC, Chapter 7A and State Fire Marshal Standard 12-7A-5, Ignition-Resistant Materials.

4. Fire apparatus access roads (i.e., public and private streets) will be provided throughout the development, and will provide the minimum required unobstructed travel lanes, lengths, turnarounds, and clearances required by applicable codes. Primary access and internal circulation will comply with the requirements of the MFRD.
5. Buildings will be equipped with automatic fire sprinkler systems meeting MFRD requirements.
6. Water capacity and delivery provide for a reliable water source for operations and during emergencies requiring extended fire flow.
7. The Property Owner's or Property Management Company, will provide owners informational brochures at time of occupancy, which will include an outreach and educational role to ensure fire safety measures detailed in this FPP have been implemented.

#### Site Characteristics and Fire Environment

Fire environments are dynamic systems and include many types of environmental factors and site characteristics. Fires can occur in any environment where conditions are conducive to ignition and fire movement. Areas of naturally vegetated open space are typically comprised of conditions that may be favorable to wildfire spread. The three major components of fire environment are topography, climate, and vegetation (fuels). The state of each of these components and their interactions with each other determines the potential characteristics and behavior of a fire at any given moment. It is important to note that wildland fire may transition to urban fire if structures are receptive to ignition. Structure ignition depends on a variety of factors and can be prevented through a layered system of protective features including fire resistive landscapes directly adjacent the structure(s), application of known ignition resistive materials and methods, and suitable infrastructure for firefighting purposes. Understanding the existing wildland vegetation and urban fuel conditions on and adjacent the site is necessary to understand the potential for fire within and around the Proposed Project site.

The following sections discuss the site characteristics, local climate, and fire history within and surrounding the site. Whitewood Condo/Apartment Project is similar concerning topography, vegetative cover, and proximity to adjacent residential areas, available access, and planned use. The following sections discuss the characteristics of the project site at a regional scale. The intent of evaluating conditions at this macro-scale is providing a better understanding of the regional fire environment, which is not constrained by property boundary delineations.

**Topography:** Topography influences fire risk by affecting fire spread rates. Typically, steep terrain results in faster fire spread up-slope and slower fire spread down-slope in the absence of wind. Flat terrain tends to have little effect on fire spread, resulting in fires that are driven by wind. The proposed project is situated on the southeast corner of the intersection of Clinton Keith Road and Whitewood Road. The site has gently rolling slopes with elevations that range from approximately 1,425 feet above mean sea level (amsl) in the northeast portion of the site to approximately 1,525 feet amsl in the central portion of the site.

**Climate:** Throughout southern California, and specifically at the project site, climate has a large influence on fire risk. The climate of Murrieta and western Riverside County is typical of a Mediterranean area, with warm, dry summers and cold, wet winters. Temperature average (average annual) around 61°F and reaches up to 100°F. Precipitation has been averaging less than 14 inches and typically occurs between December and March. The prevailing wind is an on-shore flow between 7 and 11 miles per hour (mph) from the Pacific Ocean.

Fires can be a significant issue during summer and fall, before the rainy period, especially during dry Santa Ana wind events. The seasonal Santa Ana winds can be particularly strong in the Project area as warm and dry air is channeled from the dry, desert land to the east. Although Santa Ana events can occur anytime of the year, they generally occur during the autumn months, although the last few years have resulted in spring (April May) and summer events. Santa Ana winds may gust up to 75 mph or higher. This phenomenon markedly increases the wildfire danger and intensity in the project area by drying out and preheating vegetation (fuel moisture of less than 5% for 1-hour fuels is possible) as well as accelerating oxygen supply, and thereby, making possible the burning of fuels that otherwise might not burn under cooler, moister conditions.



**Vegetation:**Fuels (Vegetation)

The proposed project property and surrounding areas primarily support chamise chaparral, coastal sage scrub and non-native grassland plant communities. Vegetation types were derived from an on-site field assessment of the project site. The majority of the site is vegetated with chamise chaparral, with coastal sage scrub interspersed throughout and occasional rock outcrops. The adjacent lands have similar vegetation types, with non-native grasslands as well. The vegetation cover types were assigned a corresponding fuel model for use during site fire behavior modeling. Section 3.0 describes the fire modeling conducted for the project area.

Vegetation Dynamics

The vegetation characteristics described above are used to model fire behavior, discussed in Section 3.0 of this FPP. Variations in vegetative cover type and species composition have a direct effect on fire behavior. Some plant communities and their associated plant species have increased flammability based on plant physiology (resin content), biological function (flowering, retention of dead plant material), physical structure (bark thickness, leaf size, branching patterns), and overall fuel loading. For example, non-native grass dominated plant communities become seasonally prone to ignition and produce lower intensity, higher spread rate fires. In comparison, sage scrub can produce higher heat intensity and higher flame lengths under strong, dry wind patterns, but does not typically ignite or spread as quickly as light, flashy grass fuels.

As described, vegetation plays a significant role in fire behavior, and is an important component to the fire behavior models discussed in this report. A critical factor to consider is the dynamic nature of vegetation communities. Fire presence and absence at varying cycles or regimes disrupts plant succession, setting plant communities to an earlier state where less fuel is present for a period of time as the plant community begins its succession again. In summary, high frequency fires tend to convert shrublands to grasslands or maintain grasslands, while fire exclusion tends to convert grasslands to shrublands, over time. In general, biomass and associated fuel loading will increase over time, assuming that disturbance (fire or grading) or fuel reduction efforts are not diligently implemented. It is possible to alter successional pathways for varying plant communities through manual alteration. This concept is a key component in the overall establishment and maintenance of the proposed fuel modification zones on site. The fuel modification zones on this site will consist of irrigated and maintained landscapes as well as thinned native fuel zones that will be subject to regular "disturbance" in the form of maintenance and will not be allowed to accumulate excessive biomass over time, which results in reduced fire ignition, spread rates, and intensity. Conditions adjacent the project's footprint (outside the fuel modification zones), where the wildfire threat will exist post-development, are classified as low to medium fuel loads due to the dominance of sage scrub-grass fuels.

**Fire History:** Fire history is an important component of an FPP. Fire history data provides valuable information regarding fire spread, fire frequency, most vulnerable areas, and significant ignition sources, amongst others. In turn, this understanding of why fires occur in an area and how they typically spread can then be used for pre-planning and designing defensible communities.

Fire history represented in this FPP uses the Fire and Resource Assessment Program (FRAP) database. FRAP summarizes fire perimeter data dating to the late 1800s, but which is incomplete due to the fact that it only includes fires over 10 acres in size and has incomplete perimeter data, especially for the first half of the 20th century (Syphard and Keeley 2016). However, the data does provide a summary of recorded fires and can be used to show whether large fires have occurred in the project area, which indicates whether they may be possible in the future.

Appendix B, Project Vicinity Fire History exhibit, presents a graphical view of the project area's recorded fire history. As presented in the exhibit, there have been 20 fires recorded since 1956 by CALFIRE in their



FRAP database (FRAP 2018)<sup>15</sup> in the vicinity of the proposed project, including one in the southeastern one-third portion of the site. The 20 recorded fires burned within a 5-mile radius of the project area; about 80% of the 5-mile radius area has no recorded fires.

Based on an analysis of the CAL FIRE FRAP fire history data set, specifically the years in which the fires burned, the average interval between wildfires in the 5-mile radius area was calculated to be 2.8 years with intervals ranging between one and 11 years. Based on this analysis, it is expected that wildfire that could burn in available unmaintained landscapes may occur, if weather conditions coincide, possibly every two to three years, with the realistic possibility of longer interval occurrences, as observed in the fire history records and considering the recent past and ongoing development of the region.

- a. *Less Than Significant With Mitigation Incorporated* – The proposed project will require some improvements on the two adjacent roadways (Clinton Keith Road and Whitewood Roads) and based on the analysis provided in the preceding text discussion, extensive onsite access improvements will be required to extend access into the project site. According to the City's updated General Plan, each project will be reviewed independently for emergency access and potential impairment of any evacuation plan. Such review by the City, particularly the MFRD, is designed to ensure less than significant impairment or conflict with emergency response plans and emergency evacuation plans. Mitigation is required to achieve a less than significant impact to these plans. The following mitigation measures will be implemented to reduce potential significant adverse conflicts with emergency response and evacuation plans.

**WF-1** *Fire apparatus access roads (i.e., public and private streets) will be provided throughout the development, and will provide at least the minimum required unobstructed travel lanes, lengths, turnarounds, and clearances required by applicable codes. Primary access and internal circulation will comply with the requirements of the MFRD.*

**WF-2** *The Applicant shall require that contractors prepare a construction traffic control plan. Elements of the plan should include, but are not necessarily limited to, the following:*

- *Develop circulation and detour plans, if necessary, to minimize impacts to local street circulation. Use haul routes minimizing truck traffic on local roadways to the extent possible.*
- *To the extent feasible, and as needed to avoid adverse impacts on traffic flow, schedule truck trips outside of peak morning and evening commute hours.*
- *Install traffic control devices as specified in Caltrans' Manual of Traffic Controls for Construction and Maintenance Work Zones where needed to maintain safe driving conditions. Use flaggers and/or signage to safely direct traffic through construction work zones.*
- *For roadways requiring lane closures that would result in a single open lane, maintain alternate one-way traffic flow and utilize flagger-controls.*
- *Coordinate with facility owners or administrators of sensitive land uses such as police and fire stations, hospitals, and schools. Provide advance notification to the facility owner or operator of the timing, location, and duration of construction activities.*

Based on the analysis in the FPP and the mitigation measures listed above, the proposed project's impact to emergency response and emergency evacuation plans will be reduced to a less than significant impact and will therefore not substantially impair the implementation of such plans.

<sup>15</sup> Based on polygon GIS data from CAL FIRE's FRAP, which includes data from CAL FIRE, USDA Forest Service Region 5, BLM, NPS, Contract Counties and other agencies. The data set is a comprehensive fire perimeter GIS layer for public and private lands throughout the state and covers fires 10 acres and greater between 1878–2018.

- b. *Less Than Significant With Mitigation Incorporated* – The project site encompasses a small knoll just south of Clinton Keith Road, east of the I-215 Freeway. As described under the site characteristics above, elevation varies by about 100 feet over the approximate 28-acre property. Slopes are shallow to moderate and the site does not have any steep slopes. In its present condition the site vegetation includes a mix of chamise chapparral, limited areas of coastal sage scrub and disturbed non-native grassland, with a dense stand of chamise covering the majority of the project site. The fire history of the project area indicates that wildfires have occurred every few years, but based on the height and density of the chapparral habitat onsite, the site does not appear to have been exposed to a wildfire in the recent past.

The FPP describes the potential fire hazards of the site in detail and it is located within a high wildfire hazard area. As determined during the analysis of this site and its fire environment, the project site, in its current condition, may include characteristics that, under favorable weather conditions, could have the potential to facilitate fire spread. Under extreme conditions, seasonal wind-driven wildfires could cast embers onto the property. Once the project is built, the on-site fire potential will be much lower than its current condition due to conversion of wildland fuels to building footprints, parking areas, managed landscapes, fuel modification areas, improved accessibility for fire personnel, and structures built to the latest ignition and ember resistant fire codes.

However, the FPP includes a list of mitigation measures that will be implemented to control the future fire exposure of the site to a less than significant level. These measures include:

- WF-3** *Project buildings shall be constructed of ignition resistant<sup>16</sup> construction materials and include automatic fire sprinkler systems based on the latest adopted Building and Fire Codes for occupancy types.*
- WF-4** *Fuel Modification shall be provided as needed around the perimeter of the site, as required by MFRD and shall be 100 feet wide or greater where needed. On-going maintenance will be managed by Owner's, Property Management Company, or another approved entity, at least annually or as needed.*
- WF-5** *Landscape plantings shall not utilize prohibited plants that have been found to be highly flammable as identified in the Fire Protection Plan.*
- WF-6** *Water capacity and delivery shall provide for a reliable water source for operations and during emergencies requiring extended fire flow.*
- WF-7** *The Property Owner's or Property Management Company, shall provide owners informational brochures at time of occupancy, which shall include an outreach and educational role to ensure fire safety measures detailed in the FPP have been implemented.*

The above measures are deemed sufficient by the FPP to reduce wildfire risks at the site to a less than significant impact level, which reduces potential future pollutant concentrations at the site and minimizes the uncontrolled spread of a wildfire.

- c. *Less Than Significant Impact* – Although the project site is relatively undisturbed by development, it is located adjacent to a high school and other surrounding development (on the north side of Clinton Keith) that already is served by infrastructure (roads, water lines, power lines, and other utilities). These existing infrastructure systems will have to be extended onto the site, but all infrastructure installation impacts will be within existing disturbed rights-of-way (existing roads or easements) or on

<sup>16</sup> A type of building material that resists ignition or sustained flaming combustion sufficiently to reduce losses from wildland-urban interface, conflagration under worst-case weather and fuel conditions with wildfire exposure of burning embers and small flames, as prescribed in CBC, Chapter 7A and State Fire Marshal Standard 12-7A-5, Ignition-Resistant Materials.

the project site which will be disturbed by clearing and grading prior to installing the utilities to each building and residential unit. Based on these site conditions, neither the installation nor the maintenance of the infrastructure systems is forecast to exacerbate fire risk or temporary or ongoing impacts to the environment.

- D. *Less Than Significant With Mitigation Incorporated* – As previously described, this site does not have major topographic variation within its boundaries. The project site occupies an existing small knoll and after grading and development it will not expose people or structures to significant risks (such as downstream flood exposure, landslides) due to post-fire runoff, slope instability or drainage changes. Given the implementation of mitigation measures (MMs **WF-2** through **WF-7**) and the lack of steep terrain/topography, the project site will not be exposed to significant post-fire hazards identified in this question.

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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<b>XXI. MANDATORY FINDINGS OF SIGNIFICANCE:</b>				
a) Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**SUBSTANTIATION**

The analysis in this Initial Study and the findings reached indicate that the proposed project can be implemented without causing any new project specific or cumulatively considerable unavoidable significant adverse environmental impacts. Mitigation is required to control potential environmental impacts of the proposed project to a less than significant impact level. The following findings are based on the detailed analysis of the Initial Study of all environmental topics and the implementation of the mitigation measures identified in the previous text and summarized following this section.

- a. *Less Than Significant With Mitigation Incorporated* – The project has no potential to cause a significant impact to any biological or cultural resources, with implementation of mitigation measures. The project has been identified as having a less than significant potential to degrade the quality of the natural environment, substantially reduce habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. The project requires mitigation to prevent significant impacts from occurring as a result of implementation of the project. Given that a cultural field survey was unable to be completed in order to determine whether significant cultural resources are located within the project site, mitigation is required to - ensure that the appropriate the appropriate actions are taken to minimize any potential impacts to cultural resources that may be located within the site after the required field survey takes place. Please see biological and cultural sections of this Initial Study.
- b. *Less Than Significant With Mitigation Incorporated* – The project has 8 potential impact categories that are individually limited, but may be cumulatively considerable. These are: Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology & Soils, Hazards & Hazardous Materials, Hydrology & Water Quality, Noise, Transportation, Tribal Cultural Resources, and Wildfire. Cumulative traffic, air quality, greenhouse gas, etc. impacts are considered as part of the analysis contained under the related impact category. These above issues require the implementation of mitigation measures to reduce impacts to a less than significant level and ensure that cumulative effects are not cumulatively considerable. All other environmental issues were found to have no



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significant impacts without implementation of mitigation. The potential cumulative environmental effects of implementing the proposed project have been determined to be less than considerable and thus, less than significant impacts.

- c. *Less Than Significant With Mitigation Incorporated* – The proposed project includes activities that have a potential to cause direct substantial adverse effects on humans. The issues of Air Quality, Geology and Soils, Hazards & Hazardous Materials, Noise, and Wildfire require the implementation of mitigation measures to reduce human impacts to a less than significant level. Furthermore, it is assumed that individual projects that do not generate operational or construction emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. As the proposed project would not result in either construction related or operations related exceedances of regional thresholds, the proposed project could not have a cumulative air quality impact. All other environmental issues were found to have no significant impacts on humans without implementation of mitigation. The potential for direct human effects from implementing the proposed Project have been determined to be less than significant.

Conclusion

This document evaluated all CEQA issues contained in the latest Initial Study Checklist form. The evaluation determined that either no impact or less than significant impacts would be associated with the issues of Agriculture and Forestry Resources, Energy, Greenhouse Gases, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, Recreation, and Utilities & Service Systems. The issues of Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology & Soils, Hazards & Hazardous Materials, Hydrology & Water Quality, Noise, Transportation, Tribal Cultural Resources, and Wildfire require the implementation of mitigation measures to reduce Project specific and cumulative impacts to a less than significant level. The required mitigation has been proposed in this Initial Study to reduce impacts for these issues to a less than significant impact level.

Based on the evidence and findings in this Initial Study, the City of Murrieta proposes to adopt a Mitigated Negative Declaration for the Whitewood Condo / Apartment Project. A Notice of Intent to Adopt a Mitigation Negative Declaration (NOI) will be issued for this project by the City. The Initial Study and NOI will be circulated for 30 days of public comment. At the end of the 30-day review period, a final MND package will be prepared and it will be reviewed by the City for possible adoption at a future Planning Commission meeting, the date for which has yet to be determined. If you or your agency comments on the MND/NOI for this project, you will be notified about the meeting date in accordance with the requirements in Section 21092.5 of CEQA (statute).

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Note: Authority cited: Sections 21083 and 21083.05, Public Resources Code. Reference: Section 65088.4, Gov. Code; Sections 21080(c), 21080.1, 21080.3, 21083, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; *Sundstrom v. County of Mendocino*, (1988) 202 Cal.App.3d 296; *Leonoff v. Monterey Board of Supervisors*, (1990) 222 Cal.App.3d 1337; *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

Revised 2019

Authority: Public Resources Code sections 21083 and 21083.09

Reference: Public Resources Code sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3/ 21084.2 and 21084.3

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## **SUMMARY OF MITIGATION MEASURES**

### **Aesthetics**

- AES-1 The Applicant shall meet the provisions of City of Murrieta Municipal Code Section 16.42 pertaining to Tree Preservation and Removal. The Applicant shall obtain City approval to remove any trees on site through tree removal permit(s). The Applicant shall meet the provisions of 16.42.070 Tree Removal Permit which outlines further requirements pertaining to the tree removal permit process.
- AES-2 The Applicant shall avoid compaction of soil during construction in areas where trees are located within or adjacent to the project site that do not require removal. The Applicant shall avoid root removal in all instances where it is possible to do so. The Applicant shall utilize the following Tree Preservation Guidelines:

#### **Root Pruning**

- a. There shall be no disturbance to roots more than 2 inches in diameter. Roots less than 2 inches in diameter must be cleanly cut to encourage good callus tissue. It is recommended that roots be pruned back to the next root node.
- b. Recommended distances from the trunk that roots should be pruned have been established for construction activities around trees. The recommendations are: Preferred distance – 5 times the diameter of the tree at breast height (dbh); Minimum distance – 3 times dbh.
- c. The recommended time to prune roots is before active root growth in late summer and fall.
- d. The less frequently roots are pruned the less impact there will be on tree health and stability.

#### **Root Protection Zone**

- a. A root protection zone shall be defined by a minimum 42" high barrier constructed around any potentially impacted tree. This barrier shall be at the drip line of the tree or at a distance from the trunk equal to 6 inches for each inch of trunk diameter 4.5 feet above the ground, if this method defines a larger area.
- b. Should it be necessary to install irrigation lines within this area, the line shall be located by boring, or an alternate location for the trench is to be established. The minimum clearance between an open trench and a tree shall be no closer than 10 feet or 6 inches for each inch of trunk diameter measured at 4.5 feet above existing grade, if this method defines a larger distance. The maximum clearance shall be 10 feet. The contractor shall conform to these provisions.
- c. At no time shall any equipment, materials, supplies or fill be allowed within the prescribed root protection.

#### **Protection from Root Compaction**

- a. No vehicles shall be permitted to be parked under the dripline of trees in non-paved areas. Avoid placing heavy equipment, large rocks or boulders, and gravel under the drip line of the tree. The object is to avoid soil compaction, which makes it difficult for roots to receive oxygen from the soil.

#### **Preventing Damage from Grade Changes**

Preventing tree damage from grade changes must be undertaken before the grade of the land is actually altered. Trees that are seriously declining due to grade changes seldom respond to corrective measures designed to save them.

If fill must be placed over tree roots, a well and drainage system must be installed. The dry well must be large enough to allow for future growth of the trunk. Agricultural drain tile (4 to 6 inches) should be placed on the natural grade of the land. The tile should drain to a lower level to prevent water from collecting within the well. Cover the tile with 6 to 8 inches of 2- to 3-inch stone. (Do not use limestone because this will raise the soil pH and could adversely affect tree growth.)



Connect vent tiles with the drain tile to allow for gaseous exchange between the root zone and atmosphere. The fill should consist of a sandy soil or organic matter such as biochar to allow maximum aeration of the root zone.

For lowering the grade, all cuts in the natural grade must be made outside the dripline of a tree. Where trees are growing on a slope, the landscape sometimes is cut and filled to create a level site. Again, all grade changes should be made outside the dripline of the tree.

- AES-3 For future development located in or immediately adjacent to residential zoned properties, construction documents shall include language that requires all construction contractors to strictly control the staging of construction equipment and the cleanliness of construction equipment stored or driven beyond the limits of the construction work area. Construction equipment shall be parked and staged within the project site, as distant from the residential use, as reasonably possible. Staging areas shall be screened from view from residential properties.
- AES-4 Construction documents shall include language requiring that construction vehicles be kept clean and free of mud and dust prior to leaving the development site. Streets surrounding the development site shall be swept daily and maintained free of dirt and debris.
- AES-5 Construction worker parking may be located off-site with prior approval by the City. On-street parking of construction worker vehicles on residential streets shall be prohibited.
- AES-6 Prior to approval of the Final Design, an analysis of potential glare from sunlight or exterior lighting to impact vehicles traveling on adjacent roadways shall be submitted to the City for review and approval. This analysis shall demonstrate that due to building orientation or exterior treatment, no significant glare may be caused that could negatively impact drivers on the local roadways or impact adjacent land uses. If potential glare impacts are identified, the building orientation, use of non-glare reflective materials or other design solutions acceptable to the City of Murrieta shall be implemented to eliminate glare impacts.

### **Air Quality**

- AQ-1 Require the use of Tier 4 emissions standards or better for off-road diesel-powered construction equipment of 50 horsepower or greater. To ensure that Tier 4 construction equipment or better will be used during the proposed project's construction, South Coast Air Quality Management District (SCAQMD) staff recommends that the Lead Agency include this requirement in applicable bid documents, purchase orders, and contracts. Successful contractor(s) must demonstrate the ability to supply the compliant construction equipment for use prior to any ground disturbing and construction activities. A copy of each unit's certified tier specification or model year specification and California Air Resources Board (CARB) or SCAQMD operating permit (if applicable) shall be available upon request at the time of mobilization of each applicable unit of equipment. Additionally, the Lead Agency should require periodic reporting and provision of written construction documents by construction contractor(s) to ensure compliance and conduct regular inspections to the maximum extent feasible to ensure compliance.
- AQ-2 Require zero-emissions or near-zero emission on-road haul trucks such as heavy-duty trucks with natural gas engines that meet the CARB's adopted optional NOx emissions standard at 0.02 grams per brake horsepower-hour (g/bhp-hr), if and when feasible. At a minimum, require that construction vendors, contractors, and/or haul truck operators commit to using 2010 model year trucks (e.g., material delivery trucks and soil import/export) that meet CARB's 2010 engine emissions standards at 0.01 g/bhp-hr of particulate matter (PM) and 0.20 g/bhp-hr of NOx emissions or newer, cleaner trucks. The Lead Agency should include this requirement in applicable bid documents, purchase orders, and contracts. The construction contractor shall maintain records of all trucks associated with project construction to document that each truck

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- used meets these emission standards, and make the records available for inspection. The City shall conduct regular inspections to the maximum extent feasible to ensure compliance.
- AQ-3 All trucks hauling dirt, sand, soil or other loose materials are to be covered, or should maintain at least two feet of freeboard in accordance with California Vehicle Code Section 23114 (freeboard means vertical space between the top of the load and top of the trailer).
- AQ-4 Enter into applicable bid documents, purchase orders, and contracts to notify all construction vendors, contractors, and/or haul truck operators that vehicle and construction equipment idling time will be limited to no longer than five minutes, consistent with the CARB's policy. For any idling that is expected to take longer than five minutes, the engine should be shut off. Notify construction vendors, contractors, and/or haul truck operators of these idling requirements at the time that the purchase order is issued and again when vehicles enter the proposed project site. To further ensure that drivers understand the vehicle idling requirement, post signs at the proposed project site, where appropriate, stating that idling longer than five minutes is not permitted.
- AQ-5 The contractor shall adhere to applicable measures contained in Table 1 of Rule 403 including, but not limited to:
- All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 miles per hour (mph) per SCAQMD guidelines in order to limit fugitive dust emissions.
  - The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the project are watered at least three (3) times daily during dry weather. Watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the mid-morning, afternoon, and after work is done for the day.
  - All access points to the project site shall have track out devices installed.
  - The contractor shall ensure that traffic speeds on unpaved roads and project site areas are limited to 15 mph or less.
- AQ-6 The project applicant shall require that all building structures meet or exceed 2020 Title 24, Part 6 Standards and meet Green Building Code Standards.
- AQ-7 The project applicant shall require that all faucets, toilets and showers installed in the proposed structures utilize low-flow fixtures that would reduce indoor water demand by 20% per CalGreen Standards.
- AQ-8 The project applicant shall require that a water-efficient irrigation system be installed that conforms to the requirements of City codes.
- AQ-9 The project applicant shall require that ENERGY STAR-compliant appliances are installed on-site.
- AQ-10 The project applicant shall require that high-efficiency lighting be installed that is at least 34% more efficient than standard lighting.
- AQ-11 No wood burning devices shall be installed and any dwelling units consistent with SCAQMD Rule 445.
- AQ-12 Only "Low-Volatile Organic Compounds (VOC)" paints (no more than 50 gram/liter (g/L) of VOC) consistent with SCAQMD Rule 1113 shall be used.

**Biological Resources**

- BIO-1 Pre-construction surveys for BUOW should be conducted no more than 3 days prior to commencement of project-related ground disturbance to verify that BUOW remain absent from the project area.
- BIO-2 If burrowing owl are discovered within the project footprint, a project specific BUOW protection and/or passive relocation plan shall be prepared to determine suitable buffers and/or artificial burrow construction locations to minimize impacts to this species. If a BUOW is found on-site at the time of construction, all activities likely to affect the animal(s) shall cease immediately and regulatory agencies shall be contacted to determine appropriate management actions.
- BIO-3 The State of California prohibits the “take” of active bird nests. To avoid an illegal take of active bird nests, any grubbing, brushing or tree removal should be conducted outside of the State identified nesting season (typically February 1 through September 1). Alternatively, nesting bird surveys shall be conducted by a qualified avian biologist no more than three (3) days prior to vegetation clearing or ground disturbance activities. Preconstruction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the preconstruction nesting bird surveys, a Nesting Bird Plan (NBP) shall be prepared and implemented by the qualified avian biologist. At a minimum, the NBP shall include guidelines for addressing active nests, establishing buffers, ongoing monitoring, establishment of avoidance and minimization measures, and reporting. The size and location of all buffer zones, if required, shall be based on the nesting species, individual/pair’s behavior, nesting stage, nest location, its sensitivity to disturbance, and intensity and duration of the disturbance activity. To avoid impacts to nesting birds, any grubbing or vegetation removal should occur outside peak breeding season (typically February 1 through September 1).
- BIO-4 The Applicant shall comply with the following:
- Drainages – Proposed developments in proximity to the MSHCP Conservation Area shall incorporate measures, including measures required through the National Pollutant Discharge Elimination System (NPDES) requirements, to ensure that the quantity and quality of runoff discharged to the MSHCP Conservation Area is not altered in an adverse way when compared with existing conditions.
  - Toxics – Land uses proposed in proximity to the MSHCP Conservation Area that use chemicals or generate bioproducts such as manure that are potentially toxic or may adversely affect wildlife species, habitat or water quality shall incorporate measures to ensure that application of such chemicals does not result in discharge to the MSHCP Conservation Area.
  - Lighting – Night lighting shall be directed away from the MSHCP Conservation Area to protect species within the MSHCP Conservation Area from direct night lighting. Shielding, including Turtle Bay type LED lighting, shall be incorporated in project designs to ensure ambient lighting in the MSHCP Conservation Area is not increased.
  - Noise – Proposed noise generating land uses affecting the MSHCP Conservation Area shall incorporate setbacks, berms or walls to minimize the effects of noise on MSHCP Conservation Area resources pursuant to applicable rules, regulations and guidelines related to land use noise standards. For planning purposes, wildlife within the MSHCP Conservation Area should not be subject to noise that would exceed residential noise standards.
  - Invasives – The project shall avoid the use of invasive species (MSHCP Section 6.1.4 – Table 6-2) for landscaping portions of development that are adjacent to the MSHCP Conservation Area.

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- Barriers – Proposed land uses adjacent to the MSHCP Conservation Area shall incorporate barriers, where appropriate in individual project designs to minimize unauthorized public access, domestic animal predation, illegal trespass or dumping in the MSHCP Conservation Area.
- Grading/Land Development – Manufactured slopes associated with proposed site development shall not extend into the MSHCP Conservation Area.

**Cultural Resources**

- CUL-1 The first step of site ground disturbance shall be to conduct a systematic resurvey of the site for cultural resources using an industrial mower to remove the vegetative cover. This effort shall be conducted with an archaeologist and a Native American monitor. If, during the vegetation removal activities, unique cultural resources, as that term is defined in PRC para. 21083.2(g), or an historic resource, as that term is defined in PRC para. 21084.1, are discovered and the resources were not assessed or addressed by the prior archaeological investigations or environmental assessment conducted prior to project approval, the following procedures shall be implemented:
- a) All earthwork and ground-disturbing activities within 100 feet ("buffer area") of the discovery will be halted while the Project Archaeologist makes an initial assessment of the significance of the discovery;
  - b) Once the Project Archaeologist makes the initial assessment, the City Planner will convene a meeting with the Project Applicant, Project Archaeologist, and tribe(s) to discuss the significance of the discovery and what mitigation measures are feasible in accordance with examples in PRC para. 21083.2(b). If the parties cannot reach agreement on a feasible mitigation measure, the City Planner with the assistance of a third-party archaeologist will make a final determination on the appropriate mitigation and treatment of the resources; if there are disagreements with the determination, a Project Issue Resolution (PIR) meeting will be facilitated.
  - c) Earthwork and ground-disturbing activities will not resume within the buffer area of the discovery until an agreement has been reached by all parties as to the appropriate mitigation and treatment of the resources. Earthwork and ground-disturbing activities will be allowed to continue outside of the buffer area and will be monitored by archaeological and tribal monitor(s).
  - d) Treatment and avoidance of any newly discovered resources will be consistent with these mitigation measures and the Cultural Resources Monitoring Plan as required by MM CUL-2.
- CUL-2 At least thirty (30) days prior to submittal of the final grading plans to the City, the Project Applicant, Project Archaeologist, City planner and tribe(s) will meet and develop a Cultural Resources Monitoring Plan ("CRMP") for the treatment and mitigation of Native American cultural resources discovered during Project development. Treatment of the newly discovered resource(s) will be consistent with the terms and provisions of the CRMP, and may be amended by the parties as agreed upon. Prior to its finalization, the Project Archaeologist will circulate the draft CRMP to the City Planner and any tribe(s) requesting monitoring of the Project for review and comment. The final document will include information provided by the tribe(s) concerning tribal methods and practices and other appropriate issues that may be relevant to culturally appropriate treatment of the resources. The involved parties will make good-faith efforts to incorporate the Tribe's comments. The City Planner will have final review and approval authority for the CRMP. If there are disagreements with the approval, a Project Issue Resolution (PIR) meeting will be facilitated. All parties are required to withhold public disclosure of information related to the treatment and mitigation of cultural resource(s) pursuant to the specific exemption set forth in CGC para. 6254(r).



The CRMP will include/address each of the following:

- a) The parties entering into the CRMP, and their contact information.
- b) The Project schedule including the frequency and location of monitoring of earthwork and ground disturbing activities and details regarding what types of construction-related activities will require monitoring.

CUL-3 Should any subsurface cultural resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection shall be performed immediately by a qualified archaeologist. Responsibility for making this determination shall be with the City's onsite inspector. The archaeological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act. Measures in accordance with CUL-1 and CUL-2 shall be followed if the accidentally exposed cultural material is also a Tribal Cultural Resource.

CUL-4 On-Site Preservation/Reburial Location for Sensitive Native American Resources. All Native American sensitive resources including, without limitation, ceremonial items, sacred items, and grave goods as those same are identified by the tribe(s) during Project earthwork and ground-disturbing activities, will be reburied on the Project property. At least thirty (30) days prior to submittal of final grading plans to the City, the Project Applicant, Project Archaeologist, City Planner, and the tribe(s) will meet to identify the location(s) for on-site reburial (the "Preservation Site(s)"). During the meeting, the group will develop a confidential exhibit depicting and describing the Preservation Site(s), which exhibit will be kept by the City Planner under confidential cover and not subject to a Public Records Act request.

The Preservation Site(s) will be located within the Project site development envelope of the Project, outside of any known and identified cultural resource sites. Prior to the issuance of the first building permit for the applicable tract or phase that includes a Preservation Site location, the Project Applicant will record a restrictive covenant over the Preservation Site with the intent to ensure the site remains in an undisturbed state in perpetuity.

Any Preservation Site that includes relocated/reburied Native American cultural resources will be capped by first placing a layer of geomat fabric over the reburied resources, and then filling the site with clean, sterile soil and contouring the site to appear in a natural state. Once a Preservation Site has been filled and contoured, no earthwork or ground-disturbing activities or subsurface facilities will be permitted in the Preservation Site, with the exception of those activities and requirements that may be required pursuant to the Fire Protection Technical Report.

### **Geology and Soils**

GEO-1 Based upon the geotechnical investigation (Appendix 7a of this document), all of the recommended seismic design parameters identified in Appendix 7a (listed on Pages 12-13) shall be implemented by the Applicant. Implementation of these specific measures will address all of the identified geotechnical constraints identified at project site, including seismic soil stability on future project-related structures.

GEO-2 Stored backfill material shall be covered with water resistant material during periods of heavy precipitation to reduce the potential for rainfall erosion of stored backfill material. Where covering is not possible, measures such as the use of straw bales or sand bags shall be used to capture and hold eroded material on the project site for future cleanup such that erosion does not occur.

GEO-3 All exposed, disturbed soil (trenches, stored backfill, etc.) shall be sprayed with water or soil binders twice a day, or more frequently if fugitive dust is observed migrating from the site within which the Murrieta Whitewood Condos and Apartments are being constructed.

- GEO-4 Based upon the geotechnical investigation (Appendix 7a of this document), all of the recommended design and construction measures identified in Appendix 7a (listed on Pages 13-20) shall be implemented by the Applicant. Implementation of these specific measures will address all of the identified geotechnical constraints identified at project site, including soil stability on future project-related structures.
- GEO-5 Should any paleontological resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection should be performed immediately by a qualified paleontologist. Responsibility for making this determination shall be with City's onsite inspector. The paleontological professional shall assess the find, determine its significance, and determine appropriate mitigation measures within the guidelines of the California Environmental Quality Act that shall be implemented to minimize any impacts to a paleontological resource.

### **Hazards and Hazardous Materials**

- HAZ-1 All spills or leakage of petroleum products during construction activities will be remediated in compliance with applicable state and local regulations regarding cleanup and disposal of the contaminant released. The contaminated waste will be collected and disposed of at an appropriately licensed disposal or treatment facility. This measure will be incorporated into the SWPPP prepared for the project development.

### **Hydrology and Water Quality**

- HYD-1 The project proponent will select best management practices from the range of practices identified by the City and reduce future non-point source pollution in surface water runoff discharges from the site to the maximum extent practicable, both during construction and following development. The Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP) shall be submitted to the City for review and approval prior to ground disturbance and the identified BMPs installed in accordance with schedules contained in these documents.

### **Noise**

- NOI-1 An 8-foot-high noise barrier shall be erected along the northern side of the swimming pool as shown on Exhibit ES-A (source: NIA) titled Figure XIII-2 as part of the Initial Study. The noise barrier shall be constructed of material with a minimum weight of 4 pounds per square foot with no gaps or perforations. This can be accomplished with a solid block wall that meets this design requirement or a combination of a low berm with a short wall that meets the 8-foot high noise barrier requirement.
- NOI-2 All windows and entry doors facing Clinton Keith Road shall have the following minimum Sound Transmission Class (STC) ratings:
- condominium building number 2 should have a minimum STC of 26;
  - condominium buildings 3 and 4 should have a minimum STC of 27;
  - condominium building 5 should have a minimum STC of 28;
  - on condominium building 6 should have a minimum STC of 31.

### **Transportation**

- TRAN-1 The Project Applicant shall pay its fair share to the City of Murrieta towards the Clinton Keith roadway segment between Warm Springs and Whitewood by restriping Clinton Keith to accommodate a 3<sup>rd</sup> eastbound through lane thereby completing the 6-lane ultimate cross-section: FAIR SHARE: 13.9%



**Wildfire**

- WF-1 Fire apparatus access roads (i.e., public and private streets) will be provided throughout the development, and will provide at least the minimum required unobstructed travel lanes, lengths, turnarounds, and clearances required by applicable codes. Primary access and internal circulation will comply with the requirements of the MFRD.
- WF-2 The Applicant shall require that contractors prepare a construction traffic control plan. Elements of the plan should include, but are not necessarily limited to, the following:
- Develop circulation and detour plans, if necessary, to minimize impacts to local street circulation. Use haul routes minimizing truck traffic on local roadways to the extent possible.
  - To the extent feasible, and as needed to avoid adverse impacts on traffic flow, schedule truck trips outside of peak morning and evening commute hours.
  - Install traffic control devices as specified in Caltrans' Manual of Traffic Controls for Construction and Maintenance Work Zones where needed to maintain safe driving conditions. Use flaggers and/or signage to safely direct traffic through construction work zones.
  - For roadways requiring lane closures that would result in a single open lane, maintain alternate one-way traffic flow and utilize flagger-controls.
  - Coordinate with facility owners or administrators of sensitive land uses such as police and fire stations, hospitals, and schools. Provide advance notification to the facility owner or operator of the timing, location, and duration of construction activities.
- WF-3 Project buildings shall be constructed of ignition resistant construction materials and include automatic fire sprinkler systems based on the latest adopted Building and Fire Codes for occupancy types.
- WF-4 Fuel Modification shall be provided as needed around the perimeter of the site, as required by MFRD and shall be 100 feet wide or greater where needed. On-going maintenance will be managed by Owner's, Property Management Company, or another approved entity, at least annually or as needed.
- WF-5 Landscape plantings shall not utilize prohibited plants that have been found to be highly flammable as identified in the Fire Protection Plan.
- WF-6 Water capacity and delivery shall provide for a reliable water source for operations and during emergencies requiring extended fire flow.
- WF-7 The Property Owner's or Property Management Company, shall provide owners informational brochures at time of occupancy, which shall include an outreach and educational role to ensure fire safety measures detailed in the FPP have been implemented.

City of Murrieta  
Whitewood Condo / Apartment Project

**INITIAL STUDY**

## **REFERENCES**

Blue Engineering & Consulting, Inc., *"County Project Specific Water Quality Management Plan for Whitewood 29 Residential Development"* dated June 4, 2021

CRM TECH, *"Historical/Archaeological Resources Survey Report, Assessor's Parcel No. 900-030-036, City of Murrieta"* dated June 17, 2022

CRM TECH, *"Paleontological Resources Assessment Report, APN 900-030-036, City of Murrieta"* dated September 28, 2021

DUDEK, *"Fire Protection Plan, Whitewood Condo / Apartment Project, City of Murrieta"* dated June 2021

Earth Strata Geotechnical Services, Inc., *"Preliminary Geotechnical Interpretive Report, Proposed Commercial and Residential Development, APN 900-030-036..."* dated February 22, 2021

Jacobs, *"Biological Resources Assessment, Jurisdictional Delineation Report and MSHCP Consistency Analysis"* dated July 2021

LOR Geotechnical Group, Inc., *"Phase I Environmental Assessment, Proposed Multi-Family Residential Development, APN 900-030-036..."* dated May 18, 2021

Regional Conservation Authority (RCA), *"RCA Joint Project Review (JPR) #08-11-2501"* dated August 19, 2009

Nancy Sappington – Consulting Arborist, *"Arborist Assessment for Whitewood-29 in Murrieta"* dated April 2021

Urban Crossroads, *"Murrieta Apartments, Air Quality Impact Analysis, City of Murrieta"* dated August 11, 2021

Urban Crossroads, *"Murrieta Apartments, Energy Analysis, City of Murrieta"* dated August 10, 2021

Urban Crossroads, *"Murrieta Apartments, Greenhouse Gas Analysis, City of Murrieta"* dated August 19, 2021

Urban Crossroads, *"Murrieta Apartments, Noise Impact Analysis, City of Murrieta"* dated August 18, 2021

Urban Crossroads, *"Murrieta Residential Parking Evaluation"* dated July 21, 2021

Urban Crossroads, *"Murrieta Residential, Traffic Analysis, City of Murrieta"* dated April 14, 2022

Urban Crossroads, *"Murrieta Apartments Vehicle Miles Traveled (VMT) Analysis"* dated June 3, 2021

City of Murrieta Climate Action Plan

City of Murrieta General Plan 2035, 2011

City of Murrieta General Plan 2035 EIR, 2011

City of Murrieta Municipal Code

City of Murrieta  
Whitewood Condo / Apartment Project

**INITIAL STUDY**

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Websites Accessed:

<http://www.rcfva.com/Portals/0/French%20Valley%20MP%20Draft%20Final.pdf>

<https://gis.water.ca.gov/app/bp-dashboard/final/>

[https://scag.ca.gov/sites/main/files/file-attachments/murrieta\\_localprofile.pdf](https://scag.ca.gov/sites/main/files/file-attachments/murrieta_localprofile.pdf)

[https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial\\_demographics-and-growth-forecast.pdf?1606001579](https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial_demographics-and-growth-forecast.pdf?1606001579)

<http://www.scag.ca.gov/Documents/5thCyclePFinalRHNAplan.pdf>

<https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2256?siteID=2402>

<https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2245?siteID=2367>

<https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2245?siteID=2367>

**FIGURES**





FIGURE 1



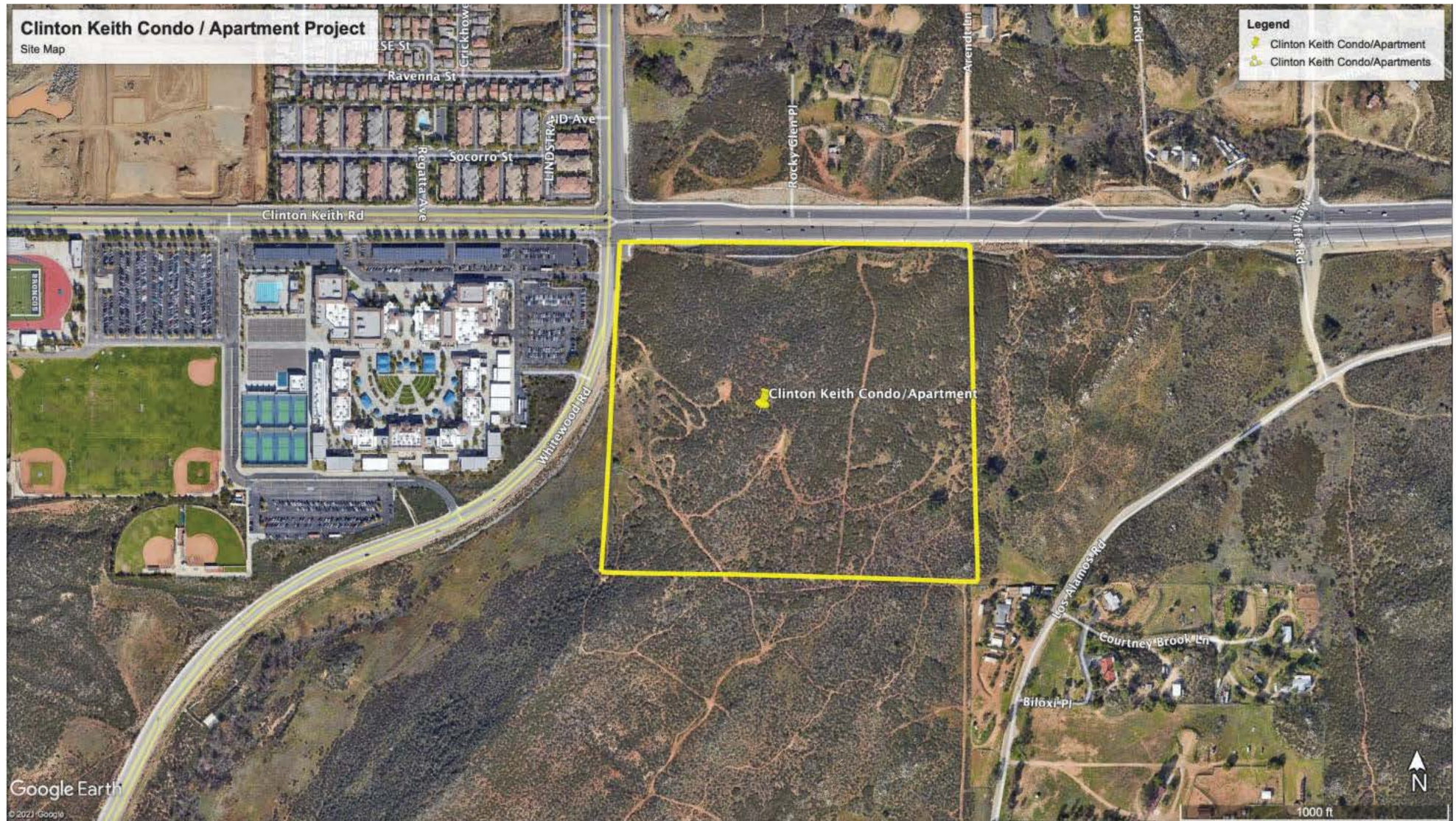
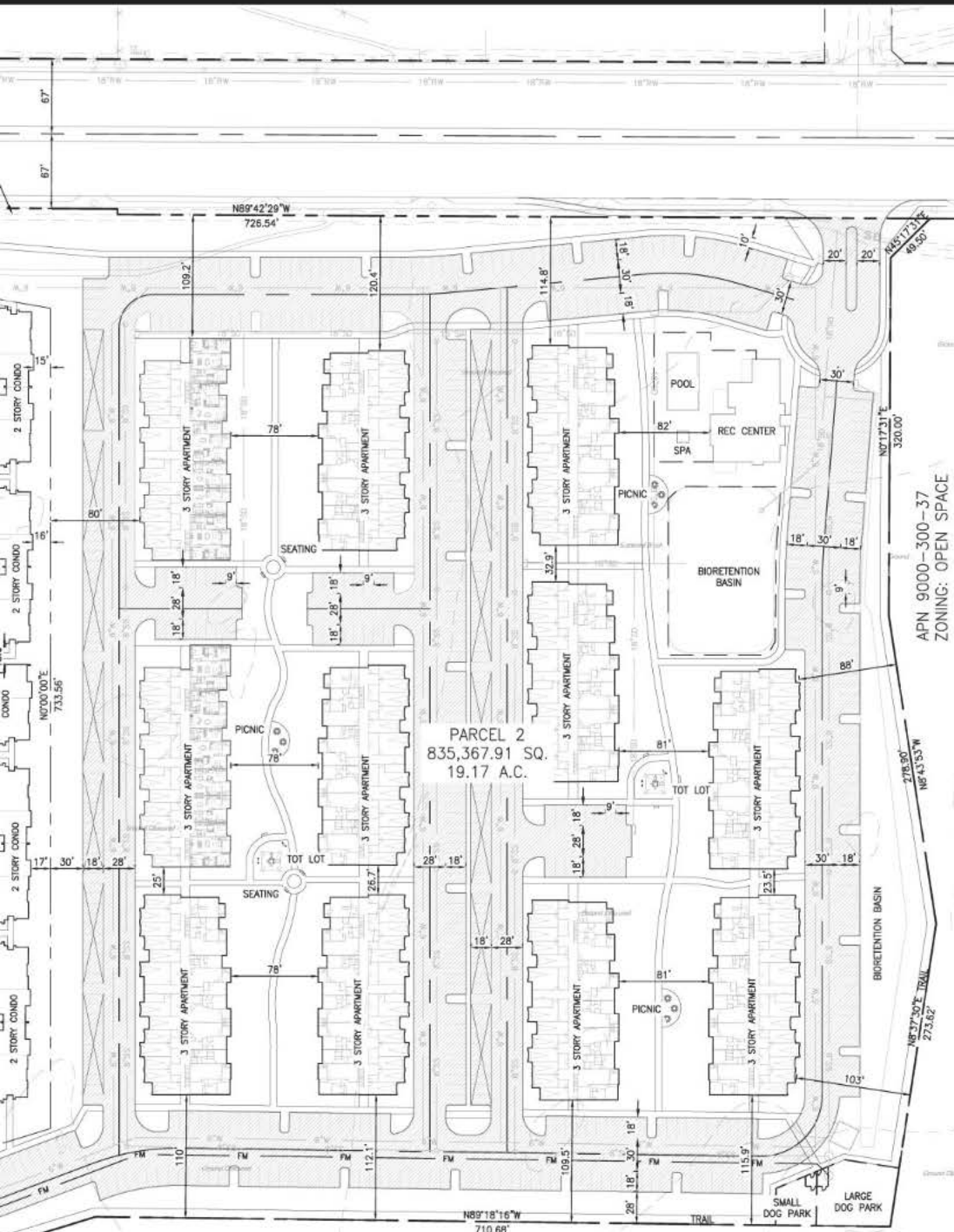


FIGURE 2





**APPLICANT**  
CORMAN LEIGH COMPANIES  
ATTN: DAN LEIGH  
32823 TEMECULA PARKWAY  
TEMECULA, CA 92592  
(951)232-3013

**OWNER/DEVELOPER**  
WHITEWOOD 29, LLC  
32823 TEMECULA PARKWAY  
TEMECULA, CA 92592

**CIVIL ENGINEER**  
BLUE ENGINEERING AND CONSULTING, INC  
ATTN: ANGEL CESAR, P.E.  
9320 BASELINE RD STE. D  
RANCHO CUCAMONGA, CA 91701

#### UTILITIES

##### SEWER

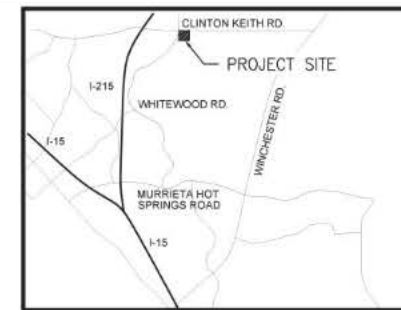
EASTERN MUNICIPAL WATER DISTRICT  
2270 TRUMBULE ROAD  
PERRIS, CA 92570  
(951)-928-3777

##### WATER

EASTERN MUNICIPAL WATER DISTRICT  
2270 TRUMBULE ROAD  
PERRIS, CA 92570  
(951)-928-3777

##### SCHOOL DISTRICT

MURRIETA VALLEY UNIFIED SCHOOL DISTRICT



VICINITY MAP  
N.T.S.

##### GAS COMPANY

SOUTHERN CALIFORNIA GAS CO.  
P.O. BOX 3150  
SAN DIMAS, CA 91773  
(800)-427-2200

##### ELECTRIC COMPANY

SOUTHERN CALIFORNIA EDISON  
26100 MENEFEE ROAD  
MENEFEE, CA 92588  
(800)-655-4555

##### TELEPHONE

VERIZON  
(800)-483-5000  
CABLE COMPANY  
TIME WARNER  
(888)-255-5789

#### APARTMENT UNITS DATA

UNITS	UNIT SF	# UNITS (BLDG 1)	# BLDG (BLDG 1)	# UNITS (BLDG 2)	# BLDG (BLDG 2)	TOTAL UNITS PER UNIT TYPE
STUDIO	486	3	9	0	2	27
1 BR	743	12	9	12	2	132
2 BR (GROUPED)	963	7	9	7	2	77
2 BR (SPLIT)	1,063	5	9	5	2	55
3 BR	1,307	3	9	6	2	39
<b>TOTAL UNITS</b>		<b>30</b>		<b>30</b>		<b>330</b>

#### APARTMENT FLOOR AREAS

BUILDING 1	PER FLOOR TOTAL UNIT SF	PER FLOOR GROSS SF	BUILDING 2	PER FLOOR TOTAL UNIT SF	PER FLOOR GROSS SF
1 <sup>ST</sup> FLOOR	5,304	13,246	1 <sup>ST</sup> FLOOR	6,142	14,124
2 <sup>ND</sup> FLOOR	10,643	13,246	2 <sup>ND</sup> FLOOR	11,482	14,124
3 <sup>RD</sup> FLOOR	10,643	13,100	3 <sup>RD</sup> FLOOR	11,482	13,978
<b>BUILDING 1 TOTAL</b>	<b>26,590 (Units)</b>	<b>39,592 (Gross)</b>	<b>BUILDING 2 TOTAL</b>	<b>28,106 (Units)</b>	<b>42,226 (Gross)</b>

#### CONDOMINIUM FLOOR AREAS

UNITS	UNIT SF	# UNITS
2 BR/2 BA	1,543	51
3 BR/2.5 BA	1,551	51
4 BR/3 BA	1,968	51
<b>TOTAL UNITS</b>		<b>153</b>

#### CONDOMINIUM FLOOR AREAS (6-PLEX)

1 <sup>ST</sup> FLOOR	3,860 SF
2 <sup>ND</sup> FLOOR	6,502 SF

#### CONDOMINIUM FLOOR AREAS (3-PLEX)

1 <sup>ST</sup> FLOOR	1,930 SF
2 <sup>ND</sup> FLOOR	3,251 SF

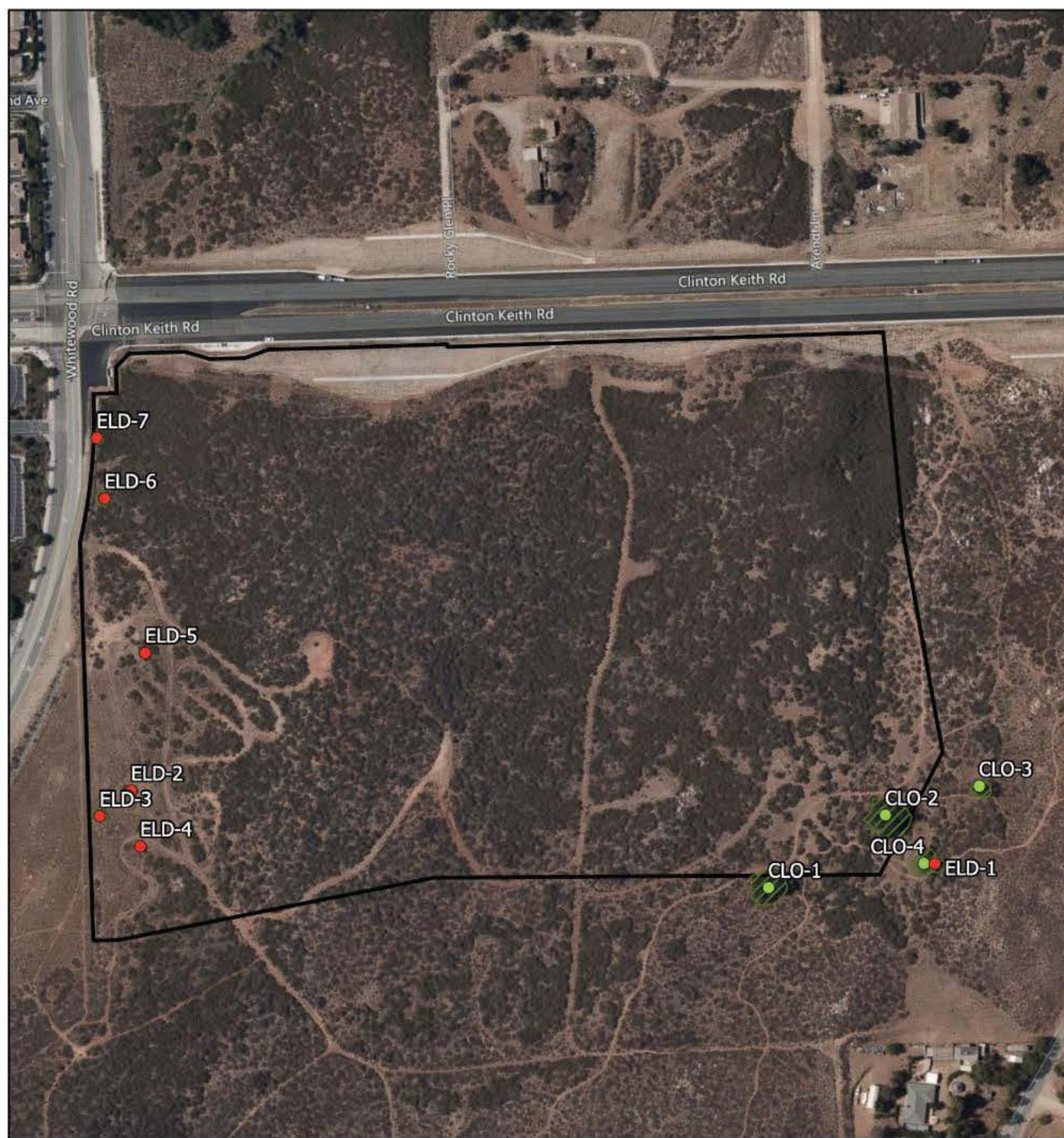
#### APARTMENT PARKING CALCULATIONS:

PARKING PER MMC SECTION 16.34.040					
UNIT	DUs	RATIO	PARKING REQUIREMENTS	PARKING PROVIDED	
STUDIO	27	1.5	41		
1 BR	132	1.5	198		
2 BR	132	2.0	264		
3 BR	39	2.5	98		
GUEST PARKING (25%)			83		
<b>TOTAL</b>			<b>684</b>		
ENCLOSED GARAGE REQUIRED			330		
<b>TOTAL</b>				<b>OPEN</b>	<b>GARAGE COVERED TOTAL</b>
				504	143 140 787
ADA PARKING (2%)					15
EV PARKING AND CHARGING (6%)					45

#### CONDOMINIUM PARKING CALCULATIONS:

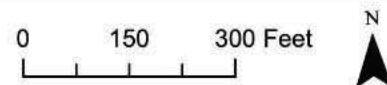
PARKING PER MMC SECTION 16.34.040					
UNIT	DUs	RATIO	PARKING REQUIREMENTS	PARKING PROVIDED	
2 BR	51	2.0	102		
3 BR	51	2.5	128		
4 BR	51	3.0	153		
GUEST PARKING (33%)			51		
<b>TOTAL</b>			<b>383</b>		
ENCLOSED GARAGE REQUIRED			153		
<b>TOTAL</b>				<b>OPEN</b>	<b>GARAGE (2/CONDO) TOTAL</b>
				44	306 350
ADA PARKING (2%)					8
EV PARKING AND CHARGING (6%)					23





Source: BING Aerial Basemap 2021

Clinton Keith Development Project



Project Site (32-acres)

### Tree

- Coast Live Oak (*Quercus agrifolia*)
- Blue Elderberry (*Sambucus nigra* ssp. *caerulea*)
- ▨ Canopy





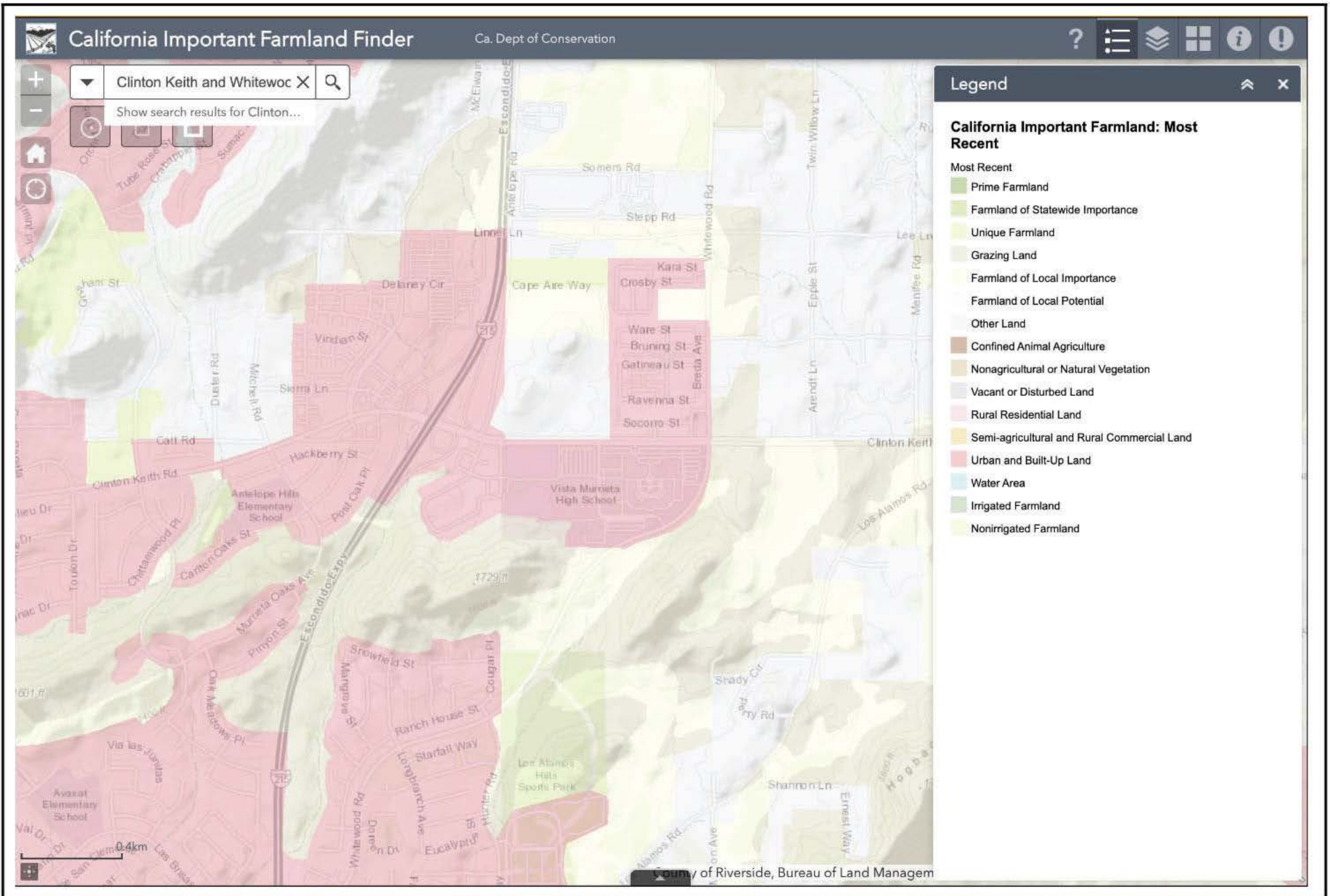
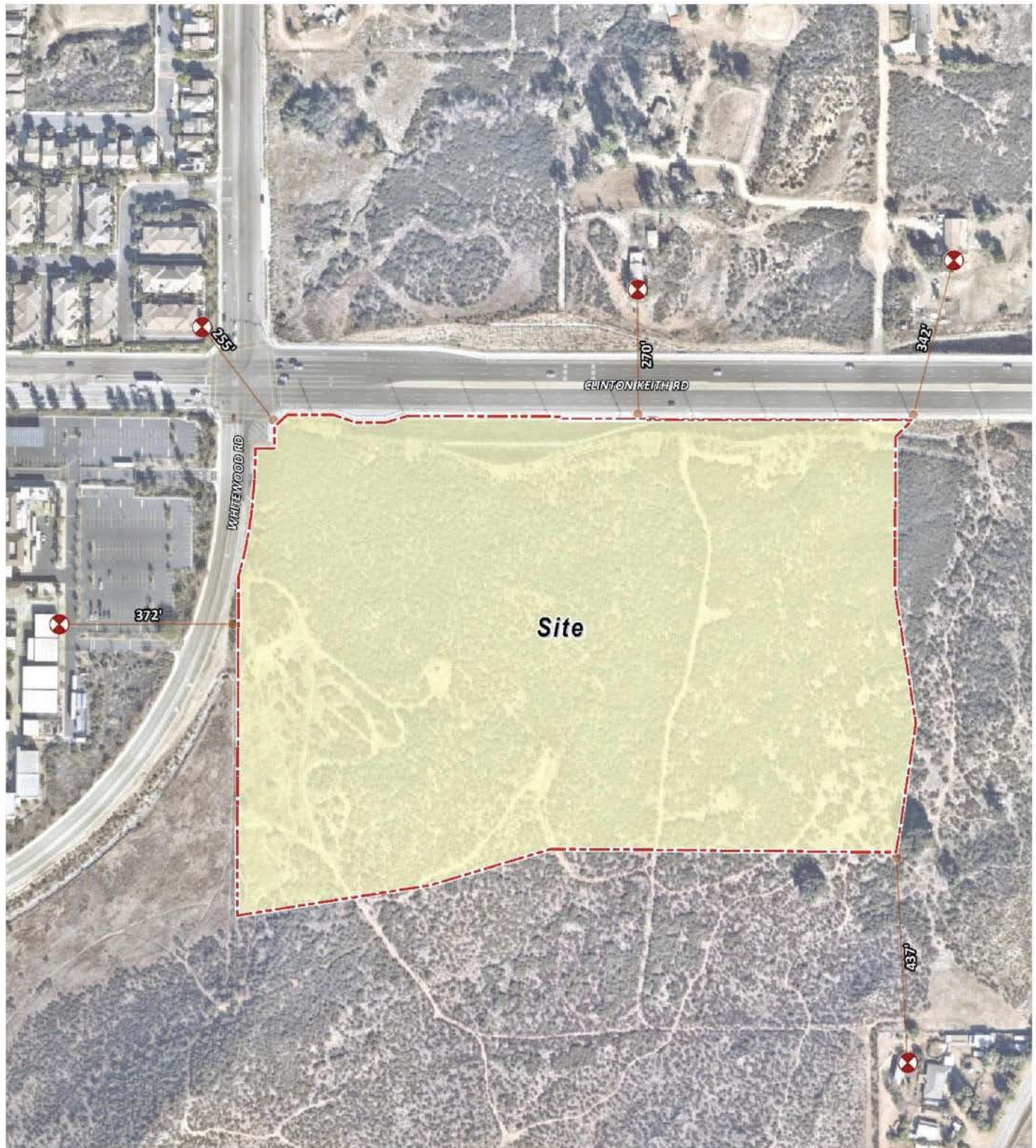


FIGURE II-1



**LEGEND:**

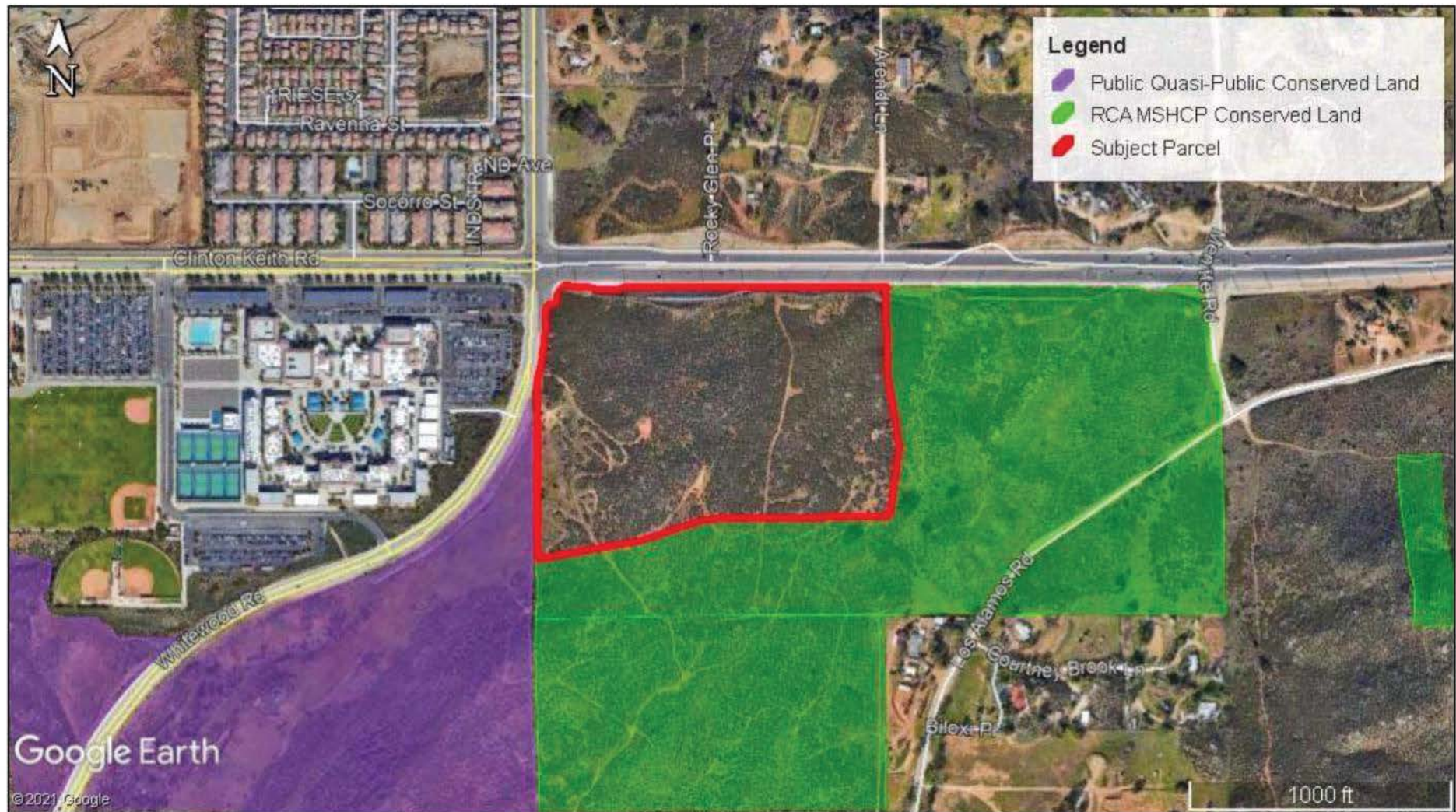
Receptor Locations



Distance from receptor to Project site boundary (in feet)

**FIGURE III-1****511**



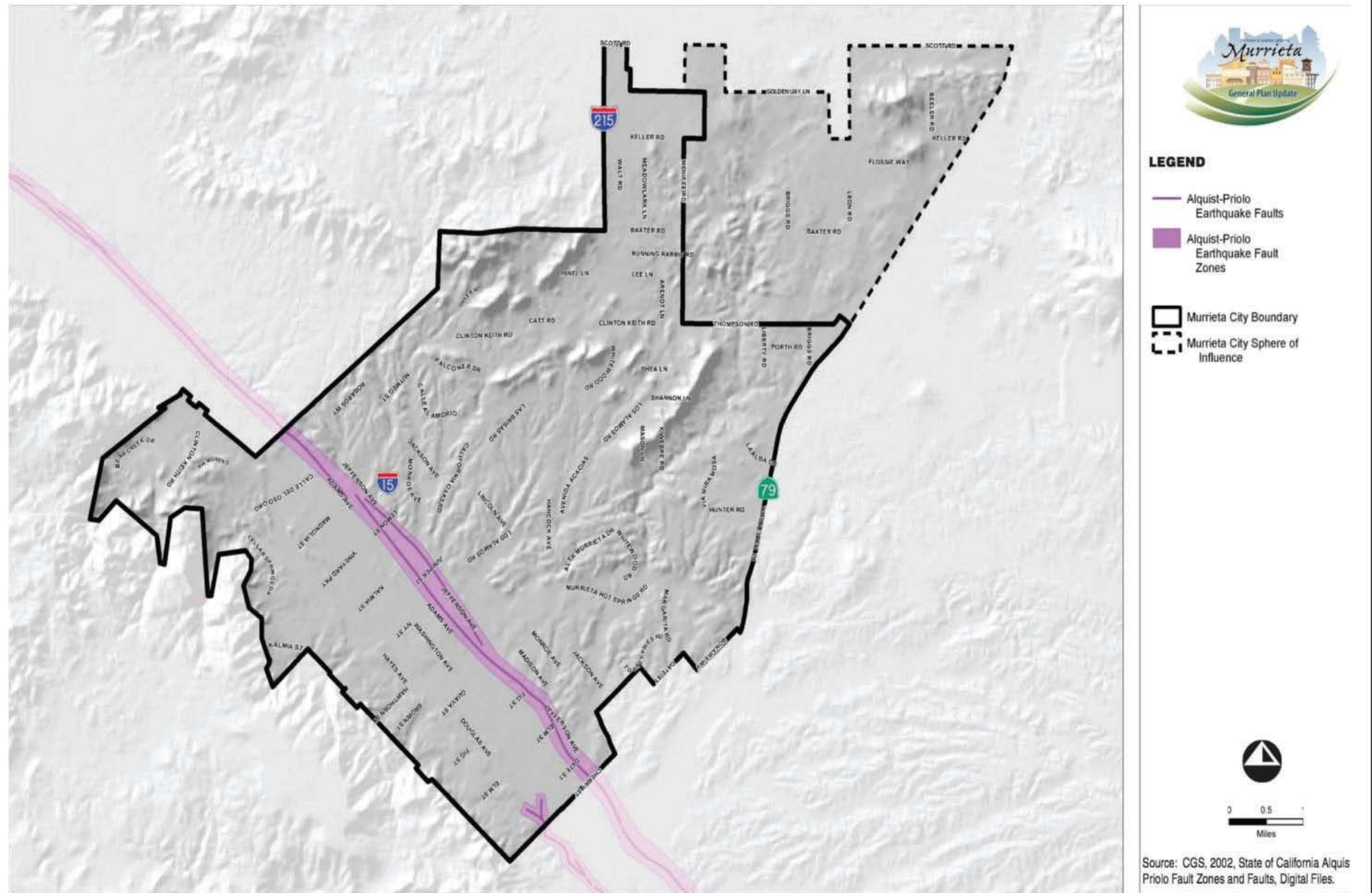


SOURCE: Google Earth and Western Riverside County Regional Conservation Authority's GIS Data

SOURCE: Jacobs Engineering Group, Inc.

FIGURE IV-1

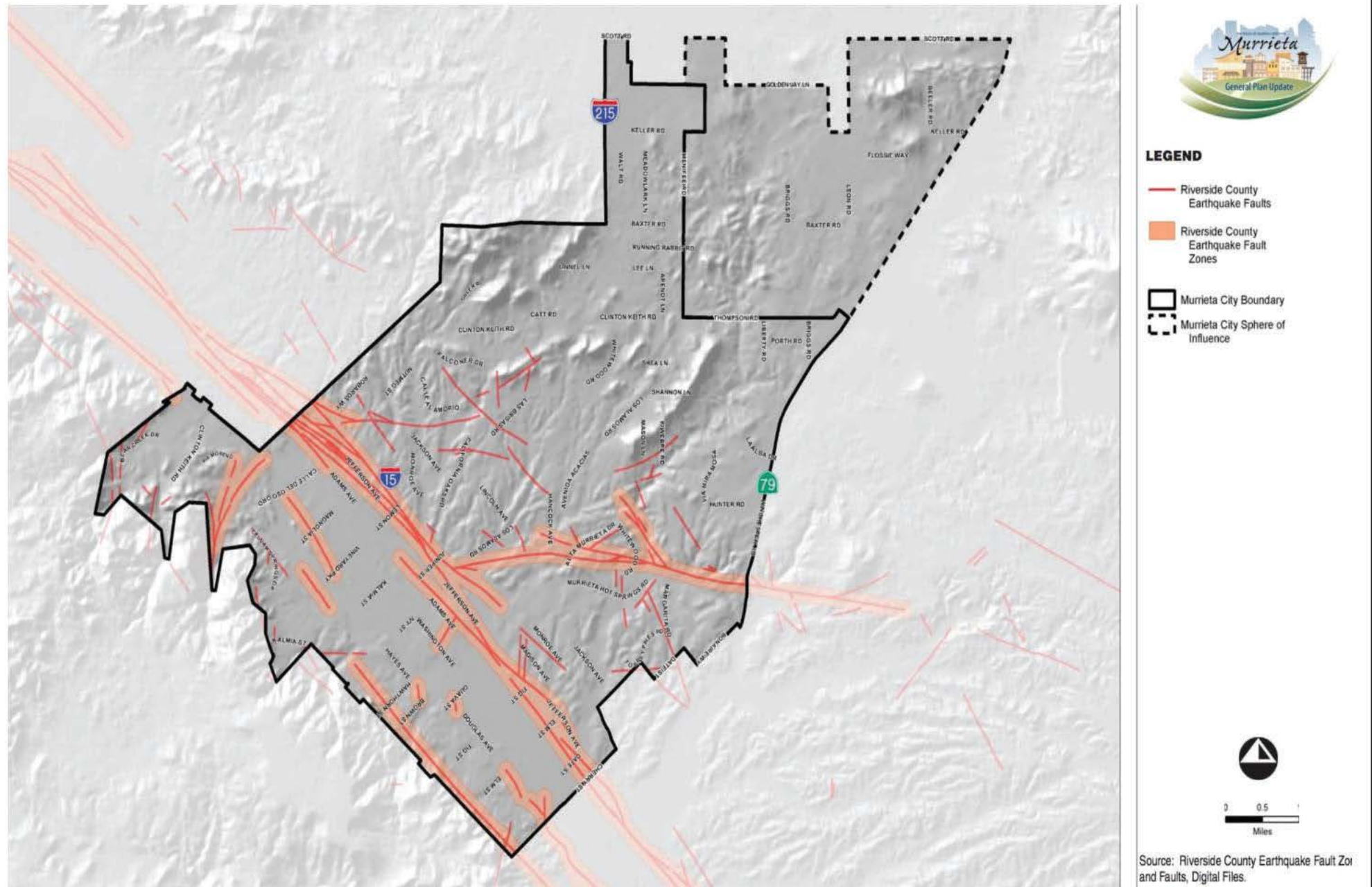




SOURCE: Murrieta General Plan Safety Element

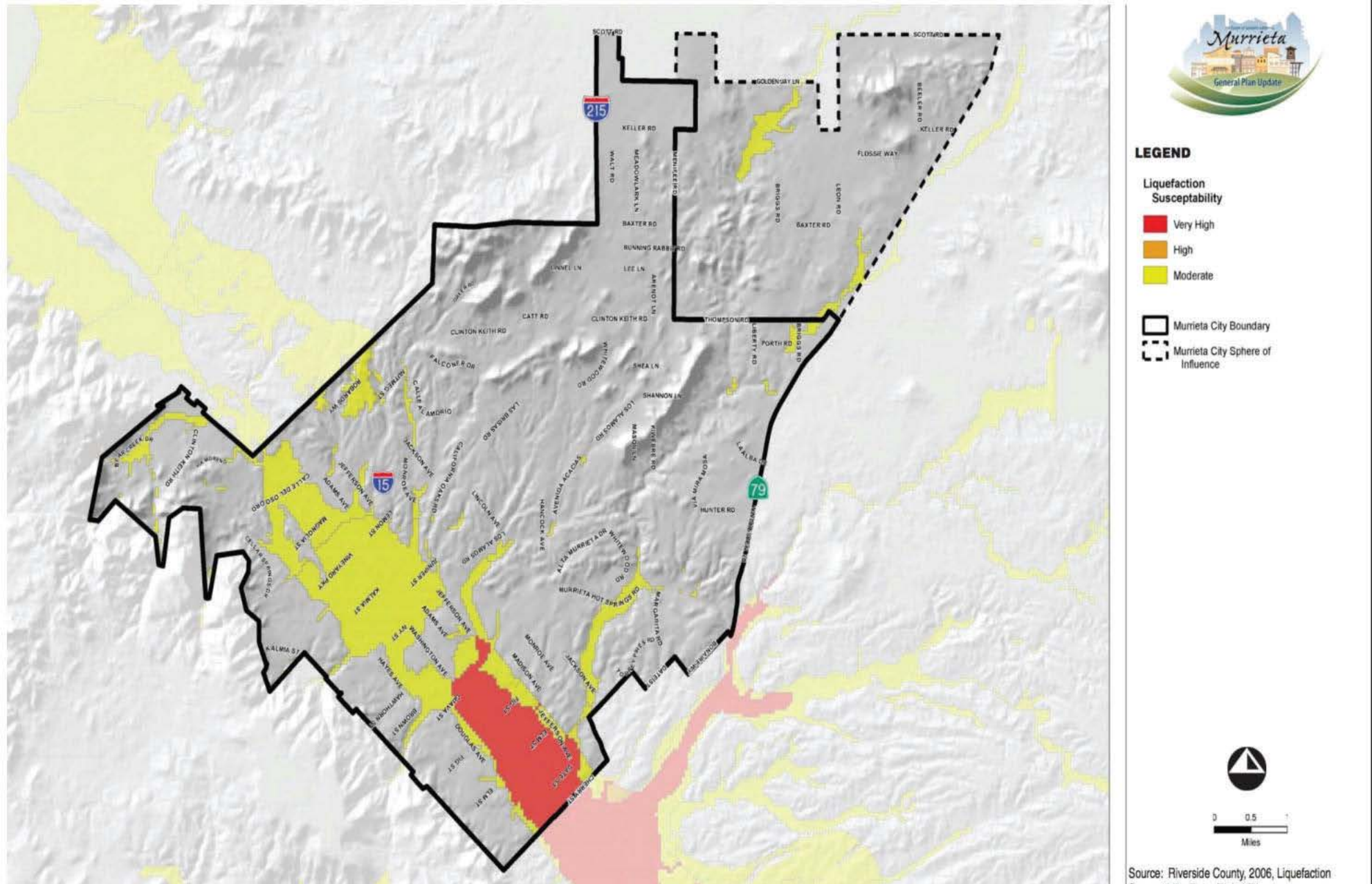
FIGURE VII-1





SOURCE: Murrieta General Plan Safety Element

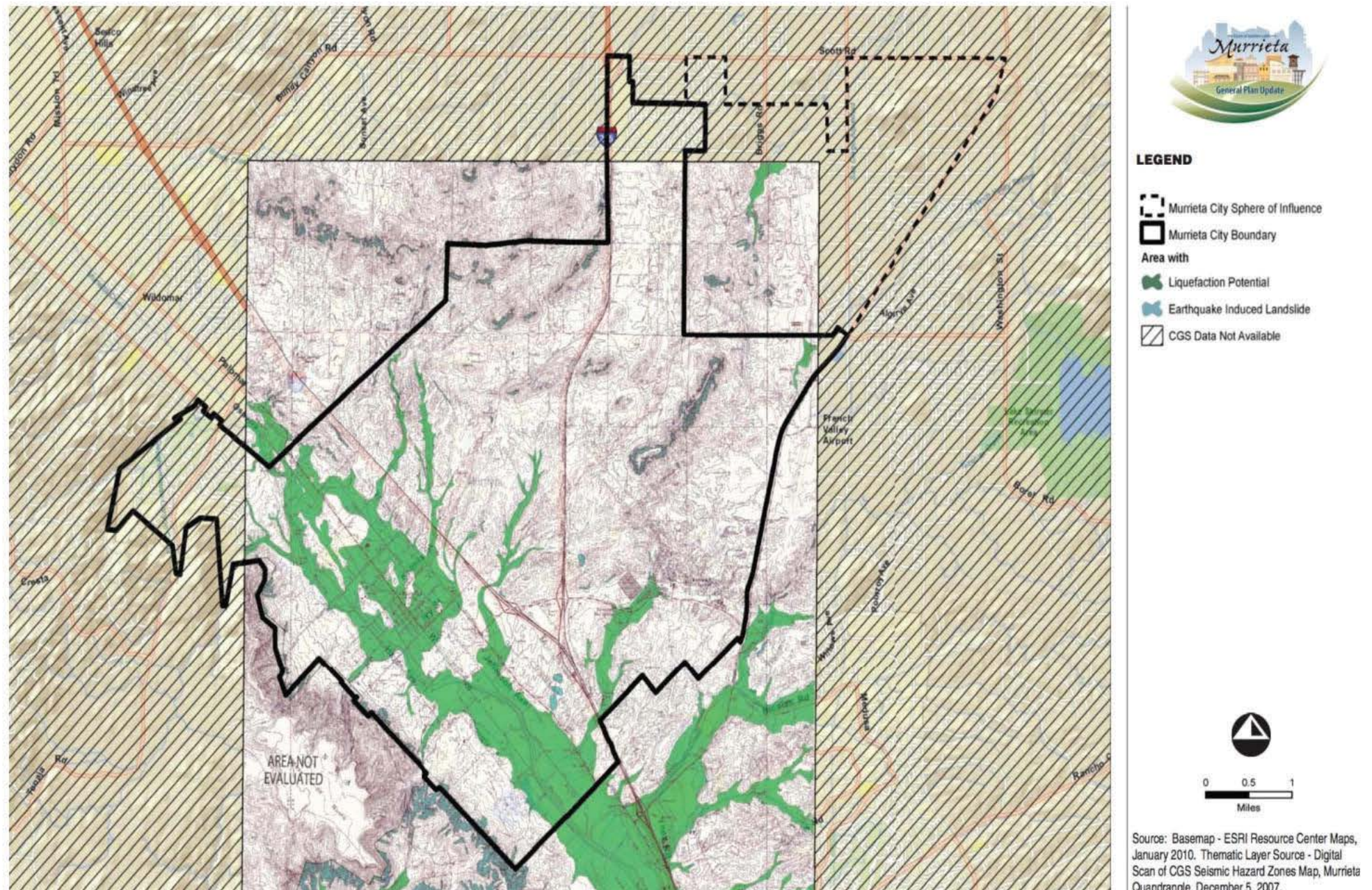
FIGURE VII-2



SOURCE: Murrieta General Plan Safety Element

FIGURE VII-3

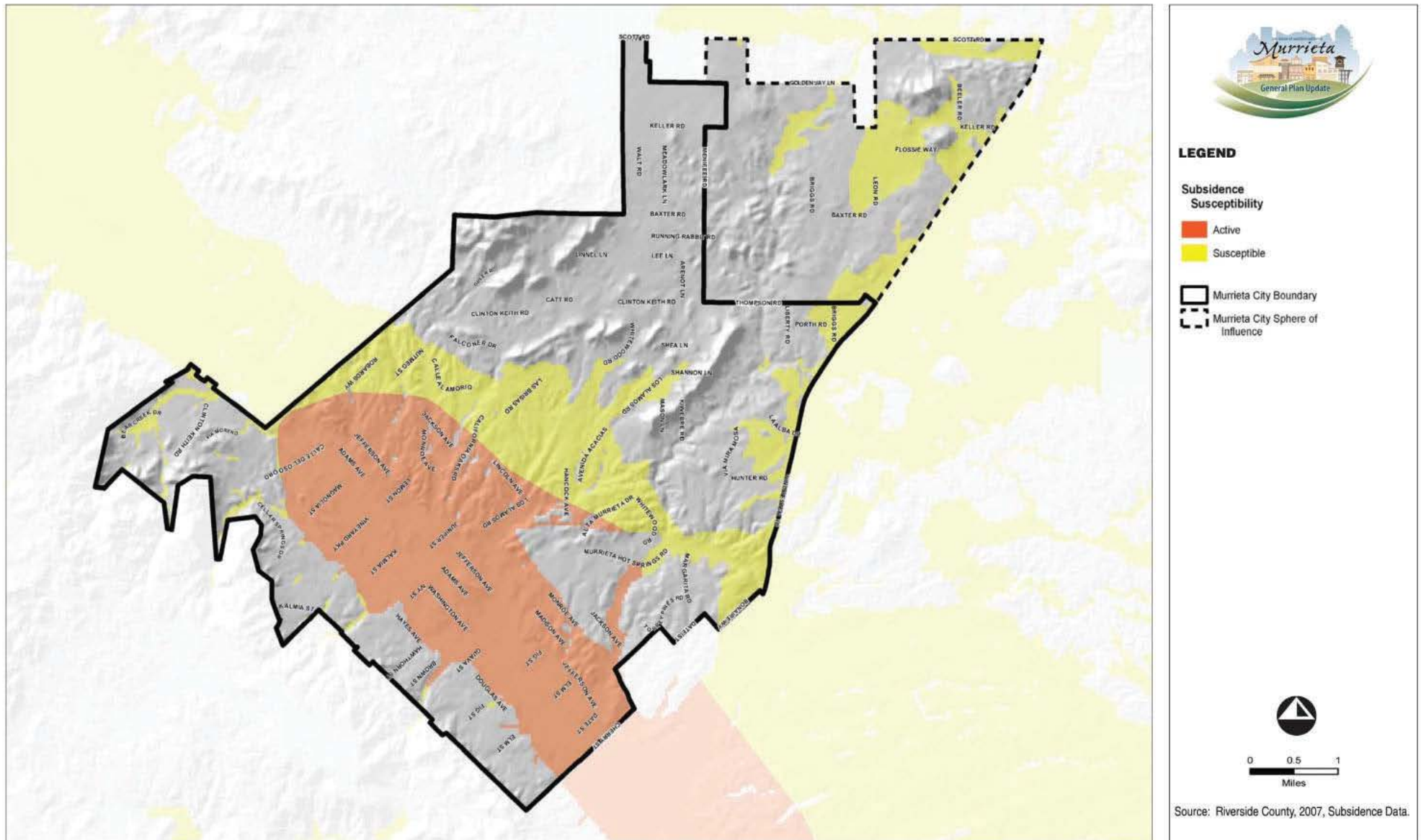




SOURCE: Murrieta General Plan Safety Element

FIGURE VII-4

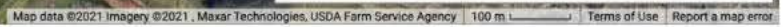




SOURCE: Murrieta General Plan Safety Element

FIGURE VII-5





GeoTracker 518



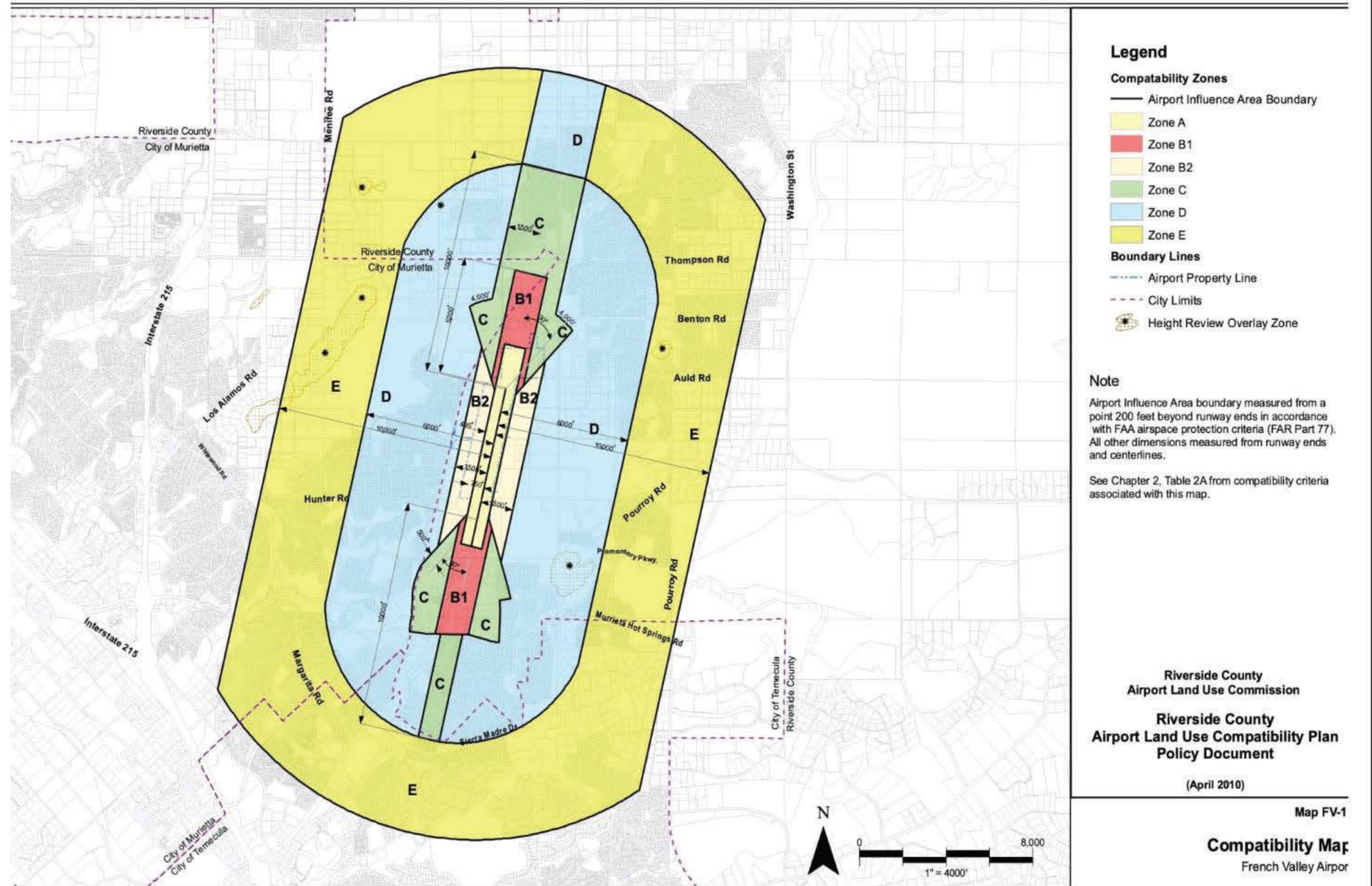


FIGURE IX-2



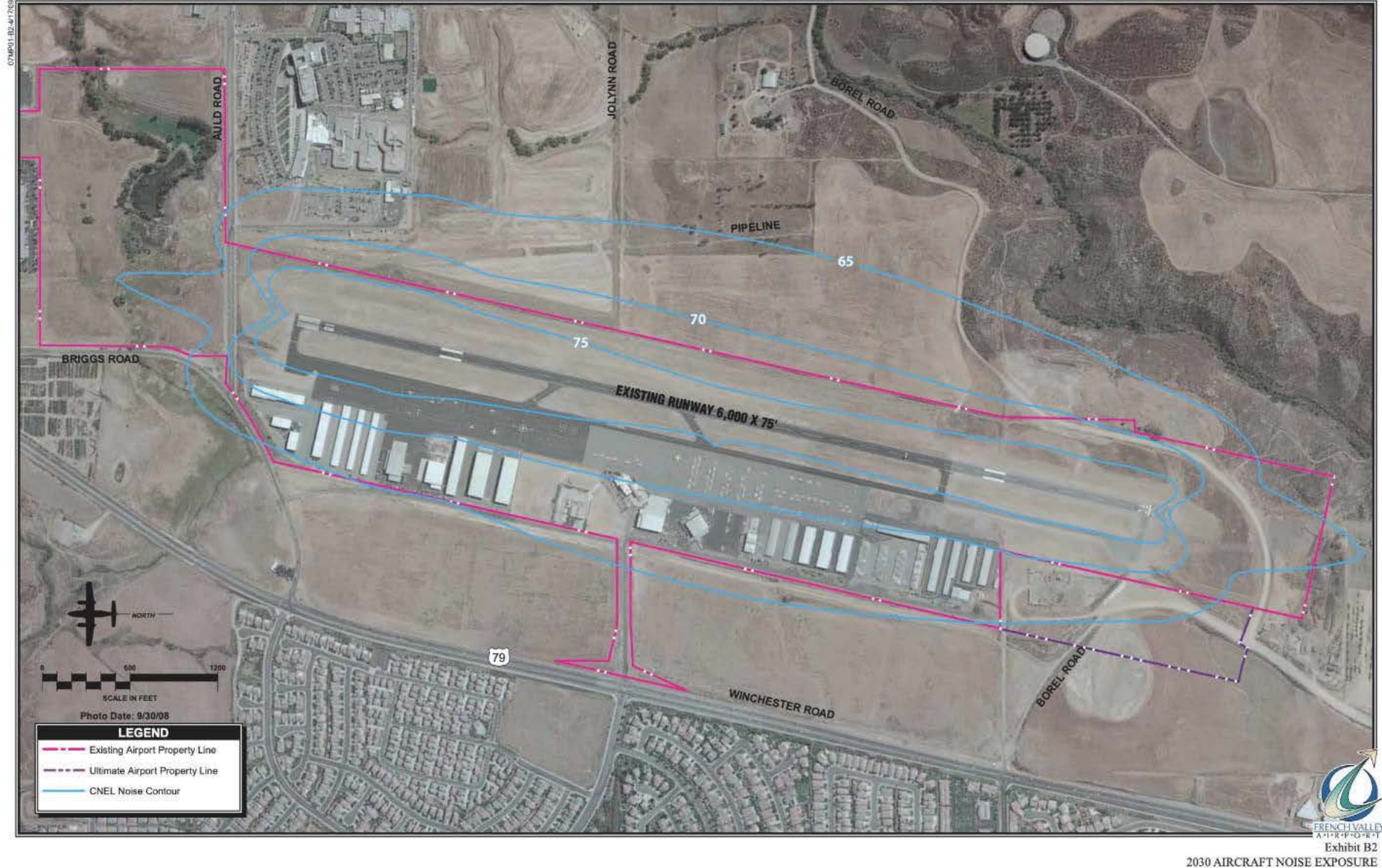
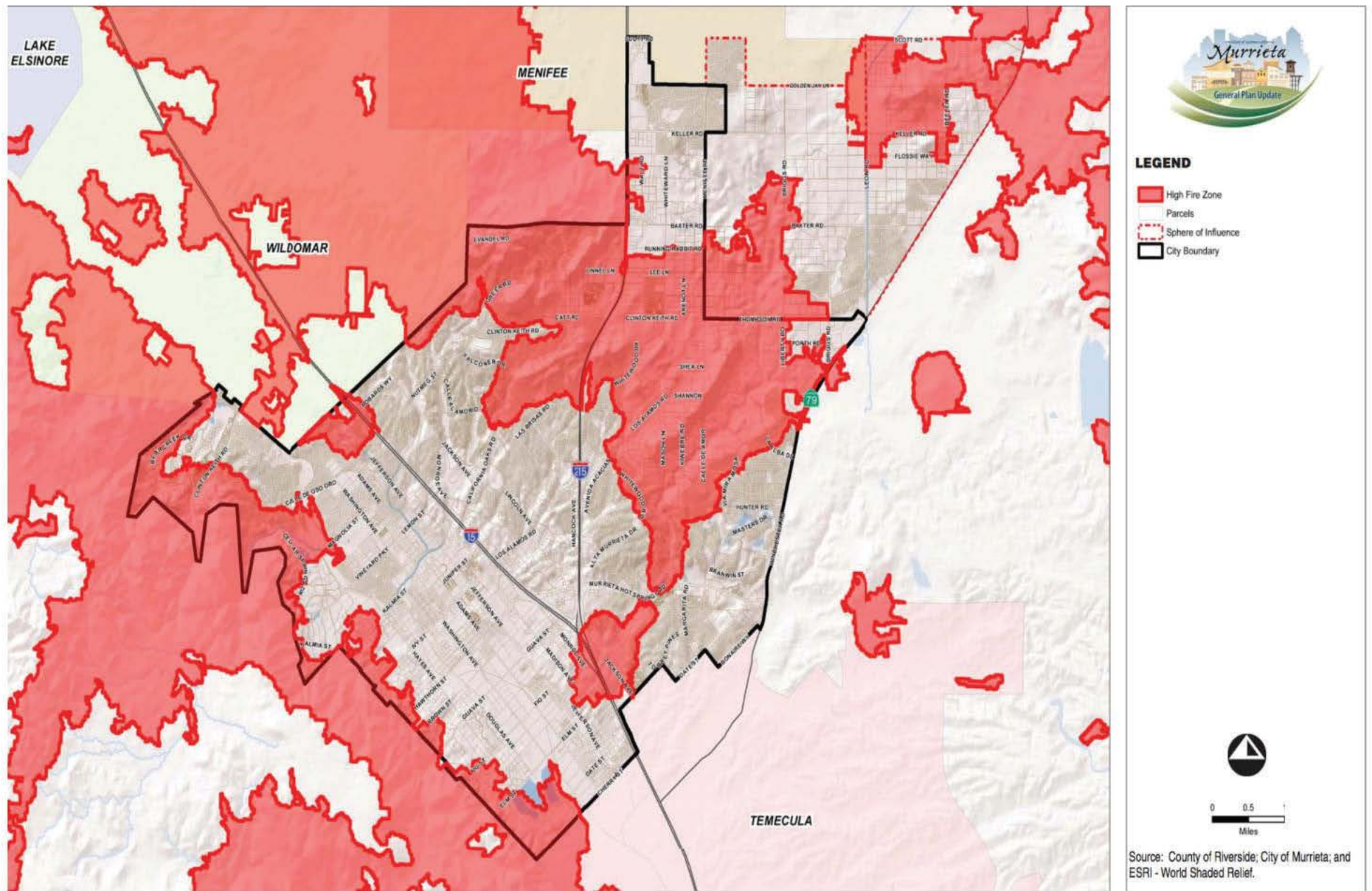


FIGURE IX-3



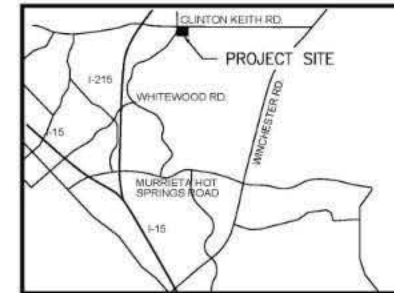


SOURCE: Murrieta General Plan Safety Element

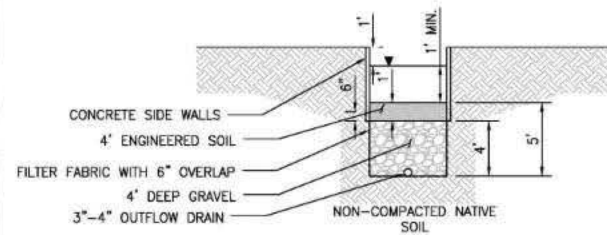
FIGURE IX-4



# QUALITY MANAGEMENT PLAN EXHIBIT



VICINITY MAP  
N.T.S.



TYPICAL BIORETENTION SECTION

SCALE:  
N.T.S.

## LEGEND

- DRAINAGE MANAGEMENT AREA (DMA)
- SEWER MAIN
- DOMESTIC WATER
- STORM DRAIN
- CENTERLINE
- FLOW LINE
- MANHOLE
- CATCH BASIN
- LANDSCAPE
- DIRECTIONAL FLOW ARROW

## GRADING, DRAINAGE & UTILITY NOTES:

- PROPOSED CATCH BASIN
- PROPOSED 18" H.O.P.E. @ MIN 0.5% SLOPE, OUTLET TO BASIN

DATE PREPARED: MAY 2021



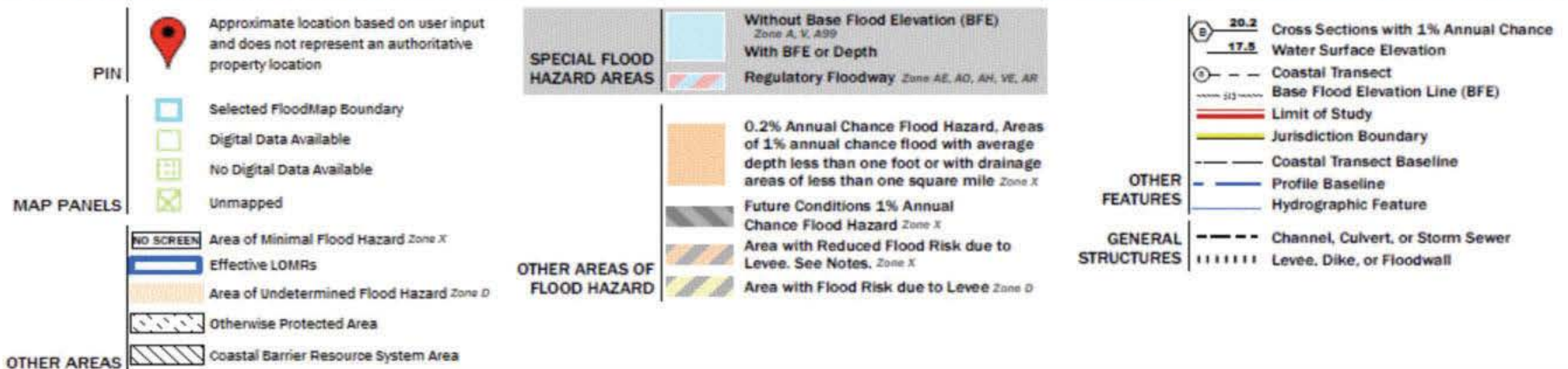
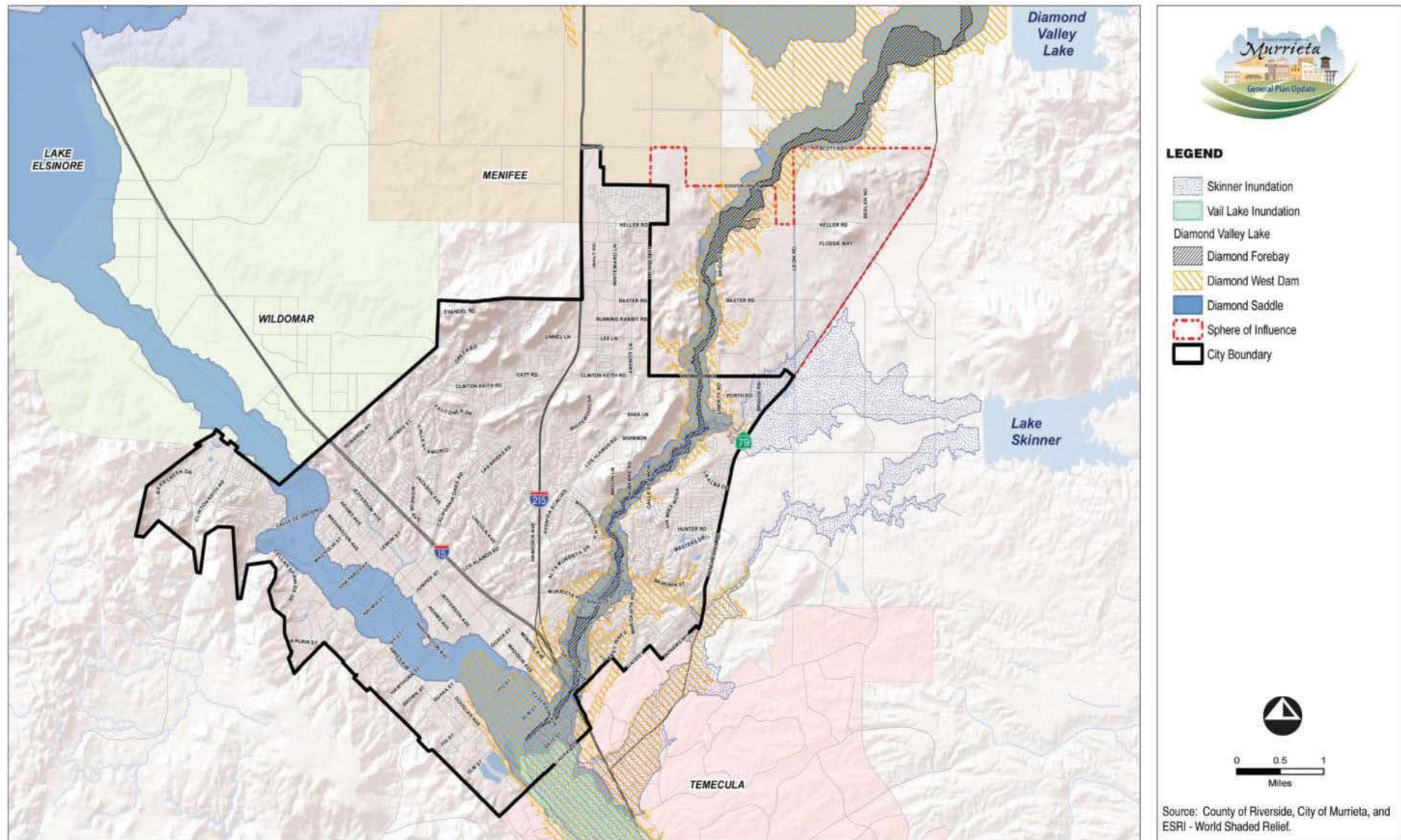


FIGURE X-2





SOURCE: Murrieta General Plan

FIGURE X-3



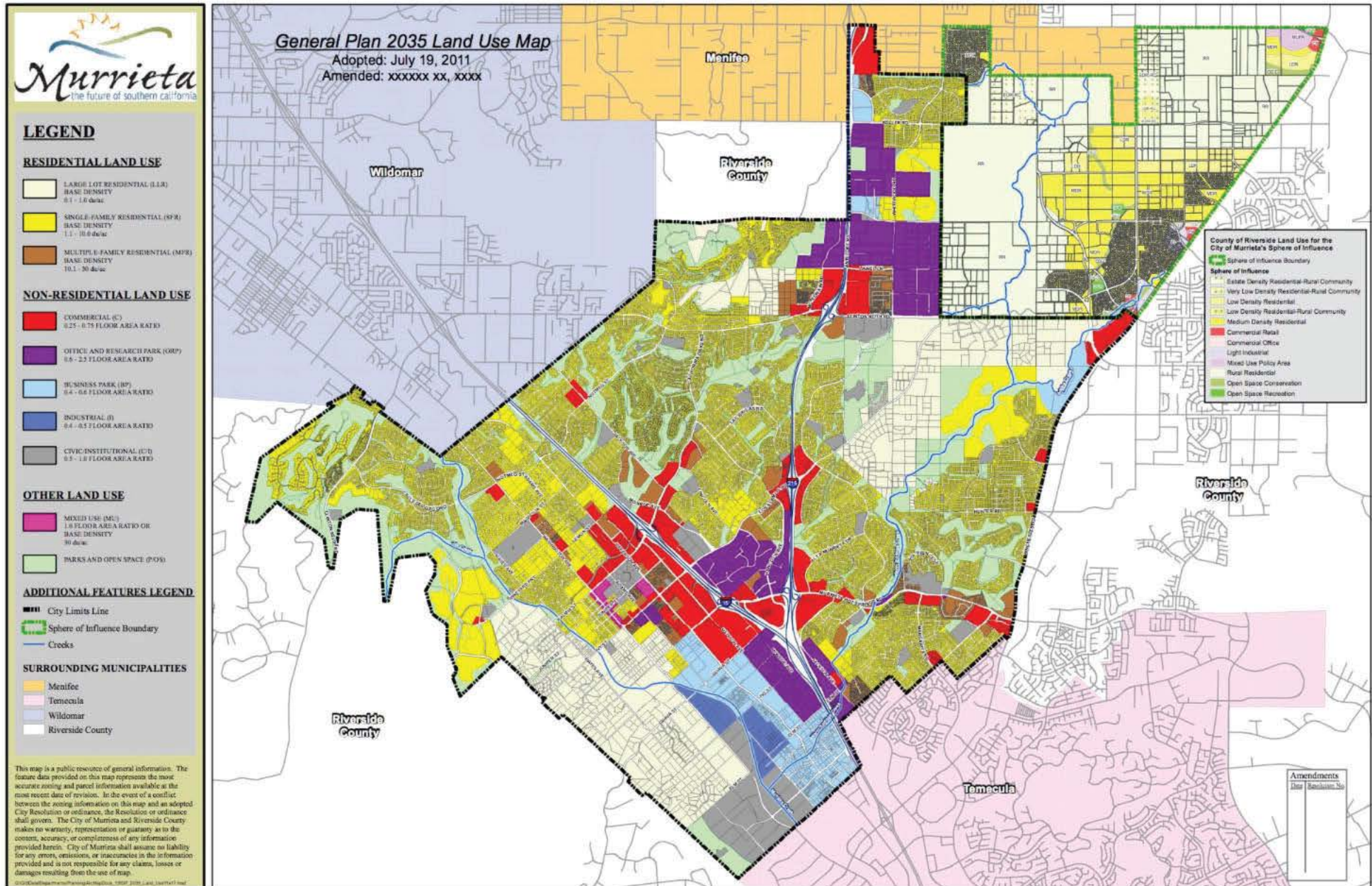


FIGURE XI-1







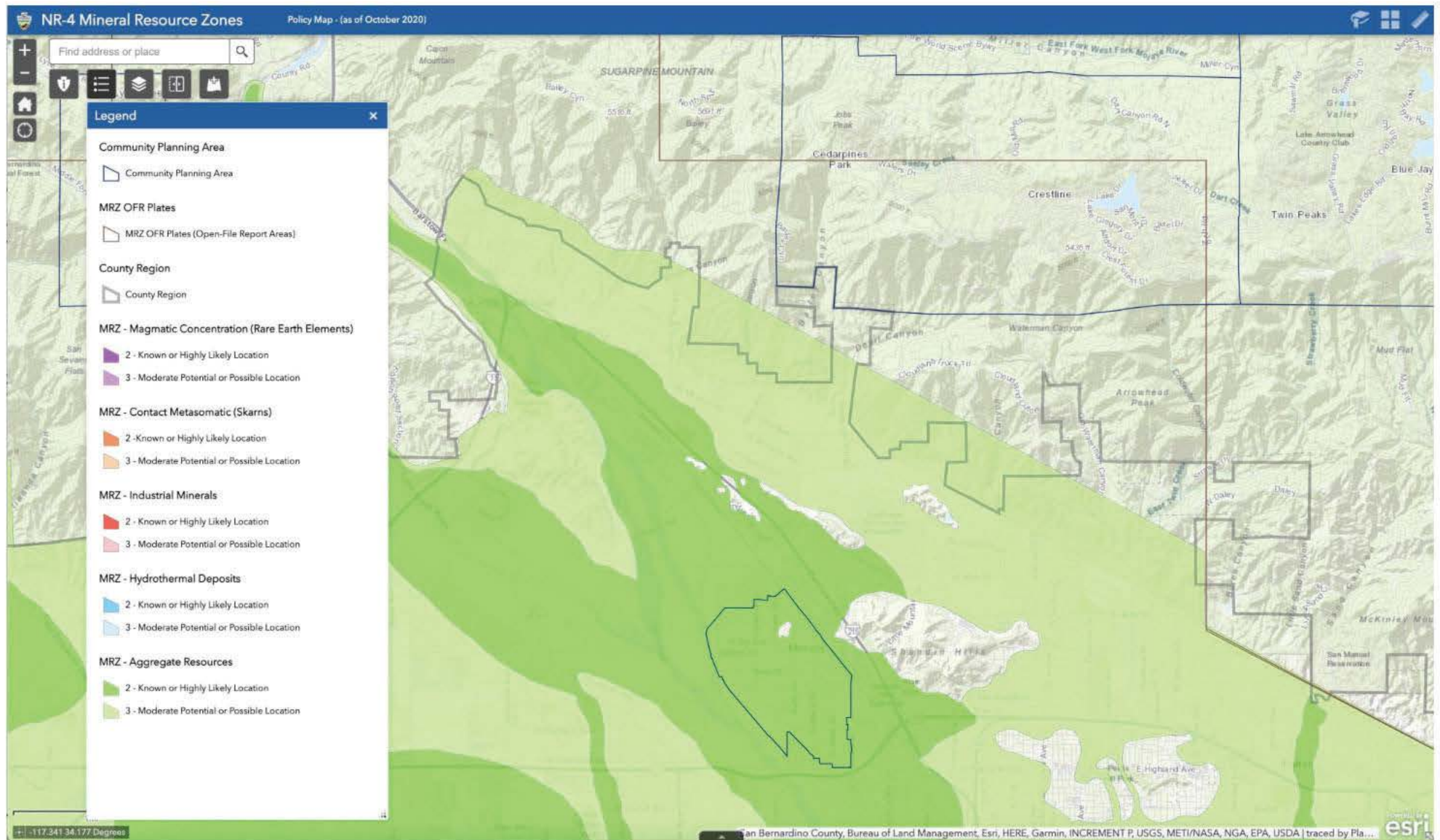


FIGURE XII-1

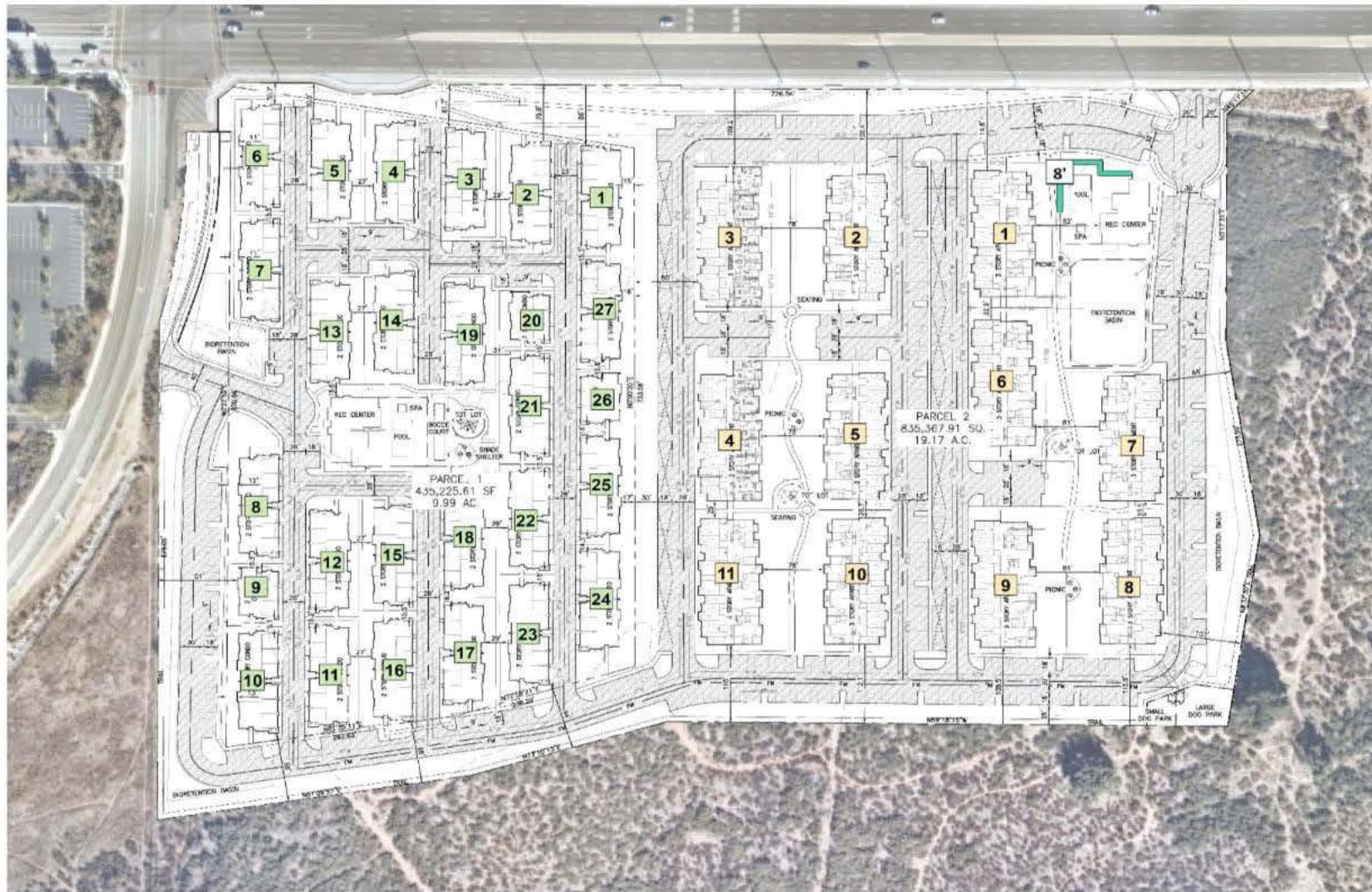




**LEGEND:**  
N  
▲ Measurement Locations

SOURCE: Urban Crossroads



**LEGEND:**

- Barrier
- Apartment
- Condominium

SOURCE: Urban Crossroads

**FIGURE XIII-2**





SOURCE: Urban Crossroads

FIGURE XIII-3



**LEGEND:**

● Receiver Locations

6' Existing Barrier Height (in feet)

— Distance from receiver to Project site boundary (in feet)


— Existing Barrier

SOURCE: Urban Crossroads



**LEGEND:**

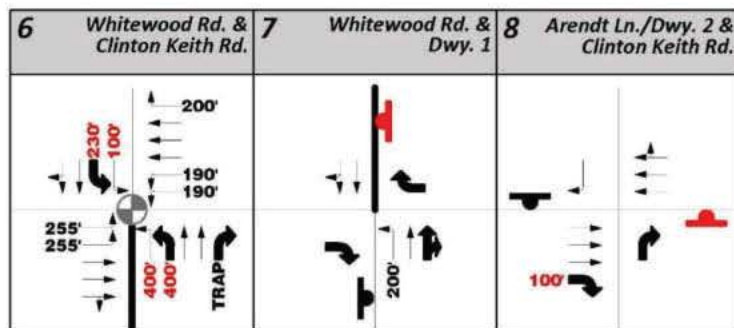
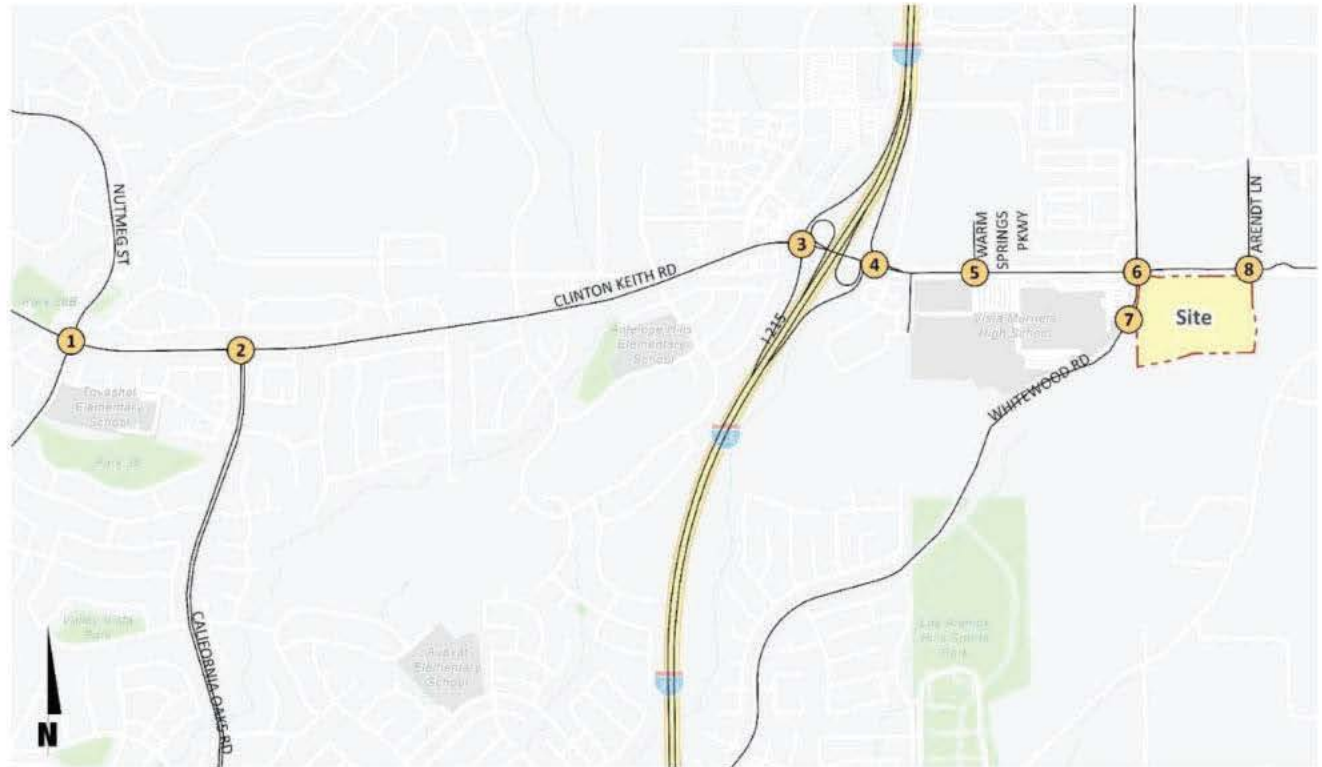
● Receiver Locations

 Construction Activity

—● Distance from receiver to Project site boundary (in feet)

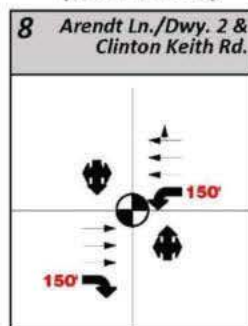
SOURCE: Urban Crossroads





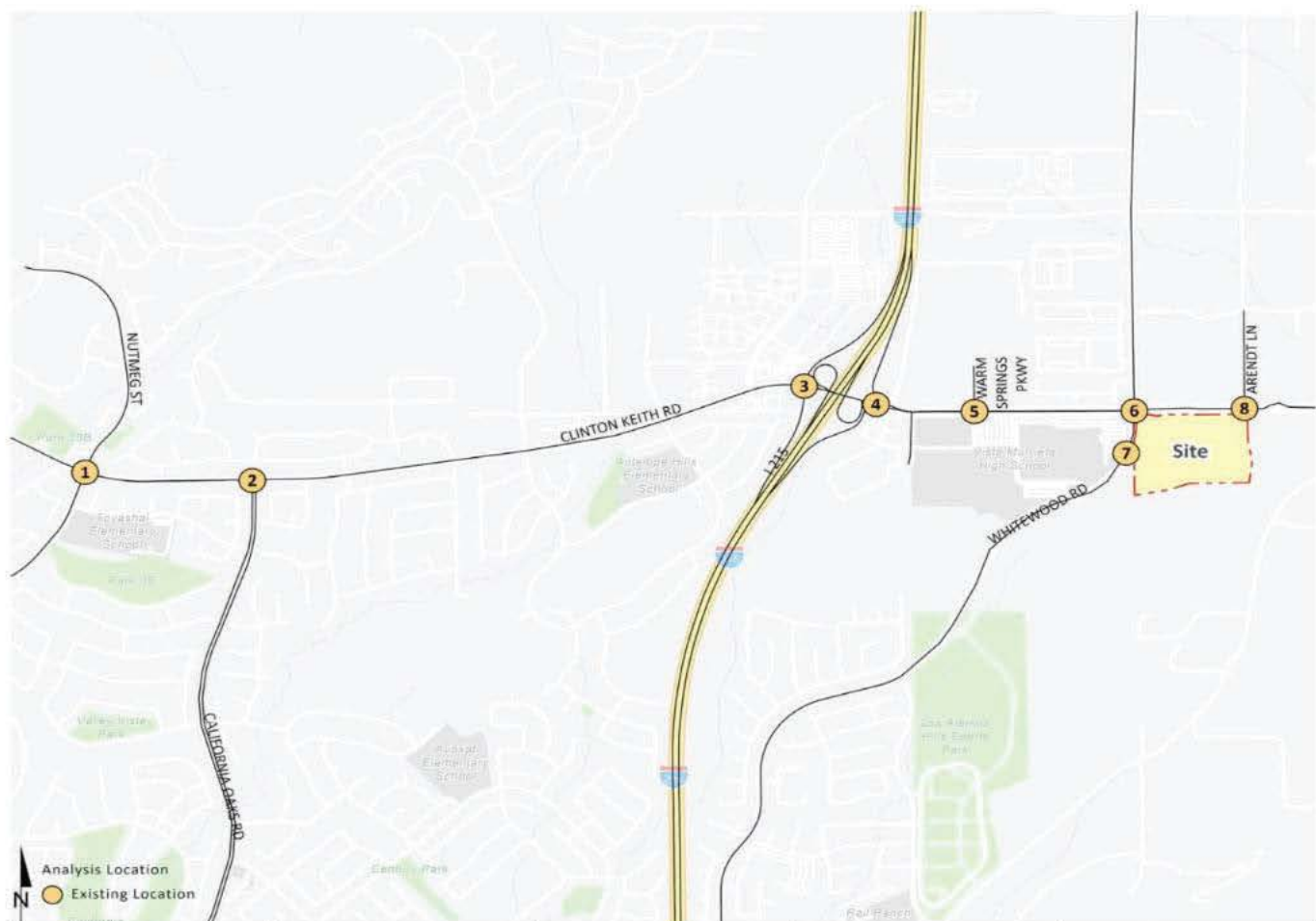
- = Traffic Signal
- = New Traffic Signal
- = Stop Sign
- = Stop Sign Improvement
- = Existing Lane
- = Lane Improvement
- = Recommended Turn Pocket Length
- = Minimum Turn Pocket Length
- = Trap Lane
- = Raised Median

#### Access Alternative (Full Access)



SOURCE: Urban Crossroads

FIGURE XVII.1



1 Nutmeg St. & Clinton Keith Rd.	2 California Oaks Rd. & Clinton Keith Rd.	3 I-215 SB Ramps & Clinton Keith Rd.	4 I-215 NB Ramps & Clinton Keith Rd.	5 Warm Springs Pkwy. & Clinton Keith Rd.
4,300 37,050 46(36) ↓ 71(32) ↓ 105(83) ↓ 77(93) ↑ 1009(1179) ↑ 376(358) ↑ 33(59) ↓ 881(1349) ↓ 82(78) ↓ 107(67) ↑ 45(43) ↑ 381(312) ↑ 29,800 10,800 37,850 21,350 57,150 5,700 54,250 22,700 48,050 700	52,150 1351(1563) ↓ 814(791) ↑ 1205(1587) → 178(119) ↓ 126(167) ↑ 591(855) ↑ 21,050 54,250 2,800 52,050 1,800 48,050 700	21,050 864(761) ↓ 277(461) ↓ 656(760) ↑ 1603(1863) ↑ 1721(2179) → 548(512) ↑ 1288(1985) → 725(656) ↓ 323(537) ↑ 525(842) ↑ 283(316) ↑ 1855(2086) ↑ 283(316) ↑ 1855(2086) ↑ 44(27) → 1568(2303) → 86(31) ↓ 89(41) ↑ 1818(1849) ↑ 244(312) ↑ 12(7) ↑ 4(2) ↑ 3(7) ↑	2,800 52,050 1,800 48,050 700	48,050 700
6 Whitewood Rd. & Clinton Keith Rd.	7 Whitewood Rd. & Murrieta High School/Driveway 1	8 Clinton Keith Rd. & Arendt Ln./Driveway 2		
35,300 34,750 579(708) ↓ 392(328) ↓ 138(213) ↓ 167(243) ↑ 1238(1022) ↑ 248(166) ↑ 634(965) ↓ 925(1353) ↓ 192(261) ↓ 233(328) ↑ 194(836) ↑ 94(165) ↑ 49,100 23,550 800	23,500 900 59(27) ↓ 964(927) ↓ 71(45) ↑ 2(23) ↓ 73(16) ↓ 453(1064) ↑ 5(14) ↑ 22,900 40,200 2,050	39,650 1708(1473) ↓ 1112(1730) → 42(129) ↓ 71(45) ↑		

##(##) AM(PM) Peak Hour Intersection Volumes

## Average Daily Trips

SOURCE: Urban Crossroads

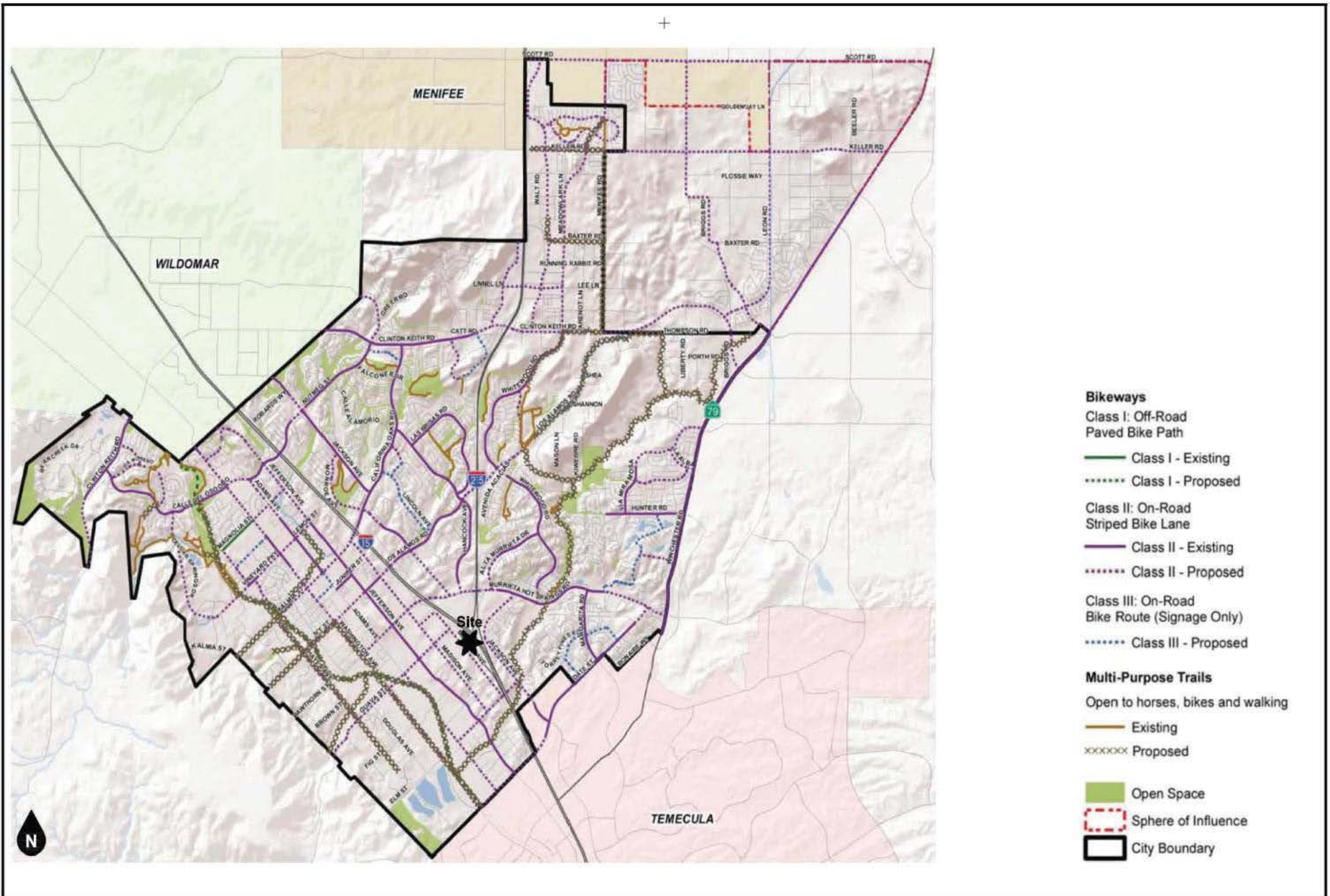
FIGURE XVII-2



SOURCE: Urban Crossroads

FIGURE XVII-3





SOURCE: Murrieta General Plan

FIGURE XVII-4



CITY OF MURRIETA  
WHITEWOOD CONDO / APARTMENT PROJECT: DEVELOPMENT PLAN 2021-2406,  
TENTATIVE PARCEL MAP 2021-2407 (38199), AND PHASING PLAN 2021-2408  
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Aesthetics</b> AES-1 The Applicant shall meet the provisions of City of Murrieta Municipal Code Section 16.42 pertaining to Tree Preservation and Removal. The Applicant shall obtain City approval to remove any trees on site through tree removal permit(s). The Applicant shall meet the provisions of 16.42.070 Tree Removal Permit which outlines further requirements pertaining to the tree removal permit process.	The acquisition of any required tree removal permits shall be obtained prior to removal of any qualifying trees on the property. All other requirements shall be met in accordance with requirements of the tree removal permit(s).	A copy of any tree removal permits shall be retained by the City and onsite by the contractor. City inspectors shall verify that all permit requirements are implemented when required. Field notes verifying compliance shall be recorded and retained by the City inspectors.	Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Aesthetics</b> AES-2 The Applicant shall avoid compaction of soil during construction in areas where trees are located within or adjacent to the project site that do not require removal. The Applicant shall avoid root removal in all instances where it is possible to do so. The Applicant shall utilize the following Tree Preservation Guidelines:  <u>Root Pruning</u> a. There shall be no disturbance to roots more than 2 inches in diameter. Roots less than 2 inches in diameter must be cleanly cut to encourage good callus tissue. It is recommended that roots be pruned back to the next root node.  ....(cont.)	During site construction, trees that may remain on or adjacent to the project site shall be monitored by the contractor and City inspectors to verify that soil compaction and root removal do not occur during construction. General compliance with Tree Preservation Guidelines shall be evaluated for any trees retained on or adjacent to the property	City inspectors shall verify that compaction and root protection are implemented for all trees retained onsite. Field notes verifying compliance shall be recorded and retained by the City inspectors. This shall include assessment of the contractor's implementation of the referenced Tree Protection Guidelines.	Initial Study / MND

PLANNING APPROVAL  
DATE: 10/13/22  
BY: MMRP  
DESC:

CITY OF MURRIETA

WHITEWOOD CONDO / APARTMENT PROJECT: DEVELOPMENT PLAN 2021-2406,

TENTATIVE PARCEL MAP 2021-2407 (38199), AND PHASING PLAN 2021-2408

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Mitigation Measure	Implementation Schedule	Verification	Source
<p><b>Aesthetics</b></p> <p>AES-2 (cont.)</p> <p>b. Recommended distances from the trunk that roots should be pruned have been established for construction activities around trees. The recommendations are: Preferred distance – 5 times the diameter of the tree at breast height (dbh); Minimum distance – 3 times dbh.</p> <p>c. The recommended time to prune roots is before active root growth in late summer and fall.</p> <p>d. The less frequently roots are pruned the less impact there will be on tree health and stability.</p> <p><u>Root Protection Zone</u></p> <p>a. A root protection zone shall be defined by a minimum 42" high barrier constructed around any potentially impacted tree. This barrier shall be at the drip line of the tree or at a distance from the trunk equal to 6 inches for each inch of trunk diameter 4.5 feet above the ground, if this method defines a larger area.</p> <p>b. Should it be necessary to install irrigation lines within this area, the line shall be located by boring, or an alternate location for the trench is to be established. The minimum clearance between an open trench and a tree shall be no closer than 10 feet or 6 inches for each inch of trunk diameter measured at 4.5 feet above existing grade, if this method defines a larger distance. The maximum clearance shall be 10 feet. The contractor shall conform to these provisions.</p> <p>....(cont.)</p>			<p>Initial Study / MND</p>

CITY OF MURRIETA

WHITEWOOD CONDO / APARTMENT PROJECT: DEVELOPMENT PLAN 2021-2406,  
TENTATIVE PARCEL MAP 2021-2407 (38199), AND PHASING PLAN 2021-2408  
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Mitigation Measure	Implementation Schedule	Verification	Source
<p><b>Aesthetics</b></p> <p>AES-2 (cont.)</p> <p>c. At no time shall any equipment, materials, supplies or fill be allowed within the prescribed root protection.</p> <p><u>Protection from Root Compaction</u></p> <p>a. No vehicles shall be permitted to be parked under the dripline of trees in non-paved areas. Avoid placing heavy equipment, large rocks or boulders, and gravel under the drip line of the tree. The object is to avoid soil compaction, which makes it difficult for roots to receive oxygen from the soil.</p> <p><u>Preventing Damage from Grade Changes</u></p> <p>Preventing tree damage from grade changes must be undertaken before the grade of the land is actually altered. Trees that are seriously declining due to grade changes seldom respond to corrective measures designed to save them.</p> <p>If fill must be placed over tree roots, a well and drainage system must be installed. The dry well must be large enough to allow for future growth of the trunk. Agricultural drain tile (4 to 6 inches) should be placed on the natural grade of the land. The tile should drain to a lower level to prevent water from collecting within the well. Cover the tile with 6 to 8 inches of 2- to 3-inch stone. (Do not use limestone because this will raise the soil pH and could adversely affect tree growth.) Connect vent tiles with the drain title</p> <p>...(cont.)</p>			<p>Initial Study / MND</p>



CITY OF MURRIETA  
WHITEWOOD CONDO / APARTMENT PROJECT: DEVELOPMENT PLAN 2021-2406,  
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MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Aesthetics</b> AES-2 (cont.)  to allow for gaseous exchange between the root zone and atmosphere. The fill should consist of a sandy soil or organic matter such as biochar to allow maximum aeration of the root zone.  For lowering the grade, all cuts in the natural grade must be made outside the dripline of a tree. Where trees are growing on a slope, the landscape sometimes is cut and filled to create a level site. Again, all grade changes should be made outside the dripline of the tree.			Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Aesthetics</b> AES-3 For future development located in or immediately adjacent to residential zoned properties, construction documents shall include language that requires all construction contractors to strictly control the staging of construction equipment and the cleanliness of construction equipment stored or driven beyond the limits of the construction work area. Construction equipment shall be parked and staged within the project site, as distant from the residential use, as reasonably possible. Staging areas shall be screened from view from residential properties.	City inspectors shall verify that all permit requirements are implemented when required. Field notes verifying compliance shall be recorded and retained by the City inspectors.	This measure shall be included in the construction contract, and City staff shall verify that construction activities comply with this requirement during construction. The verification shall be retained in the project file.	Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	

CITY OF MURRIETA  
WHITEWOOD CONDO / APARTMENT PROJECT: DEVELOPMENT PLAN 2021-2406,  
TENTATIVE PARCEL MAP 2021-2407 (38199), AND PHASING PLAN 2021-2408  
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Aesthetics</b> AES-4 Construction documents shall include language requiring that construction vehicles be kept clean and free of mud and dust prior to leaving the development site. Streets surrounding the development site shall be swept daily and maintained free of dirt and debris.	This measure shall be implemented during construction and included in the contract with the construction contractor.	This measure shall be included in the construction contract, and City staff shall verify that construction activities comply with this requirement during construction. The verification shall be retained in the project file.	Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Aesthetics</b> AES-5 Construction worker parking may be located off-site with prior approval by the City. On-street parking of construction worker vehicles on residential streets shall be prohibited.	This measure shall be implemented during construction and included in the contract with the construction contractor.	This measure shall be included in the construction contract, and City staff shall verify that construction activities comply with this requirement during construction. The verification shall be retained in the project file.	Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	

CITY OF MURRIETA  
WHITEWOOD CONDO / APARTMENT PROJECT: DEVELOPMENT PLAN 2021-2406,  
TENTATIVE PARCEL MAP 2021-2407 (38199), AND PHASING PLAN 2021-2408  
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Aesthetics</b> AES-6 Prior to approval of the Final Design, an analysis of potential glare from sunlight or exterior lighting to impact vehicles traveling on adjacent roadways shall be submitted to the City for review and approval. This analysis shall demonstrate that due to building orientation or exterior treatment, no significant glare may be caused that could negatively impact drivers on the local roadways or impact adjacent land uses. If potential glare impacts are identified, the building orientation, use of non-glare reflective materials or other design solutions acceptable to the City of Murrieta shall be implemented to eliminate glare impacts.	The analysis of glare and lighting shall be completed be submitted to the City for review and approval. City field inspectors shall verify the constructed buildings and lighting is implemented consistent with this lighting and glare analysis.	A copy of the light and glare analysis shall be retained in the project file. The City staff shall verify that the buildings and lighting comply with this light and glare analysis during construction. The verification shall be retained in the project file.	Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	

CITY OF MURRIETA

WHITEWOOD CONDO / APARTMENT PROJECT: DEVELOPMENT PLAN 2021-2406,

TENTATIVE PARCEL MAP 2021-2407 (38199), AND PHASING PLAN 2021-2408

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Air Quality</b> AQ-1    Require the use of Tier 4 emissions standards or better for off-road diesel-powered construction equipment of 50 horsepower or greater. To ensure that Tier 4 construction equipment or better will be used during the proposed project's construction, South Coast Air Quality Management District (SCAQMD) staff recommends that the Lead Agency include this requirement in applicable bid documents, purchase orders, and contracts. Successful contractor(s) must demonstrate the ability to supply the compliant construction equipment for use prior to any ground disturbing and construction activities. A copy of each unit's certified tier specification or model year specification and California Air Resources Board (CARB) or SCAQMD operating permit (if applicable) shall be available upon request at the time of mobilization of each applicable unit of equipment. Additionally, the Lead Agency should require periodic reporting and provision of written construction documents by construction contractor(s) to ensure compliance and conduct regular inspections to the maximum extent feasible to ensure compliance.	This measure shall be included in the construction contract as a contract specification and implemented by the contractor during construction.	A copy of the construction contract including this air mitigation measure shall be retained in the project file. Verification of implementation shall be based on field inspections by City inspectors that verify the air quality measures have been implemented as required in these measures. Field notes documenting verification shall be retained in the project file.	Initial Study / MND
	Responsible Party	Monitoring Party	Status / Date / Initials
		City of Murrieta	

CITY OF MURRIETA

WHITEWOOD CONDO / APARTMENT PROJECT: DEVELOPMENT PLAN 2021-2406,

TENTATIVE PARCEL MAP 2021-2407 (38199), AND PHASING PLAN 2021-2408

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Air Quality</b> AQ-2    Require zero-emissions or near-zero emission on-road haul trucks such as heavy-duty trucks with natural gas engines that meet the CARB's adopted optional NOx emissions standard at 0.02 grams per brake horsepower-hour (g/bhp-hr), if and when feasible. At a minimum, require that construction vendors, contractors, and/or haul truck operators commit to using 2010 model year trucks (e.g., material delivery trucks and soil import/export) that meet CARB's 2010 engine emissions standards at 0.01 g/bhp-hr of particulate matter (PM) and 0.20 g/bhp-hr of NOx emissions or newer, cleaner trucks. The Lead Agency should include this requirement in applicable bid documents, purchase orders, and contracts. The construction contractor shall maintain records of all trucks associated with project construction to document that each truck used meets these emission standards, and make the records available for inspection. The City shall conduct regular inspections to the maximum extent feasible to ensure compliance.	This measure shall be included in the construction contract as a contract specification and implemented by the contractor during construction.	A copy of the construction contract including this air mitigation measure shall be retained in the project file. Verification of implementation shall be based on field inspections by City inspectors that verify the air quality measures have been implemented as required in these measures. Field notes documenting verification shall be retained in the project file.	Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	



CITY OF MURRIETA

WHITEWOOD CONDO / APARTMENT PROJECT: DEVELOPMENT PLAN 2021-2406,  
TENTATIVE PARCEL MAP 2021-2407 (38199), AND PHASING PLAN 2021-2408  
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Air Quality</b> AQ-3 All trucks hauling dirt, sand, soil or other loose materials are to be covered, or should maintain at least two feet of freeboard in accordance with California Vehicle Code Section 23114 (freeboard means vertical space between the top of the load and top of the trailer).	This measure shall be included in the construction contract as a contract specification and implemented by the contractor during construction.	A copy of the construction contract including this air mitigation measure shall be retained in the project file. Verification of implementation shall be based on field inspections by City inspectors that verify the air quality measures have been implemented as required in these measures. Field notes documenting verification shall be retained in the project file.	Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Air Quality</b> AQ-4 Enter into applicable bid documents, purchase orders, and contracts to notify all construction vendors, contractors, and/or haul truck operators that vehicle and construction equipment idling time will be limited to no longer than five minutes, consistent with the CARB's policy. For any idling that is expected to take longer than five minutes, the engine should be shut off. Notify construction vendors, contractors, and/or haul truck operators of these idling requirements at the time that the purchase order is issued and again when vehicles enter the proposed project site. To further ensure that drivers understand the vehicle idling requirement, post signs at the proposed project site, where appropriate, stating that idling longer than five minutes is not permitted.	This measure shall be included in the construction contract as a contract specification and implemented by the contractor during construction.	A copy of the construction contract including this air mitigation measure shall be retained in the project file. Verification of implementation shall be based on field inspections by City inspectors that verify the air quality measures have been implemented as required in these measures. Field notes documenting verification shall be retained in the project file.	Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	

CITY OF MURRIETA

WHITEWOOD CONDO / APARTMENT PROJECT: DEVELOPMENT PLAN 2021-2406,

TENTATIVE PARCEL MAP 2021-2407 (38199), AND PHASING PLAN 2021-2408

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Air Quality</b> AQ-5    The contractor shall adhere to applicable measures contained in Table 1 of Rule 403 including, but not limited to: <ul style="list-style-type: none"><li>• All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 miles per hour (mph) per SCAQMD guidelines in order to limit fugitive dust emissions.</li><li>• The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the project are watered at least three (3) times daily during dry weather. Watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the mid-morning, afternoon, and after work is done for the day.</li><li>• All access points to the project site shall have track out devices installed.</li><li>• The contractor shall ensure that traffic speeds on unpaved roads and project site areas are limited to 15 mph or less.</li></ul>	This measure shall be included in the construction contract as a contract specification and implemented by the contractor during construction.	A copy of the construction contract including this air mitigation measure shall be retained in the project file. Verification of implementation shall be based on field inspections by City inspectors that verify the air quality measures have been implemented as required in these measures. Field notes documenting verification shall be retained in the project file.	Initial Study / MND

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Air Quality</b> AQ-6    The project applicant shall require that all building structures meet or exceed 2020 Title 24, Part 6 Standards and meet Green Building Code Standards.	This measure shall be included in the construction contract as a contract specification and implemented by the contractor during construction.	A copy of the construction contract including this air mitigation measure shall be retained in the project file. Verification of implementation shall be based on field inspections by City inspectors that verify the air quality measures have been implemented as required in these measures. Field notes documenting verification shall be retained in the project file.	Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	

CITY OF MURRIETA

WHITEWOOD CONDO / APARTMENT PROJECT: DEVELOPMENT PLAN 2021-2406,

TENTATIVE PARCEL MAP 2021-2407 (38199), AND PHASING PLAN 2021-2408

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Mitigation Measure	Implementation Schedule	Verification	Source
<b>Air Quality</b> AQ-7     The project applicant shall require that all faucets, toilets and showers installed in the proposed structures utilize low-flow fixtures that would reduce indoor water demand by 20% per CalGreen Standards.	This measure shall be included in the construction contract as a contract specification and implemented by the contractor during construction.	A copy of the construction contract including this air mitigation measure shall be retained in the project file. Verification of implementation shall be based on field inspections by City inspectors that verify the air quality measures have been implemented as required in these measures. Field notes documenting verification shall be retained in the project file.	Initial Study / MND
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Mitigation Measure	Implementation Schedule	Verification	Source
<b>Air Quality</b> AQ-8     The project applicant shall require that a water-efficient irrigation system be installed that conforms to the requirements of City codes.	This measure shall be included in the construction contract as a contract specification and implemented by the contractor during construction.	A copy of the construction contract including this air mitigation measure shall be retained in the project file. Verification of implementation shall be based on field inspections by City inspectors that verify the air quality measures have been implemented as required in these measures. Field notes documenting verification shall be retained in the project file.	Initial Study / MND
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<b>Air Quality</b> AQ-9     The project applicant shall require that ENERGY STAR-compliant appliances are installed on-site.	This measure shall be included in the construction contract as a contract specification and implemented by the contractor during construction.	A copy of the construction contract including this air mitigation measure shall be retained in the project file. Verification of implementation shall be based on field inspections by City inspectors that verify the air quality measures have been implemented as required in these measures. Field notes documenting verification shall be retained in the project file.	Initial Study / MND
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<b>Air Quality</b> AQ-10     The project applicant shall require that high-efficiency lighting be installed that is at least 34% more efficient than standard lighting.	This measure shall be included in the construction contract as a contract specification and implemented by the contractor during construction.	A copy of the construction contract including this air mitigation measure shall be retained in the project file. Verification of implementation shall be based on field inspections by City inspectors that verify the air quality measures have been implemented as required in these measures. Field notes documenting verification shall be retained in the project file.	Initial Study / MND
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<b>Air Quality</b> AQ-11 No wood burning devices shall be installed and any dwelling units consistent with SCAQMD Rule 445.	This measure shall be included in the construction contract as a contract specification and implemented by the contractor during construction.	A copy of the construction contract including this air mitigation measure shall be retained in the project file. Verification of implementation shall be based on field inspections by City inspectors that verify the air quality measures have been implemented as required in these measures. Field notes documenting verification shall be retained in the project file.	Initial Study / MND
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Mitigation Measure	Implementation Schedule	Verification	Source
<b>Air Quality</b> AQ-12 Only "Low-Volatile Organic Compounds (VOC)" paints (no more than 50 gram/liter (g/L) of VOC) consistent with SCAQMD Rule 1113 shall be used.	This measure shall be included in the construction contract as a contract specification and implemented by the contractor during construction.	A copy of the construction contract including this air mitigation measure shall be retained in the project file. Verification of implementation shall be based on field inspections by City inspectors that verify the air quality measures have been implemented as required in these measures. Field notes documenting verification shall be retained in the project file.	Initial Study / MND
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<p><b>Biological Resources</b></p> <p>BIO-1 A pre-construction survey for resident burrowing owls will also be conducted by a qualified biologist within 30 days prior to commencement of grading and construction activities within those portions of Project sites containing suitable burrowing owl habitat and for those properties within a Project site where the biologist could not gain access. The results of the survey shall be submitted to the City prior to obtaining a grading permit. In addition, a survey shall be conducted and reported to CDFW within three days of ground disturbance or vegetation clearance following the recommended guidelines of the MSHCP. If ground disturbing activities in these areas are delayed or suspended for more than 30 days after the pre- construction survey, the area shall be resurveyed for owls. The pre-construction survey will be conducted in accordance with the current Burrowing Owl Instruction for the Western Riverside MSHCP.</p> <p>Pre-construction surveys for BUOW should be conducted no more than 3 days prior to commencement of project-related ground disturbance to verify that BUOW remain absent from the Project area. The burrowing owl is a state and federal Species of Special Concern and is also protected under the MBTA and by state law under the FGC (FGC 3513 &amp; 3503.5). In general, impacts to BUOW can be avoided by avoiding occupied burrows and conducting work outside of their nesting season. However, if all work cannot be conducted outside of nesting season and occupied burrows cannot be avoided, then BIO-2 shall be required.</p>	<p>This survey shall be completed within 3-days prior to initiating site construction. A report of findings shall be provided to the City prior to construction. If occupied, the report shall include a summary of management actions taken to meet CDFW protocols.</p>	<p>A copy of the final Burrowing Owl report submitted to the City shall be retained in the project file. Any specific management actions shall be verified by City inspectors and documented in the project file.</p>	<p>Initial Study / MND</p>
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<p><b>Biological Resources</b></p> <p>BIO-2    If burrowing owl are discovered within the Project footprint, a Project specific Burrowing Owl Plan shall be prepared to determine suitable buffers and/or artificial burrow construction locations to minimize impacts to this species. If a BUOW is found on-site at the time of construction, all activities likely to affect the animal(s) shall cease immediately and regulatory agencies shall be contacted, within 48 hours of detection, to determine appropriate management actions.</p> <p>1)    A Burrowing Owl Plan shall be prepared in accordance with guidelines in the CDFW Staff Report on Burrowing Owl (March 2012) and MSHCP. The Burrowing Owl Plan shall describe proposed avoidance, minimization, relocation, and monitoring as applicable. The Burrowing Owl Plan shall include the number and location of occupied burrow sites and details on proposed buffers if avoiding the burrowing owls and/or information on the adjacent or nearby suitable habitat available to owls for relocation. If no suitable habitat is available nearby for relocation, details regarding the creation and funding of artificial burrows (numbers, location, and type of burrows) and management activities for relocated owls may also be required in the Burrowing Owl Plan. The Applicant shall implement the Burrowing Owl Plan following CDFW review and concurrence. A final letter report shall be prepared by the qualified biologist documenting the results of the Burrowing Owl Plan. The letter shall be submitted to CDFW prior to the start of Project activities. When a qualified biologist</p> <p>....(cont.)</p>	<p>All plans shall be prepared for implementation prior to initiation of construction or discovery and provided to the City. A short report of actions to protect BUOW shall be submitted to the City prior to initiating construction or once BUOW is documented on the site. The City shall be notified within 24-hours of BUOW occupying the construction site.</p>	<p>A copy of the plans shall be retained in the project file. City inspectors shall verify the management actions are implemented in the field. Any specific management actions shall be verified by City inspectors and documented in the project file.</p>	<p>Initial Study / MND</p>
<p><b>Biological Resources</b></p> <p>BIO-2 (cont.)</p> <p>determines that burrowing owls are no longer occupying the Project site per the criteria in the Burrowing Owl Plan, Project activities may begin.</p>			
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<p><b>Biological Resources</b></p> <p>BIO-3 In order to avoid violation of the MBTA and the California Fish and Game Code, the Project Applicant shall adhere to the following: Nesting bird surveys shall be conducted by a qualified avian biologist no more than three (3) days prior to site preparation activities. Preconstruction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the preconstruction nesting bird surveys, a Nesting Bird Plan (NBP) shall be prepared and implemented by the qualified avian biologist. At a minimum, the NBP shall include guidelines for addressing active nests, establishing buffers, ongoing monitoring, establishment of avoidance and minimization measures, and reporting. The size and location of all buffer zones, if required, shall be based on the nesting species, individual/pair's behavior, nesting stage, nest location, its sensitivity to disturbance, and intensity and duration of the disturbance activity. The Project Applicant shall adhere to the following:</p> <p>....(cont.)</p>	<p>Ground disturbing activities shall be conducted during the non-nesting bird season, or shall only be allowed during bird nesting season after conduct of the bird survey and implementation of measures to prevent "take" of birds during construction.</p>	<p>Field inspections shall document the dates of ground disturbing construction activities at the site and if construction occurs during nesting season, inspectors shall verify any required management activities are being implemented. Field notes documenting verification shall be retained in the project file.</p>	<p>Initial Study / MND</p>
<p><b>Biological Resources</b></p> <p>BIO-3 (cont.)</p> <p>1. Applicant shall designate a biologist (Designated Avian Biologist) experienced in: identifying local and migratory bird species of special concern; conducting bird surveys using appropriate survey methodology; nesting surveying techniques, recognizing breeding and nesting behaviors, locating nests and breeding territories, and identifying nesting stages and nest success; determining/establishing appropriate avoidance and minimization measures; and monitoring the efficacy of implemented avoidance and minimization measures.</p> <p>2. Pre-activity field surveys shall be conducted at the appropriate time of day/night, during appropriate weather conditions, no more than 3 days prior to the initiation of Project activities. Surveys shall encompass all suitable areas including trees, shrubs, bare ground, burrows, cavities, and structures. Survey duration shall take into consideration the size of the Project site; density, and complexity of the habitat; number of survey participants; survey techniques employed; and shall be sufficient to ensure the data collected is complete and accurate.</p>			

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<p><b>Biological Resources</b></p> <p>BIO-4 The Applicant shall comply with the following prior to approval of the Grading Plan:</p> <ul style="list-style-type: none"><li>• Drainages –To ensure that the quantity and quality of runoff discharged to the MSHCP Conservation Areas is not altered in an adverse way when compared with existing conditions, the Project shall be designed to avoid discharge of untreated surface runoff from developed and paved areas into the MSHCP Conservation Areas. Stormwater systems shall be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant materials or other elements that might degrade or harm biological resources or ecosystem processes within the MSHCP Conservation Areas, The Project shall incorporate measures, including measures required through the National Pollutant Discharge Elimination System (NPDES) requirements, to ensure that the quantity and quality of runoff discharged to the MSHCP Conservation Areas is not altered in an adverse way when compared with existing conditions. The Applicant shall a submit a Drainage Plan (Water Quality Management Plan) to the City of Murrieta for review and approval.</li><li>• Toxics – Land uses proposed in proximity to the MSHCP Conservation Areas that use chemicals or generate bioproducts such as manure that are potentially toxicor may adversely affect wildlife species, habitat or water quality. The Applicant shall incorporate measures to ensure that application of such chemicals does not result in discharge to the MSHCP Conservation Areas.</li></ul>	<p>Prior to site development, the developer shall submit the City verification that the site development plans address each of the seven design requirements.</p>	<p>A copy of this verification shall be retained in the City's project file. Verification shall be provided by city inspections that document the design requirements have been included in the project. This verification shall be retained in the project file.</p>	<p>Initial Study / MND</p>
....(cont.)			



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<p><b>Biological Resources</b> BIO-4 (cont.)</p> <ul style="list-style-type: none"><li>Lighting – Night lighting shall be directed away from the MSHCP Conservation Areas to protect species within the MSHCP Conservation Areas from direct and indirect night lighting. Prior to approval of the first building permit, a lighting plan an analysis of potential impacts to the conservation area from light and glare from interior and exterior building lighting, safety and security lighting, and vehicular traffic accessing the site shall be submitted to the City for review and approval. This analysis shall demonstrate that due to shielded and directional lighting in compliance with Mt. Palomar lighting standards and MDC, no adverse lighting shall be introduced into the adjacent Conservation Areas. If potential lighting impacts are identified, the lighting design (placement, light spectrum, and shielding), or other design solutions acceptable to the City of Murrieta shall be implemented to eliminate lighting impacts on the adjacent Conservation Areas. Shielding, including Turtle Bay type LED lighting, shall be incorporated in Project designs to ensure ambient lighting in the MSHCP Conservation Areas is not increased. The Lighting Plan shall include monitoring during construction and post-project to demonstrate lighting levels do not increase to adverse levels in the Conservation Areas. Once monitoring during occupancy meets the threshold, no responsible for immediate implementation of remedial actions to reduce light levels identified in the Lighting Plan.</li></ul> <p>....(cont.)</p>			<p>Initial Study / MND</p>

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<p><b>Biological Resources</b> BIO-4 (cont.).</p> <ul style="list-style-type: none"><li>Noise – Prior to approval of the first occupancy permit, a Noise plan shall be submitted to the City of Murrieta for review and approval. The Noise Plan shall identify noise generating land uses that may affect the MSHCP Conservation Areas and shall incorporate setbacks, berms or walls to minimize the effects of noise on MSHCP Conservation Area resources pursuant to applicable rules, regulations and guidelines related to land use noise standards. For planning purposes, wildlife within the MSHCP Conservation Areas should not be subject to noise that would exceed residential noise standards. The Noise Plan shall include monitoring during construction and post-project to demonstrate noise levels in the Conservation Areas do not exceed residential standards. Once monitoring during occupancy meets the threshold, no additional monitoring shall be required. If noise standards are exceeded, the Project Applicant is responsible for immediate implementation of remedial actions to reduce noise levels to acceptable levels.</li><li>Invasives – The Project shall avoid the use of invasive species (MSHCP Section 6.1.4 – Table 6-2) for landscaping portions of development that are adjacent to the MSHCP Conservation Areas. Prior to installation of the site landscaping, a landscaping plan, using native vegetation and approved non-native drought resistant plants, for areas adjacent to the Conservation Areas shall be submitted to the City for review and approval.</li></ul> <p>....(cont.)</p>			

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<div><div>Biological Resources</div><div>BIO-4 (cont.)</div><div><div><div>Barriers – Proposed land uses adjacent to the MSHCP Conservation Areas shall incorporate barriers to minimize unauthorized public access, domestic animal predation, illegal trespass, and dumping in the MSHCP Conservation Areas. Prior to installation of the barrier, a fencing plan shall be submitted to the City of Murrieta for review and approval. The fencing plan shall include 8-foot-tall fencing made of secure and fire-proof materials (such as brick, stone, or metal) or an alternative acceptable to the City placed along the entire boundary adjacent to Conservation Areas to prohibit movement of people and pets from the development area into the Conservation Areas. The top of all walls and fences shall be designed to prevent animals from entering Conservation Areas using systems such as a roller bars, angled fence tops, or other effective fence designs to keep out pets, especially cats. To prevent bird strikes and reduce bird mortality, no section of the fence should include clear panels or be made of transparent materials such as glass or plastic. The Fencing Plan shall include a maintenance and monitoring plan for the fence, including who is responsible for fence maintenance with sufficient funding to maintain the barrier.</div><div>Grading/Land Development – Manufactured slopes associated with proposed site development shall not extend into the MSHCP Conservation Areas.</div></div></div></div>			
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<p><b>Cultural Resources</b></p> <p>CUL-1 If, during earthwork and ground-disturbing activities, unique cultural resources, as that term is defined in PRC para. 21083.2(g), or an historic resource, as that term is defined in PRC para. 21084.1, are discovered and the resources were not assessed or addressed by the prior archaeological investigations or environmental assessment conducted prior to project approval, the following procedures shall be implemented:</p> <p>a) All earthwork and ground-disturbing activities within 100 feet ("buffer area") of the discovery will be halted while the Project Archaeologist makes an initial assessment of the significance of the discovery.</p> <p>b) Once the Project Archaeologist makes the initial assessment, the City Planner will convene a meeting with the Project Applicant, Project Archaeologist, and tribe(s) to discuss the significance of the discovery and what mitigation measures are feasible in accordance with examples in PRC para. 21083.2(b). If the parties cannot reach agreement on a feasible mitigation measure, the City Planner with the assistance of a third-party archaeologist will make a final determination on the appropriate mitigation and treatment of the resources; if there are disagreements with the determination, a Project Issue Resolution (PIR) meeting will be facilitated.</p> <p>... (cont.)</p>	<p>This measure shall be implemented during ground disturbing construction activities, such as clearing and grubbing, grading, and any other ground disturbing activities.</p>	<p>Verification of compliance with this measure shall be documented in two ways: first, field inspectors shall verify that the archaeologist is onsite during ground disturbing activities; and if resources are encountered, the City inspector shall include the finding as part of inspection field notes. The project archaeologist shall document any findings and submit the pertinent written report of findings and compliance with this measure to the City. A copy of the archaeologist's report shall be retained in the City's project file.</p>	<p>Initial Study / MND</p>

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<b>Cultural Resources</b> CUL-1 (cont.) <div><div>c)</div><div>Earthwork and ground-disturbing activities will not resume within the buffer area of the discovery until an agreement has been reached by all parties as to the appropriate mitigation and treatment of the resources. Earthwork and ground-disturbing activities will be allowed to continue outside of the buffer area and will be monitored by archaeological and tribal monitor(s).</div><div>d)</div><div>Treatment and avoidance of any newly discovered resources will be consistent with these mitigation measures and the Cultural Resources Monitoring Plan as required by MM CUL-2.</div></div>			Initial Study / MND
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<b>Cultural Resources</b> CUL-2 At least thirty (30) days prior to submittal of the final grading plans to the City, the Project Applicant, Project Archaeologist, City planner and tribe(s) will meet and develop a Cultural Resources Monitoring Plan ("CRMP) for the treatment and mitigation of Native American cultural resources discovered during Project development. Treatment of the newly discovered resource(s) will be consistent with the terms and provisions of the CRMP, and may be amended by the parties as agreed upon. Prior to its finalization, the Project Archaeologist will circulate the draft CRMP to the City Planner and any tribe(s) requesting monitoring of the Project for review  ....(cont.)	The required meeting to initiate development of the CRMP shall be held at least 30 days prior to submittal of final grading plans to the City. The CRMP shall be completed and available to all parties prior to initiating ground disturbance. This shall include resolution of any disagreements.	The City Planner shall document the date of the first meeting. A copy of the completed CRMP shall be retained in the project file. The City Planner shall document any activities carried out to implement the CRMP's measures for protecting cultural resources. This documentation shall be retained in the project file.	Initial Study / MND



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<div><div>Cultural Resources</div><div>CUL-2 (cont.)</div><div>and comment. The final document will include information provided by the tribe(s) concerning tribal methods and practices and other appropriate issues that may be relevant to culturally appropriate treatment of the resources. The involved parties will make good-faith efforts to incorporate the Tribe's comments. The City Planner will have final review and approval authority for the CRMP. If there are disagreements with the approval, a Project Issue Resolution (PIR) meeting will be facilitated. All parties are required to withhold public disclosure of information related to the treatment and mitigation of cultural resource(s) pursuant to the specific exemption set forth in CGC para. 6254(r).</div><div>The CRMP will include/address each of the following:<div>a) The parties entering into the CRMP, and their contact information.</div><div>b) The Project schedule including the frequency and location of monitoring of earthwork and ground disturbing activities and details regarding what types of construction-related activities will require monitoring.</div></div></div>			Initial Study / MND
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<b>Cultural Resources</b> CUL-3    Should any subsurface cultural resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection shall be performed immediately by a qualified archaeologist. Responsibility for making this determination shall be with the City's onsite inspector. The archaeological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act. Measures in accordance with CUL-1 and CUL-2 shall be followed if the accidentally exposed cultural material is also a Tribal Cultural Resource.	This measure shall be implemented during construction.	The City shall be notified within 24-hours of any accidental exposure of subsurface cultural resources. After a determination is made and the significance of the find determined, the management recommendations shall be implemented and documented. A final report of findings shall be submitted to the City for retention.	Initial Study / MND
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<b>Cultural Resources</b> CUL-4    On-Site Preservation/Reburial Location for Sensitive Native American Resources. All Native American sensitive resources including, without limitation, ceremonial items, sacred items, and grave goods as those same are identified by the tribe(s) during Project earthwork and ground-disturbing activities, will be reburied on the Project property. At least thirty (30) days prior to submittal of final grading plans to the City, the Project Applicant, Project Archaeologist, City Planner, and the tribe(s) will meet to identify the location(s) for on-site reburial (the "Preservation Site(s)"). During the meeting, the group will develop a confidential exhibit depicting and describing the Preservation Site(s), which exhibit  ....(cont.)	This measure shall be implemented during construction.	The City shall be notified within 24-hours of any accidental exposure of subsurface cultural resources. After a determination is made and the significance of the find determined, the management recommendations shall be implemented and documented. A final report of findings shall be submitted to the City for retention.	Initial Study / MND

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<p><b>Cultural Resources</b></p> <p>CUL-4 (cont.)</p> <p>will be kept by the City Planner under confidential cover and not subject to a Public Records Act request.</p> <p>The Preservation Site(s) will be located within the Project site development envelope of the Project, outside of any known and identified cultural resource sites. Prior to the issuance of the first building permit for the applicable tract or phase that includes a Preservation Site location, the Project Applicant will record a restrictive covenant over the Preservation Site with the intent to ensure the site remains in an undisturbed state in perpetuity.</p> <p>Any Preservation Site that includes relocated/ reburied Native American cultural resources will be capped by first placing a layer of geomat fabric over the reburied resources, and then filling the site with clean, sterile soil and contouring the site to appear in a natural state. Once a Preservation Site has been filled and contoured, no earthwork or ground-disturbing activities or subsurface facilities will be permitted in the Preservation Site, with the exception of those activities and requirements that may be required pursuant to the Fire Protection Technical Report.</p>			
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<b>Geology and Soils</b> GEO-1    Based upon the geotechnical investigation (Appendix 7a of this document), all of the recommended seismic design parameters identified in Appendix 7a (listed on Pages 12-13) shall be implemented by the Applicant. Implementation of these specific measures will address all of the identified geotechnical constraints identified at project site, including seismic soil stability on future project-related structures.	Design recommendations shall be incorporated into the project building permit and implemented during construction.	A copy of the building permit shall be retained in the project file and the City inspectors shall verify implementation during construction. Field notes documenting verification shall be retained in the project file.	Initial Study / MND
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		City of Murrieta	

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Geology and Soils</b> GEO-2    Stored backfill material shall be covered with water resistant material during periods of heavy precipitation to reduce the potential for rainfall erosion of stored backfill material. Where covering is not possible, measures such as the use of straw bales or sand bags shall be used to capture and hold eroded material on the project site for future cleanup such that erosion does not occur.	This measure shall be included in the construction contract and implemented during construction.	A copy of the construction contract shall be submitted to the City for retention. City inspectors shall verify implementation of this measure during construction. Field notes documenting verification shall be retained in the project file.	Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Geology and Soils</b> GEO-3    All exposed, disturbed soil (trenches, stored backfill, etc.) shall be sprayed with water or soil binders twice a day, or more frequently if fugitive dust is observed migrating from the site within which the Murrieta Whitewood Condos and Apartments are being constructed.	This measure shall be included in the construction contract and implemented during construction.	A copy of the construction contract shall be submitted to the City for retention. City inspectors shall verify implementation of this measure during construction. Field notes documenting verification shall be retained in the project file.	Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	

CITY OF MURRIETA

WHITEWOOD CONDO / APARTMENT PROJECT: DEVELOPMENT PLAN 2021-2406,

TENTATIVE PARCEL MAP 2021-2407 (38199), AND PHASING PLAN 2021-2408

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Geology and Soils</b> GEO-4    Based upon the geotechnical investigation (Appendix 7a of this document), all of the recommended design and construction measures identified in Appendix 7a (listed on Pages 13-20) shall be implemented by the Applicant. Implementation of these specific measures will address all of the identified geotechnical constraints identified at project site, including soil stability on future project-related structures.	Design recommendations shall be incorporated into the project building permit and implemented during construction.	A copy of the building permit shall be retained in the project file and the City inspectors shall verify implementation of this measure during construction. Field notes documenting verification shall be retained in the project file.	Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Geology and Soils</b> GEO-5    Should any paleontological resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection should be performed immediately by a qualified paleontologist. Responsibility for making this determination shall be with City's onsite inspector. The paleontological professional shall assess the find, determine its significance, and determine appropriate mitigation measures within the guidelines of the California Environmental Quality Act that shall be implemented to minimize any impacts to a paleontological resource.	This measure shall be included in the construction contract and implemented during construction.	The City shall be notified within 24-hours of any accidental exposure of subsurface paleontological resources. After a determination is made and the significance of the find determined, the management recommendations shall be implemented and documented. A final report of findings shall be submitted to the City for retention.	Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	



CITY OF MURRIETA  
WHITEWOOD CONDO / APARTMENT PROJECT: DEVELOPMENT PLAN 2021-2406,  
TENTATIVE PARCEL MAP 2021-2407 (38199), AND PHASING PLAN 2021-2408  
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Hazards and Hazardous Materials</b> HAZ-1 All spills or leakage of petroleum products during construction activities will be remediated in compliance with applicable state and local regulations regarding cleanup and disposal of the contaminant released. The contaminated waste will be collected and disposed of at an appropriately licensed disposal or treatment facility. This measure will be incorporated into the SWPPP prepared for the project development.	This measure shall be incorporated into the SWPPP and implemented during construction.	A copy of the SWPPP shall be retained in the project file. Verification of implementation shall be based on field inspections by City inspection personnel that verify the SWPPP BMPs have been implemented as required in this measure. Field notes documenting verification shall be retained in the project file.	Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Hydrology and Water Quality</b> HYD-1 The project proponent will select best management practices from the range of practices identified by the City and reduce future non-point source pollution in surface water runoff discharges from the site to the maximum extent practicable, both during construction and following development. The Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP) shall be submitted to the City for review and approval prior to ground disturbance and the identified BMPs installed in accordance with schedules contained in these documents.	This measure shall be implemented prior to construction and BMPs verified during installation and following the first storm of the season following installation.	A copy of the approved SWPPP and WQMP shall be retained in the project file. Verification of implementation shall be based on field inspections by City inspection personnel that verify that all the SWPPP and WQMP Best Management Practices are installed in accordance with the approved SWPPP and WQMP. Field notes documenting verification shall be retained in the project file.	Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	

CITY OF MURRIETA

WHITEWOOD CONDO / APARTMENT PROJECT: DEVELOPMENT PLAN 2021-2406,  
TENTATIVE PARCEL MAP 2021-2407 (38199), AND PHASING PLAN 2021-2408  
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Noise</b> NOI-1     An 8-foot-high noise barrier shall be erected along the northern side of the swimming pool as shown on Exhibit ES-A (source: NIA) titled Figure XIII-2 as part of the Initial Study. The noise barrier shall be constructed of material with a minimum weight of 4 pounds per square foot with no gaps of perforations.	This measure shall be implemented during construction and included in the contract with the construction contractor.	This measure shall be included in the construction contract, and City staff shall verify that construction activities comply with this requirement. The verification shall be retained in the project file	Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Noise</b> NOI-2     All windows and entry doors facing Clinton Keith Road shall have the following minimum Sound Transmission Class (STC) ratings: <ul style="list-style-type: none"><li>condominium building number 2 should have a minimum STC of 26;</li><li>condominium buildings 3 and 4 should have a minimum STC of 27;</li><li>condominium building 5 should have a minimum STC of 28;</li><li>on condominium building 6 should have a minimum STC of 31.</li></ul>	This measure shall be implemented during construction and included in the contract with the construction contractor.		Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	

Mitigation Measure	Implementation Schedule	Verification	Source
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CITY OF MURRIETA  
WHITEWOOD CONDO / APARTMENT PROJECT: DEVELOPMENT PLAN 2021-2406,  
TENTATIVE PARCEL MAP 2021-2407 (38199), AND PHASING PLAN 2021-2408  
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

<div>Noise NOI-3</div> <div>Prior to issuance of land development permits, including clearing or grubbing and grading and/or construction permits for areas within or adjacent to the MSHCP Conservation Area, the applicant shall prepare and submit to the satisfaction of the Development Services Director (or their designee), an acoustical analysis to demonstrate that the 75 dBA Leq noise level is not exceeded at the location of any occupied sensitive habitat areas as determined based on the results the required biological pre-construction surveys. The acoustical analysis shall describe the methods by which construction noise shall not exceed 75 dBA Leq. Noise abatement methods may include, but are not limited to, reoperation of specific construction activities, installation of noise abatement at the source, and/or installation of noise abatement at the receiving areas.</div>	<div>This measure shall be implemented prior to clearing or grubbing and grading and/or construction permits within either Phase 1 or Phase 2.</div>		<div>Comments received from US Fish and Wildlife Service and CA Department of Fish and Wildlife</div>
	Responsible Party	Monitoring Party	Status / Date / Initials
		City of Murrieta	

CITY OF MURRIETA  
WHITEWOOD CONDO / APARTMENT PROJECT: DEVELOPMENT PLAN 2021-2406,  
TENTATIVE PARCEL MAP 2021-2407 (38199), AND PHASING PLAN 2021-2408  
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Transportation</b> TRAN-1 The Project Applicant shall pay its fair share to the City of Murrieta towards the Clinton Keith roadway segment between Warm Springs and Whitewood by restriping Clinton Keith to accommodate a 3 <sup>rd</sup> eastbound through lane thereby completing the 6-lane ultimate cross-section: FAIR SHARE: <u>13.9%</u>	The proposed improvements shall be submitted and approved by the City prior to construction and implemented during construction.	A copy of all proposed engineered improvements shall be retained by the City in the project file. City staff shall verify that actual installed facilities comply with this requirement. The verification shall be retained in the project file.	Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Wildfire</b> WF-1 Fire apparatus access roads (i.e., public and private streets) will be provided throughout the development, and will provide at least the minimum required unobstructed travel lanes, lengths, turnarounds, and clearances required by applicable codes. Primary access and internal circulation will comply with the requirements of the MFRD.	The design of the fire apparatus access roads shall be submitted to the City and approved prior to initiating construction. The approved access roads shall be installed during project construction.	A copy of the approved engineering drawings for the fire apparatus access roads shall be retained in the project file. City inspectors shall verify that these roads are installed in accordance with approved design and shall document compliance in the project file.	Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	

CITY OF MURRIETA

WHITEWOOD CONDO / APARTMENT PROJECT: DEVELOPMENT PLAN 2021-2406,  
TENTATIVE PARCEL MAP 2021-2407 (38199), AND PHASING PLAN 2021-2408  
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Wildfire</b> WF-2    The Applicant shall require that contractors prepare a construction traffic control plan. Elements of the plan should include, but are not necessarily limited to, the following: <ul style="list-style-type: none"><li>• Develop circulation and detour plans, if necessary, to minimize impacts to local street circulation. Use haul routes minimizing truck traffic on local roadways to the extent possible.</li><li>• To the extent feasible, and as needed to avoid adverse impacts on traffic flow, schedule truck trips outside of peak morning and evening commute hours.</li><li>• Install traffic control devices as specified in Caltrans' Manual of Traffic Controls for Construction and Maintenance Work Zones where needed to maintain safe driving conditions. Use flaggers and/or signage to safely direct traffic through construction work zones.</li><li>• For roadways requiring lane closures that would result in a single open lane, maintain alternate one-way traffic flow and utilize flagger-controls.</li><li>• Coordinate with facility owners or administrators of sensitive land uses such as police and fire stations, hospitals, and schools. Provide advance notification to the facility owner or operator of the timing, location, and duration of construction activities.</li></ul>	The construction traffic control plan shall be completed and approved prior to initiating ground disturbance at the site. A copy of this plan shall be utilized during construction to maintain the flow of traffic and access to property along any affected routes.	A copy of the construction traffic control plan shall be retained by the City in the project file. City staff shall verify that control plan is implemented during construction. The verification shall be retained in the project file.	Initial Study / MND
	Responsible Party	Monitoring Party	Status / Date / Initials
		City of Murrieta	



CITY OF MURRIETA  
WHITEWOOD CONDO / APARTMENT PROJECT: DEVELOPMENT PLAN 2021-2406,  
TENTATIVE PARCEL MAP 2021-2407 (38199), AND PHASING PLAN 2021-2408  
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Wildfire</b> WF-3     Project buildings shall be constructed of ignition resistant <sup>1</sup> construction materials and include automatic fire sprinkler systems based on the latest adopted Building and Fire Codes for occupancy types.	The project buildings construction material shall be reviewed and approved by the City. The approved building material and the fire sprinkler systems shall be installed during construction.	The approved construction material and the fire sprinkler systems shall be verified by City inspectors during construction. The verification shall be retained in the project file.	Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Wildfire</b> WF-4     Fuel Modification shall be provided as needed around the perimeter of the site, as required by MFRD and shall be 100 feet wide or greater where needed. On-going maintenance will be managed by Owner's, Property Management Company, or another approved entity, at least annually or as needed.	Prior to installing buildings at the site, the fuel modification zones shall be installed where designated by MFRD prior to issuance of building permits. Maintenance of the fuel modification zone shall be an ongoing requirement of the property HOA.	City inspectors shall verify that the fuel modification zones have been installed prior to issuance of building permits. Periodic inspections of the fuel modification zones by City MFRD verify that the fuel modification zones are being maintains to minimize fire hazards. Verification notes shall be placed in the project file.	Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	

<sup>1</sup> A type of building material that resists ignition or sustained flaming combustion sufficiently to reduce losses from wildland-urban interface, conflagration under worst-case weather and fuel conditions with wildfire exposure of burning embers and small flames, as prescribed in CBC, Chapter 7A and State Fire Marshal Standard 12-7A-5, Ignition-Resistant Materials.

CITY OF MURRIETA  
WHITEWOOD CONDO / APARTMENT PROJECT: DEVELOPMENT PLAN 2021-2406,  
TENTATIVE PARCEL MAP 2021-2407 (38199), AND PHASING PLAN 2021-2408  
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Wildfire</b> WF-5 Landscape plantings shall not utilize prohibited plants that have been found to be highly flammable as identified in the Fire Protection Plan.	The site landscape plan shall be reviewed by the City to verify that prohibited plants are not included in the plan,	A copy of the approved landscape plan(s) demonstrating that prohibited plants are not included shall be retained in the project file. Field inspections shall verify prohibited plants are not planted onsite.	Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Wildfire</b> WF-6 Water capacity and delivery shall provide for a reliable water source for operations and during emergencies requiring extended fire flow.	The developer shall submit the water delivery information to the MFRD prior to installing the buildings.	The water supply verification data shall be retained in the project file.	Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	

Mitigation Measure	Implementation Schedule	Verification	Source
<b>Wildfire</b> WF-7 The Property Owner's or Property Management Company, shall provide owners informational brochures at time of occupancy, which shall include an outreach and educational role to ensure fire safety measures detailed in the FPP have been implemented.	Prior to issuance of occupancy permits, the information brochure shall be reviewed and approved by the MFRD.	The project management shall have the residents sign a verification statement that the required brochure has been provided to the resident prior to occupancy. A copy of verification statement shall be retained in the property management office for inspection.	Initial Study / MND
	<b>Responsible Party</b>	<b>Monitoring Party</b>	<b>Status / Date / Initials</b>
		City of Murrieta	



**ADDENDUM TO MITIGATED NEGATIVE DECLARATION FOR**

**Whitewood Condo / Apartment Project**

**330 UNIT APARTMENTS AND 153 CONDOMINIUM PROJECT**

**MURRIETA, CALIFORNIA**

**December 13, 2022**

**Introduction:**

On October 3, 2022, the Murrieta Development Services Director approved the below described project in the City of Murrieta. The City of Murrieta ("City"), acting as the lead agency, adopted a mitigated negative declaration ("MND") pursuant to CEQA and approved Tentative Parcel Map 38185 and Tentative Tract Map 38199. Said action by the City was in accordance with relevant provisions of the California Environmental Quality Act (CEQA) and the State CEQA Guidelines (Public Resources Code Section 21000 et seq., Title 14 California Code of Regulations Section 15000 et seq.) This Addendum to the Project MND addresses a subsequent minor, technical addition requested by The Metropolitan Water District of Southern California (Metropolitan) to approve the Eastern Municipal Water District (EMWD) annexation of the certain real property located at the southeast corner of Clinton Keith Road and Whitewood Road in the City of Murrieta, within Riverside County.

**Project Description:**

The project consists of the development of 330 apartment homes and 153 condominium units (Project) located on the southeast corner of the Clinton Keith Road and Whitewood Road, in the City of Murrieta, California, and is described by the APN 900-030-036. The subject property is approximately 29 acres in size and consists of undeveloped land.

**Minor Technical Additions:**

As the development of the Project would prompt annexation of the project site to both EMWD and Metropolitan, it is necessary to clarify the text with the minor technical additions in the MND to specifically address annexation requirements to the Project. This Addendum will serve to address such minor technical additions to the original Project.

In light of the foregoing, the minor technical changes proposed to the MND are as follows:

- Page 6, Item 6 (Agencies Whose Approval May be Required) - Metropolitan is a Responsible Agency for the environmental review process and needs to be listed in the agencies approval list for our discretionary approvals related to the annexation process.

- Page 4 (Project Description) and page 114 (Utilities) - The project requires annexation into both Metropolitan and EMWD. Presently the environmental documents only specify needing to annex into EMWD and not Metropolitan. Therefore, the City of Murrieta needs to include an annexation statement, including water standby charges and other required conditions for annexation, for Metropolitan.

#### Basis for Preparation of Addendum

CEQA Guidelines Section 15164 governs the preparation and adoption of addendums. Under CEQA Guidelines Section 15164(b), an addendum to a certified EIR or negative declaration is needed if only minor technical changes or modifications to the proposed project are necessary. An addendum is appropriate however only if these minor technical changes or modifications do not result in any new significant impacts as described in Section 15162 calling for the preparation of a subsequent EIR or negative declaration. Further, under CEQA Guidelines Section 15164(c), an addendum need not be circulated for public review but instead, under CEQA Guidelines Section 15164(d), need only be considered by the decision-making body prior to making a decision on the project. As a responsible agency that will consider approving the above-described annexation, EMWD will consider this Addendum for adoption in accordance with the requirements of CEQA Guidelines Section 15164.

The proposed annexation is an administrative and fiscal action deemed to be a reorganization that will not result in a tangible change to the physical environment. This Addendum therefore demonstrates that the environmental analysis, impacts, and mitigation requirements identified in the MND remain substantially unchanged by the minor technical issue described herein and supports the finding that the proposed project modification does not raise any new issues and does not exceed the level of impacts identified in the MND. This Addendum was therefore prepared because the minor textual additions provided herein would,

- 1) not constitute a substantial change in the project as approved by the City;
- 2) not lead to substantial changes in the circumstances under which the project is undertaken; and,
- 3) not constitute new information or substantial importance which was not known and could not have been known with the exercise of reasonable diligence at the time the MND was adopted.

Tanner Ramaiya, [Signature]  
City of Murrieta Representative (print/sign)

12/13/22  
Date

[Signature]  
Eastern Municipal Water District

12/15/22  
Date



Finance, Audit, Insurance, and Real Property Committee

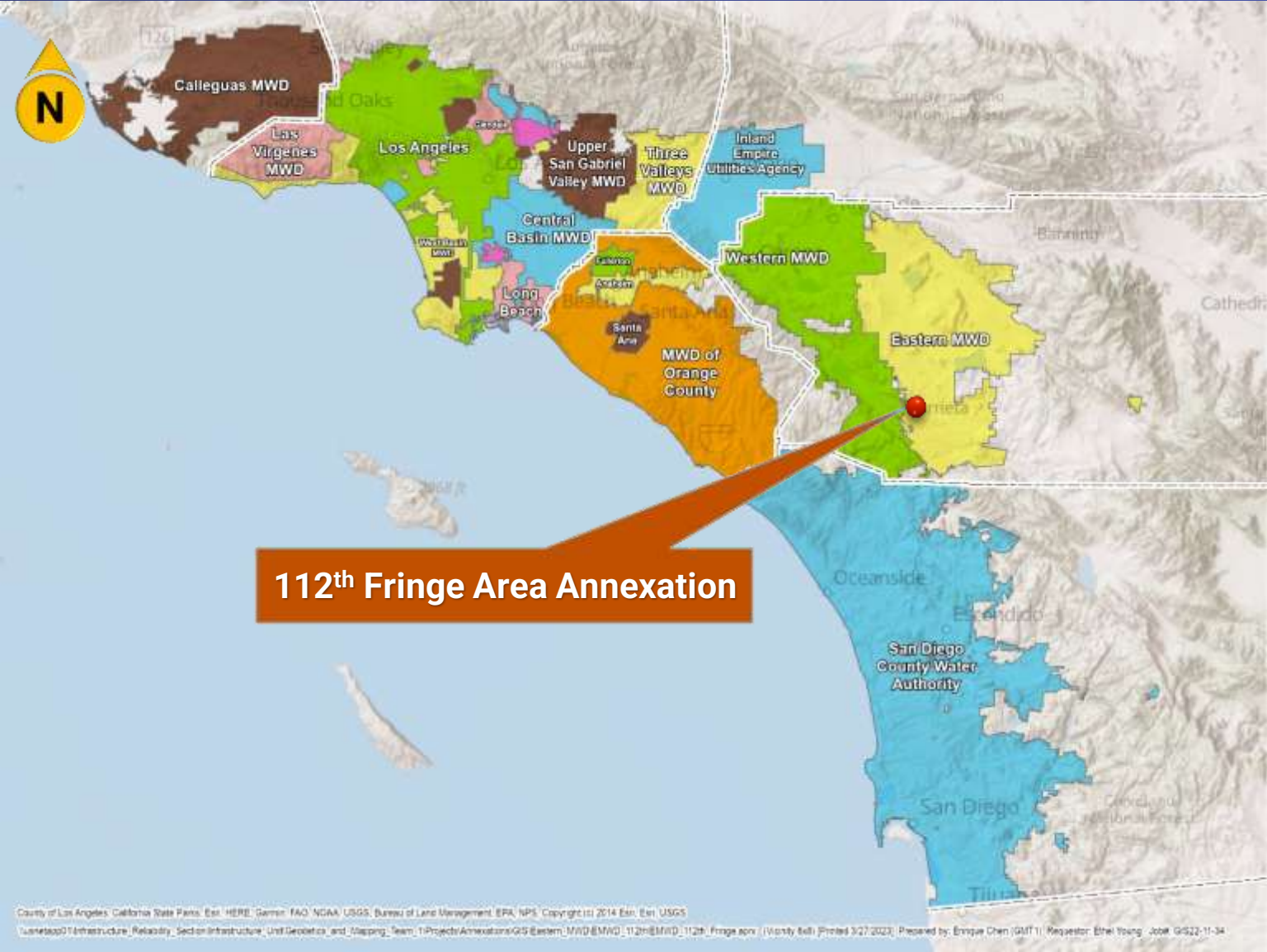
# 112<sup>th</sup> Fringe Area Annexation to EMWD and Metropolitan

Item 7-10

April 11, 2023

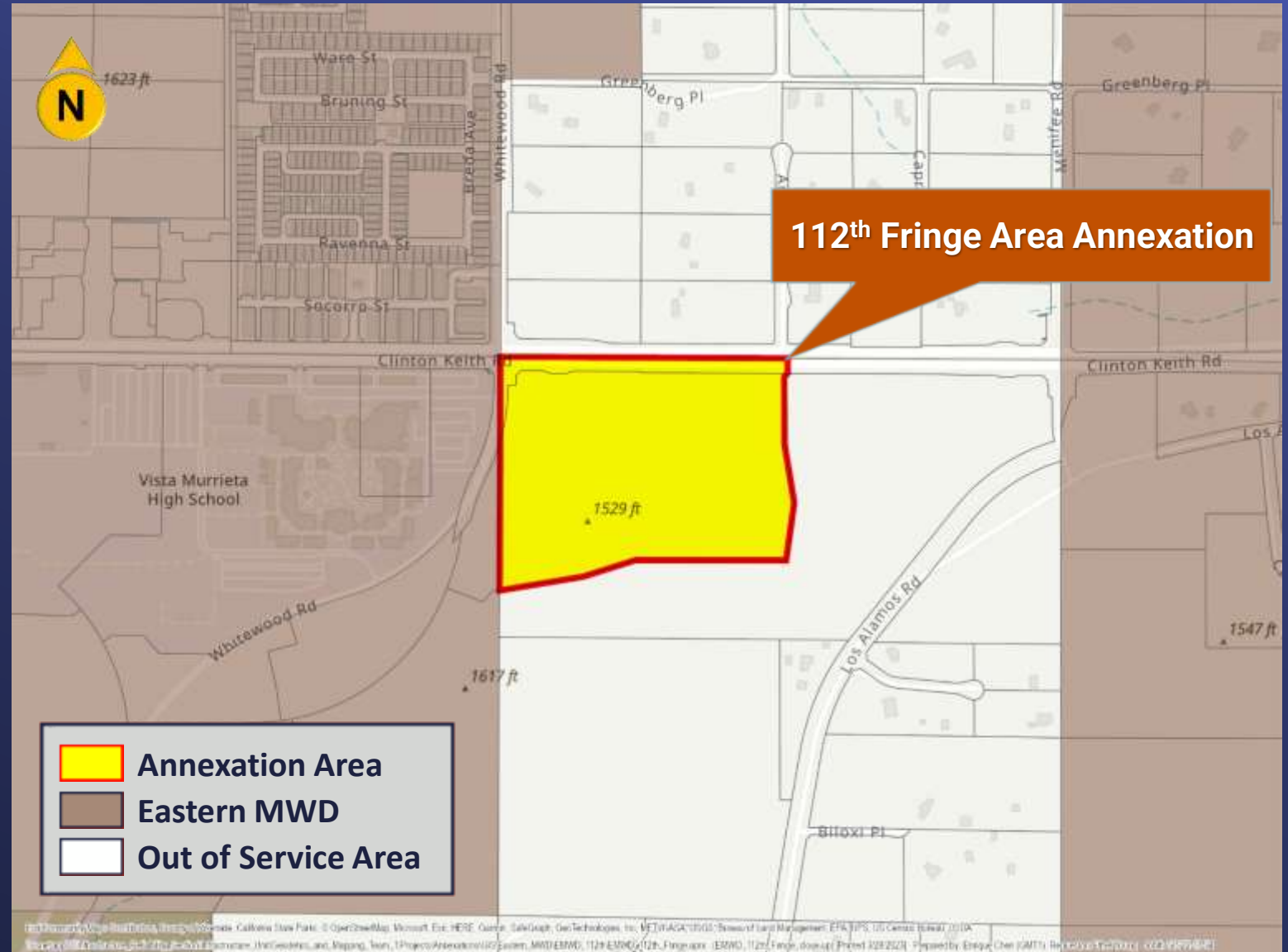


# Service Area Map



# Annexation Site Map

Gross Area = 31.67 Acres  
Public Road = 2.49 Acres



## Key Provisions

- Annexation area is 31.67 acres
- Total fees are \$205,612.50
- Water use estimate is 167.7 AF/Y
- Annexation request is compliant with current policy and requirements

## Board Options

### Option 1:

- Review and consider the Lead Agency's adopted Mitigated Negative Declaration and Addendum and take related CEQA actions, and adopt resolution for 112<sup>th</sup> Fringe Area Annexation to Eastern MWD and Metropolitan

### Option 2:

- Decline the Request

# Board Options

## Staff Recommendations

- Option 1







- **Board of Directors**

***Finance, Audit, Insurance, and Real Property Committee***

4/11/2023 Board Meeting

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7-11

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**Subject**

Approve the award of a four-year contract for external audit services with Macias Gini O'Connell, LLP, for the not-to-exceed amount of \$1,600,090; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

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**Executive Summary**

Action requests approval of a four-year contract with Macias Gini O'Connell, LLP to perform periodic independent audits of Metropolitan's financial statements, single audit for federal grants, and trustee agency audits; to review accounting procedures used by Metropolitan; to recommend improvements to Metropolitan's accounting procedures and systems of internal control; and to express an opinion on Metropolitan's basic financial statements.

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**Details**

Metropolitan's current External Audit Services Agreement 177666 with KPMG LLP expired with the completion of the fiscal year 2021/22 annual audit. External Audit Services Agreement 177666 comprised required audits, including the annual financial audit, single audit for federal grants, and trustee agency audits. The agreement also required an annual review of the Annual Comprehensive Financial Report.

Metropolitan issued Request for Proposal (RFP) for External Audit Services No. 1329 on October 5, 2022, for proposals to perform external audit services for the four fiscal years beginning July 1, 2022, and ending June 30, 2026. RFP 1329 stated that Metropolitan is seeking a qualified Respondent to examine Metropolitan's annual financial statements in accordance with Generally Accepted Auditing Standards promulgated by the American Institute of Certified Public Accountants, Government Auditing Standards promulgated by the Comptroller General of the United States, and any other audit principles relevant to public agencies in the state of California.

Eight proposals were received and reviewed by a panel of members from the Office of the Chief Financial Officer and the Office of the General Auditor, with technical support provided by a member of the Information Technology Group. The panel interviewed two respondents, selecting Macias Gini O'Connell, LLP as the most qualified candidate, and recommends the award of a four-year contract for annual audits commencing with the fiscal year ending June 30, 2023. The hourly billing rates and amounts payable per year by service are provided in **Attachment 1**. Amounts payable under the four-year contract will not exceed \$1,600,090.

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**Policy**

Metropolitan Water District Administrative Code Section 6453: Authority to Obtain Professional Services

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

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**California Environmental Quality Act (CEQA)**

**CEQA determination for Option #1:**

The proposed action is not defined as a project under CEQA (Public Resources Code Section 21065, State CEQA Guidelines Section 15378) because the proposed action will not cause either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment and involves continuing

administrative activities, such as general policy and procedure making (Section 15378(b)(2) of the State CEQA Guidelines). In addition, the proposed action is not defined as a project under CEQA because it involves government funding mechanisms or other government fiscal activities which do not involve any commitment to any specific project which may result in a potentially significant physical impact on the environment (Section 15378(b)(4) of the State CEQA Guidelines).

**CEQA determination for Option #2:**

None required

**Board Options**

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**Option #1**

Approve the award of a four-year contract for external audit services with Macias Gini O'Connell, LLP, for the not-to-exceed amount of \$1,600,090.

**Fiscal Impact:** \$1,600,090 during the four-year contract term

**Business Analysis:** Approval would enable Metropolitan to remain on schedule and compliant with the required annual financial statement audit, single audit for federal grants, and agency trustee audits for the fiscal year ending June 30, 2023.

**Option #2**

Reject the recommendation to award the contract to Macias Gini O'Connell LLP and issue another Request for Proposal

**Fiscal Impact:** Unknown

**Business Analysis:** This option would delay the execution of the required annual financial statement audit, single audit for federal grants, and agency trust audits, which may result in Metropolitan not meeting required annual financial statement filing requirements, impacting Metropolitan's bond rating and ability to execute transactions in the bond market, and the receipt and use of federal grant funds.

**Staff Recommendation**

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Option #1



Scott Suzuki  
General Auditor

3/30/2023  
Date

**Attachment 1 – Macias Gini & O'Connell, LLP Fees Summary**

Ref# [a12690108]

### Macias Gini & O'Connell, LLP Fees Summary

Classification	Hourly Rate
Partner	\$450
Senior Manager	\$335
Manager	\$285
Supervisor	\$245
Senior Associates	\$215
Staff and Experienced Associates	\$165
Global Operations Center	\$135

Classification	Hourly Rate	Projected Hours	2023 Fees	2024 Fees	2025 Fees	2026 Fees
Partners	\$ 450	150	\$ 67,500	\$ 69,530	\$ 71,620	\$ 73,770
Senior Manager	\$ 335	250	\$ 83,750	\$ 86,260	\$ 88,850	\$ 91,520
Manager	\$ 285	200	\$ 57,000	\$ 58,710	\$ 60,470	\$ 62,280
Supervisor	\$ 245	200	\$ 49,000	\$ 50,470	\$ 51,980	\$ 53,540
Senior Associates	\$ 215	280	\$ 60,200	\$ 62,010	\$ 63,870	\$ 65,790
Staff and Experienced Associates	\$ 165	900	\$ 148,500	\$ 152,960	\$ 157,550	\$ 162,280
Global Operations Center	\$ 135	300	\$ 40,500	\$ 41,720	\$ 42,970	\$ 44,260
<b>Subtotal</b>		<b>2,280</b>	<b>\$ 506,450</b>	<b>\$ 521,660</b>	<b>\$ 537,310</b>	<b>\$ 553,440</b>
Less: MWD Internal Audit Assistance	\$ 155	(800)	\$ (124,000)	\$ (127,720)	\$ (131,550)	\$ (135,500)
<b>Grand Total</b>		<b>1,480</b>	<b>\$ 382,450</b>	<b>\$ 393,940</b>	<b>\$ 405,760</b>	<b>\$ 417,940</b>



Finance, Audit, Insurance and Real Property Committee

# External Audit Services Contract

Item 7-11

April 11, 2023



Professional  
Services  
Agreement -  
External  
Audit  
Services

## Current Action

Approve the award of a four-year contract for external audit services with Macias Gini O'Connell, LLP, for the not-to-exceed amount of \$1,600,090

## Professional Services Agreement - External Audit Services

# Professional Service Agreements

- On-Call Agreements
  - Typically utilized for shorter-term assignments, urgent projects, etc.
  - Allows for flexibility, expedited project delivery
- Project Specific Agreements
  - Required for projects over extended duration, or larger project scopes
  - Approved individually by the Board over \$250,000.

## Professional Services Agreement - External Audit Services

### Background – External Audit Services

- Required annual independent audit of Metropolitan's financial statements, trustee agencies, and single audit of federal grants, if \$750,000 in spend is reached in any given year.
- Current external audit services contract with KPMG LLP expired with the completion of the fiscal year 2021/22 audit.

Professional  
Services  
Agreement -  
External  
Audit  
Services

## Request for Proposal (RFP) 1329

- Issued in October 2022
- Eight firms responded
- Two firms interviewed

## Professional Services Agreement - External Audit Services

### Agreement

- Four years covering fiscal years starting July 1, 2022 and ending June 30, 2026
- Not to exceed amount of \$1,060,090
- Services to be performed:
  - Annual independent audits of:
    - Metropolitan's financial statements
    - Metropolitan Asset Financing Corporation (MWDAFC)
    - Trustee Agency Financials



# Professional Services Agreement - External Audit Services

## Agreement (cont.)

- Review of Metropolitan's Annual Comprehensive Financial Report (ACFR)
- Review accounting procedures used by Metropolitan
- Recommend improvements to Metropolitan's accounting and systems of internal control

Professional  
Services  
Agreement -  
External  
Audit  
Services

## Board Options

- Option #1  
Approve the award of a four-year contract for external audit services with Macias Gini O'Connell, LLP, for the not-to-exceed amount of \$1,600,090
- Option #2  
Reject the recommendation to award the contract to Macias Gini O'Connell LLP and issue another Request for Proposal

Professional  
Services  
Agreement -  
External  
Audit  
Services

## Staff Recommendation

- Option #1  
Approve the award of a four-year contract for external audit services with Macias Gini O'Connell, LLP, for the not-to-exceed amount of \$1,600,090





• **Board of Directors**

***Finance, Audit, Insurance, and Real Property Committee***

4/11/2023 Board Meeting

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**7-12**

**Subject**

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Approve proposed amendment to Administrative Code Section 6450 regarding individual Board member requests for audit assignments; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

**Executive Summary**

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Audit assignments are identified through a risk assessment process and included in the General Auditor's annual business plan (audit plan). Should an individual Board member desire an audit assignment not in the audit plan, no provision is defined in the Administrative Code for handling this request.

This action requests that the Board approve procedures for handling individual Board member requests for desired audit assignments.

**Timing and Urgency**

A delay in approval may impact the handling of any individual Board member's request for audit assignments.

**Details**

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**Background**

The Office of the General Auditor designs its annual business plan (audit plan) based upon a risk assessment. The risk assessment process entails understanding the Metropolitan organization; identifying, assessing, and prioritizing risks; coordinating with other assurance providers; estimating available resources; proposing a plan and soliciting feedback; and finalizing and communicating the plan. During this process, the General Auditor consults with the Board and senior management to understand Metropolitan's strategies, business objectives, risk management processes, and any risk or internal control concerns.

Audit assignments are primarily identified through the aforementioned risk assessment process. The General Auditor may create an audit assignment as deemed necessary based upon information or concerns from the Board and senior management that are determined to be high risk in nature, i.e., involving a process/area with an associated risk that could likely result in a high financial, political, legal/regulatory, or operational impact.

Outside of this process, the other defined method for the Board to add an audit assignment is by Board committee. Board committees may identify areas of risk and associated audit assignments during their meetings. Board Letter 8-2 from the December 13, 2022 Board meeting proposed establishing the Subcommittee on Audits which oversees requests from other committees of the Board for audits and reviews not included in the General Auditor's annual business plan. The creation of the Subcommittee on Audits was approved at the January 24, 2023 meeting of the Finance, Audit, Insurance, and Real Property Committee through Item 2a.

Should an individual Board member desire an audit assignment for the General Auditor not in the annual plan, there is no provision within the Administrative Code to facilitate this direction.

The proposed amendment to the Administrative Code is intended to address any current and future individual Board member requests for audit assignments. If the amendment is approved, such requests will be presented to the Subcommittee on Audits for study, advice, and recommendation. Should the Subcommittee on Audits cease to exist, requests will be handled by the Finance, Audit, Insurance, and Real Property Committee.



**Conclusion**

Board approval of procedures for individual Board member requests will improve the governance model for audit assignments carried out by the General Auditor and increase transparency of audit assignment sources.

**Policy**

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Metropolitan Water District Administrative Code Section 6450: Powers and Duties

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

**California Environmental Quality Act (CEQA)**

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**CEQA determination for Option #1:**

The proposed action is not defined as a project under CEQA (Public Resources Code Section 21065, State CEQA Guidelines Section 15378) because it involves continuing administrative or maintenance activities that will not cause either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment (Section 15378(b)(2) of the State CEQA Guidelines). In addition, the proposed action is not defined as a project under CEQA because it involves organizational or administrative activities of governments that will not result in direct or indirect physical changes in the environment (Section 15378(b)(5) of the state CEQA Guidelines).

**CEQA determination for Option #2:**

None required

**Board Options**

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**Option #1**

Approve proposed amendment to Administrative Code Section 6450 regarding individual Board member requests for audit assignments.

**Fiscal Impact:** None

**Business Analysis:** This option will improve audit governance and transparency of the audit assignment process.

**Option #2**

Do not approve recommended amendment to the Administrative Code.

**Fiscal Impact:** None

**Business Analysis:** This option may impact individual Board member requests for audit assignments.

**Staff Recommendation**

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Option #1

  
\_\_\_\_\_  
Scott Suzuki  
General Auditor

4/4/2023  
\_\_\_\_\_  
Date

**Attachment 1 – Redline Version, Proposed Administrative Code Amendment**

**Attachment 2 – Clean Version, Proposed Administrative Code Amendment**

Ref# a12695842

**§ 6450. Powers and Duties.**

(a) The District's independent internal auditing function is governed by provisions of the California Government Code and by policies established by the Board of Directors. The Finance, Audit, Insurance and Real Property Committee is responsible for the oversight of the internal auditing function, approving the Audit Department charter (subject to review and approval of the Board of Directors), selecting and overseeing the work of external auditors, and reviewing reports issued by both the internal and external auditors.

(b) The General Auditor manages the District's Audit Department and is responsible for formulating departmental policies and procedures; directing and evaluating the performance of work done by employees within the department, administering the internal records of the department; and administering the District's contract for external audit services. The General Auditor shall, annually in advance of the July Board meetings, submit to the Finance, Audit, Insurance and Real Property Committee an Audit business plan containing key priorities for the coming year for review and approval. The business plan shall be submitted in conjunction with similar plans by the General Manager to the Executive Committee, the General Counsel to the Legal and Claims Committee and Ethics Officer to the Finance, Audit, Insurance and Real Property Committee.

(c) The General Auditor shall report the findings, opinions, and recommendations which result from the performance of the duties outlined in paragraph 6450(b) to the General Manager, General Counsel and Ethics Officer for their information and appropriate actions. Whenever an audit report contains recommendations for corrective actions or changes in current practices, the General Manager, General Counsel, Ethics Officer or their designees shall respond to the General Auditor in an appropriate manner and within a reasonable time, indicating their views on the recommendations and proposed actions to be taken, if any.

(d) The General Auditor's reports on internal audit assignments shall be addressed to the Finance, Audit, Insurance and Real Property Committee. The General Auditor shall have the discretion to determine the form and content of such audit reports, subject to guidance by the Finance, Audit, Insurance and Real Property Committee. With the exception of those reports which the General Auditor deems to be urgent or confidential in nature, copies of all audit reports addressed to the Finance, Audit, Insurance and Real Property Committee shall be submitted to the General Manager and General Counsel for review and comment simultaneously to their submittal to the Finance, Audit, Insurance and Real Property Committee.

(e) The General Auditor shall transmit all reports issued by the District's external auditors to the Finance, Audit, Insurance and Real Property Committee and any other committees of the Board as may be applicable. Such transmittal letters should include any comments on the external auditor's reports that the General Auditor deems necessary.

(f) The General Auditor may receive requests from time to time from the other executive officers or committees of the Board to perform audit assignments which are not included in the approved annual Audit Business Plan. Similarly, the General Auditor may identify a need to include new assignments in the Audit Business Plan during the year. The General Auditor shall

have sufficient latitude and discretion to include those new assignments in the annual Audit Business Plan as the General Auditor deems necessary based upon their professional judgement and available audit resources. Requests from other committees of the Board and individual Board members desiring specific audit assignments shall be submitted to the Subcommittee on Audits for study, advise, and recommendation, or if such subcommittee is not currently in place, the Finance, Audit, Insurance, and Real Property Committee. Once the audit assignment is approved by the Board, the General Auditor reserves the right to determine how to best fit the directed audit assignment into the Audit Business Plan. The reporting process for assignments requested by either executive management, ~~or~~ by committees of the Board, or by individual Board members shall generally follow the process outlined in paragraphs 6450(c) or (d) previously. ~~However, any reports on audits requested by a committee of the Board shall be jointly addressed to such committee and the Finance, Audit, Insurance and Real Property Committee. Copies of these reports will first be provided to management for review and comment consistent with the provisions of paragraph 6450(d).~~

(g) The General Auditor shall manage the work of the Audit Department in accordance with the Audit Department Charter. The General Auditor shall assess annually whether the purpose, authority and responsibility, as defined in this Charter, continue to be adequate to enable the Audit Department to accomplish its objectives.

Ords. 127 and 143; repealed by Ord. 146; Section 418.1 added, as amended, by M.I. 32690 - April 10, 1979; amended by M.I. 32815 - July 10, 1979; paragraph (c) [formerly Section 418.1.3] added by M.I. 33340 - July 8, 1980; paragraph (c) amended by M.I. 33729 - May 12, 1981. Section 418.1 repealed and Section 6450 adopted by M.I. 36464 - January 13, 1987, effective April 1, 1987; paragraphs (a)-(c) amended by M.I. 39358 - December 10, 1991; paragraphs (a) - (e) amended and paragraphs (f) and (g) added by M. I. 41600 - October 10, 1995; paragraph (c) amended by M.I. 43692 - August 17, 1999; paragraphs (b)-(g) amended by M.I. 43968 - April 11, 2000; paragraphs (a), (c) - (g) amended by M. I. 44582 - August 20, 2001; paragraphs (a) - (f) amended, paragraph (b)(1) - (7) repealed, and original paragraphs (c) - (f) renumbered (d) - (f) by M. I. 45293 - April 8, 2003; paragraphs (a), (b), (d), (e) and (f) amended by M. I. 46064 - January 11, 2005; paragraphs (a)-(f) amended by M.I. 46983 - February 13, 2007; paragraphs (a)-(f) amended and paragraph (g) added by M. I. 47259 - October 9, 2007; paragraphs (a), (b), (d), (e), and (f) amended by M. I. 47636 - September 9, 2008; paragraph (b) amended by M.I. 48081 - November 10, 2009; paragraph (b) amended by M.I. 49187 - September 11, 2012; paragraphs (a), (b), (d), (e), and (f) amended by M.I. 51391 - November 6, 2018.

**§ 6450. Powers and Duties.**

(a) The District's independent internal auditing function is governed by provisions of the California Government Code and by policies established by the Board of Directors. The Finance, Audit, Insurance and Real Property Committee is responsible for the oversight of the internal auditing function, approving the Audit Department charter (subject to review and approval of the Board of Directors), selecting and overseeing the work of external auditors, and reviewing reports issued by both the internal and external auditors.

(b) The General Auditor manages the District's Audit Department and is responsible for formulating departmental policies and procedures; directing and evaluating the performance of work done by employees within the department, administering the internal records of the department; and administering the District's contract for external audit services. The General Auditor shall, annually in advance of the July Board meetings, submit to the Finance, Audit, Insurance and Real Property Committee an Audit business plan containing key priorities for the coming year for review and approval. The business plan shall be submitted in conjunction with similar plans by the General Manager to the Executive Committee, the General Counsel to the Legal and Claims Committee and Ethics Officer to the Finance, Audit, Insurance and Real Property Committee.

(c) The General Auditor shall report the findings, opinions, and recommendations which result from the performance of the duties outlined in paragraph 6450(b) to the General Manager, General Counsel and Ethics Officer for their information and appropriate actions. Whenever an audit report contains recommendations for corrective actions or changes in current practices, the General Manager, General Counsel, Ethics Officer or their designees shall respond to the General Auditor in an appropriate manner and within a reasonable time, indicating their views on the recommendations and proposed actions to be taken, if any.

(d) The General Auditor's reports on internal audit assignments shall be addressed to the Finance, Audit, Insurance and Real Property Committee. The General Auditor shall have the discretion to determine the form and content of such audit reports, subject to guidance by the Finance, Audit, Insurance and Real Property Committee. With the exception of those reports which the General Auditor deems to be urgent or confidential in nature, copies of all audit reports addressed to the Finance, Audit, Insurance and Real Property Committee shall be submitted to the General Manager and General Counsel for review and comment simultaneously to their submittal to the Finance, Audit, Insurance and Real Property Committee.

(e) The General Auditor shall transmit all reports issued by the District's external auditors to the Finance, Audit, Insurance and Real Property Committee and any other committees of the Board as may be applicable. Such transmittal letters should include any comments on the external auditor's reports that the General Auditor deems necessary.

(f) The General Auditor may receive requests from time to time from the other executive officers or committees of the Board to perform audit assignments which are not included in the approved annual Audit Business Plan. Similarly, the General Auditor may identify a need to include new assignments in the Audit Business Plan during the year. The General Auditor shall

have sufficient latitude and discretion to include those new assignments in the annual Audit Business Plan as the General Auditor deems necessary based upon their professional judgement and available audit resources. Requests from other committees of the Board shall be referred to the Finance, Audit, Insurance and Real Property Committee and handled in accordance with paragraph 2441(h)(iii). Individual Board members desiring specific audit assignments shall submit their proposal to the Finance, Audit, Insurance and Real Property Committee for handling similar to requests from other committees of the Board. Once the audit assignment is approved by the Board, the General Auditor reserves the right to determine how to best fit the directed audit assignment into the Audit Business Plan. The reporting process for assignments requested by either executive management, by committees of the Board, or by individual Board members shall generally follow the process outlined in paragraphs 6450(c) or (d) previously.

(g) The General Auditor shall manage the work of the Audit Department in accordance with the Audit Department Charter. The General Auditor shall assess annually whether the purpose, authority and responsibility, as defined in this Charter, continue to be adequate to enable the Audit Department to accomplish its objectives.

Ords. 127 and 143; repealed by Ord. 146; Section 418.1 added, as amended, by M.I. 32690 - April 10, 1979; amended by M.I. 32815 - July 10, 1979; paragraph (c) [formerly Section 418.1.3] added by M.I. 33340 - July 8, 1980; paragraph (c) amended by M.I. 33729 - May 12, 1981. Section 418.1 repealed and Section 6450 adopted by M.I. 36464 - January 13, 1987, effective April 1, 1987; paragraphs (a)-(c) amended by M.I. 39358 - December 10, 1991; paragraphs (a) - (e) amended and paragraphs (f) and (g) added by M. I. 41600 - October 10, 1995; paragraph (c) amended by M.I. 43692 - August 17, 1999; paragraphs (b)-(g) amended by M.I. 43968 - April 11, 2000; paragraphs (a), (c) - (g) amended by M. I. 44582 - August 20, 2001; paragraphs (a) - (f) amended, paragraph (b)(1) - (7) repealed, and original paragraphs (c) - (f) renumbered (d) - (f) by M. I. 45293 - April 8, 2003; paragraphs (a), (b), (d), (e) and (f) amended by M. I. 46064 - January 11, 2005; paragraphs (a)-(f) amended by M.I. 46983 - February 13, 2007; paragraphs (a)-(f) amended and paragraph (g) added by M. I. 47259 - October 9, 2007; paragraphs (a), (b), (d), (e), and (f) amended by M. I. 47636 - September 9, 2008; paragraph (b) amended by M.I. 48081 - November 10, 2009; paragraph (b) amended by M.I. 49187 - September 11, 2012; paragraphs (a), (b), (d), (e), and (f) amended by M.I. 51391 - November 6, 2018.





Finance, Audit, Insurance, and Real Property Committee

# Administrative Code Change

Item 7-12

April 11, 2023

Current  
Code

## Audit Assignments

- General Auditor Risk Assessment
- Board Committee

# Proposed Change

## Audit Assignments

- General Auditor Risk Assessment
- Board Committee
- Individual Board Member

## Proposed Change

### Administrative Code 6450

- Requests for audit assignments from Board committees and individual Board members will be submitted to the Subcommittee on Audits
- Clarify role of the General Auditor regarding audit assignments

## Board Options

### Option #1

- Approve proposed amendment to Administrative Code Section 6450 regarding individual Board member requests for audit assignments
- Improves audit assignment governance
- Provides transparency of audit assignment process



# Board Options

## Option #2

- Do not approve recommended amendment to the Administrative Code

# Board Options

## Staff Recommendation

- Option #1  
Approve proposed amendment to Administrative Code Section 6450 regarding individual Board member requests for audit assignments





• **Board of Directors**

***Finance, Audit, Insurance, and Real Property Committee***

4/11/2023 Board Meeting

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**7-13**

**Subject**

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Authorize a credit of up to \$200,000 to Western Municipal Water District for treatment surcharge costs incurred due to the unexpected extension of a Metropolitan shutdown; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

**Executive Summary**

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Western Municipal Water District (Western) purchases untreated water from Metropolitan via San Diego Pipeline No. 5 (Pipeline 5) at Service Connection WR-34 for delivery to its retail agency Rancho California Water District (Rancho California). Rancho California uses that water to meet its legal requirement to discharge flows to Murrieta Creek. During a scheduled shutdown requested by San Diego County Water Authority (SDCWA), Metropolitan took the opportunity to inspect and make minor repairs to the two Red Mountain Pressure Control Structure (PCS) sleeve valves. However, upon inspection, staff determined that the two sleeve valves had extensive deterioration and needed to be completely refurbished. The work took much longer than Metropolitan originally anticipated, and as a result Metropolitan was not able to deliver water to Western for Rancho California via Pipeline 5.

Western and Rancho California prepared themselves to accommodate the planned shutdown, consistent with Metropolitan's Administrative Code. However, due to the unanticipated extended shutdown, Metropolitan requested that Western take deliveries of treated water via San Diego Pipeline No. 4 (Pipeline 4) instead for Rancho California. Western and Rancho California cooperated with Metropolitan by minimizing the number of necessary deliveries, but Western incurred the costs of Metropolitan's Treatment Surcharge to accommodate deliveries from a different connection. This action seeks to credit Western for the treatment surcharge incurred to accommodate the unexpected 4-month delay by Metropolitan in refurbishing the affected valves at Pipeline 5, which has affected Western's costs to deliver water to Rancho California.

**Details**

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**Background**

Western purchases untreated water deliveries via Pipeline 5 at Service Connection WR-34 for delivery to its retail agency, Rancho California. These untreated water deliveries are then discharged to Murrieta Creek to meet guaranteed flow requirements for the Santa Margarita River, as set by the Cooperative Water Resource Management Agreement between the United States, on behalf of Marine Corps Base Camp Pendleton, and Rancho California. These discharges are also required by the watermaster in the Santa Margarita watershed adjudication.

At the request of SDCWA, Metropolitan scheduled a shutdown from October 16, 2022, to April 25, 2023, of San Diego Pipeline 5. The shutdown facilitated SDCWA to prepare for its six-month relining project of the San Diego Pipeline 5. From October 16 to November 19, 2022, Metropolitan staff planned to inspect and perform minor repair work on the two Red Mountain PCS sleeve valves. Once completed, Metropolitan planned on returning Pipeline 5 to service upstream of Red Mountain PCS to allow Service Connection WR-34 to operate. The rest of the pipeline was to remain isolated to support SDCWA's relining project. However, upon inspection, staff determined that the two Red Mountain PCS sleeve valves had extensive deterioration and needed to be completely refurbished. The pipeline remained isolated, and Service Connection WR-34 remained out of service

until March 9, 2023. Metropolitan refurbished and reinstalled one of two sleeve valves and fabricated a new bulkhead to temporarily take the place of the second sleeve valve. Service Connection WR-34 was returned to service on March 10, 2023.

The planned shutdown took longer than Metropolitan anticipated due to the conditions of the Red Mountain PCS sleeve valves. Western and Rancho California cooperated with Metropolitan, consistent with Metropolitan's Administrative Code Section 4503, by having enough resources available for a seven-day interruption and by minimizing the amount of water to be delivered to Murrieta Creek during the shutdown. At Metropolitan's request, Western and Rancho agreed to take treated water via San Diego Pipeline 4 instead of untreated water via Pipeline 5 to enable Rancho California to continue to meet its legal obligation of providing water to Murrieta Creek. Staff recommends crediting Western to offset the treatment surcharge it was required to incur during Metropolitan's prolonged shutdown to make the necessary deliveries to Rancho California. The proposed credit is estimated to be approximately \$173,632.12, and up to \$200,000, depending on finalization and reconciliation.

## Policy

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Metropolitan Water District Administrative Code Section § 4126: Treatment Surcharge

Metropolitan Water District Administrative Code Section § 4503: Suspension of Deliveries

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

## California Environmental Quality Act (CEQA)

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### CEQA determination for Option #1:

The proposed action is not defined as a project under CEQA (Public Resources Code Section 21065, State CEQA Guidelines Section 15378) because the proposed action will not cause either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment and involves continuing administrative activities, such as general policy and procedure making (Section 15378(b)(2) of the State CEQA Guidelines). In addition, the proposed action is not defined as a project under CEQA because it involves the creation of government funding mechanisms or other government fiscal activities which do not involve any commitment to any specific project which may result in a potentially significant physical impact on the environment (Section 15378(b)(4) of the State CEQA Guidelines)

### CEQA determination for Option #2:

None required

## Board Options

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### Option #1

Authorize a credit of up to \$200,000 to Western Municipal Water District for treatment surcharge costs incurred due to the unexpected extension of a Metropolitan shutdown

**Fiscal Impact:** Estimated to be up to \$200,000 and would be dependent on the schedule for completing repairs to the distribution system.

**Business Analysis:** Metropolitan's unanticipated extension of the shutdown required Western to take treated water to ensure its customer, Rancho California, met its legal requirements. Although Western and Rancho California prepared themselves for the planned shutdown and minimized the amount of water necessary to deliver to Murrieta Creek, Western was required to take treated water and incur higher costs until Metropolitan completed its work.

### Option #2

Do not authorize the General Manager to credit up to \$200,000 to Western Municipal Water District for costs incurred due to a prolonged Metropolitan shutdown.

**Fiscal Impact:** No impact

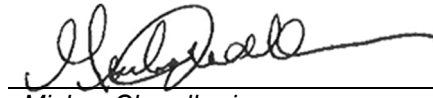
**Business Analysis:** The deliveries of treated water to Western were made at Metropolitan's request. Metropolitan is successful in its maintenance, operations, and refurbishment work as a result of coordination with its member agencies. Denial of the requested relief may impact future coordination.



**Staff Recommendation**

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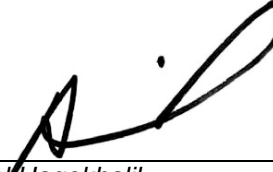
Option #1



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Mickey Chaudhuri  
Group Manager, Water System Operations

3/28/2023

*Date*

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Adel Hagekhalil  
General Manager

4/3/2023

*Date*

Ref# wrm12695963



## Finance, Audit, Insurance, and Real Property Committee

Authorize the General Manager to credit up to \$200,000 to Western Municipal Water District for Treatment Surcharge Costs Incurred Due to the Unexpected Extension of a Metropolitan Shutdown

Item 7-13

April 11, 2023

# Service Connection WR-34

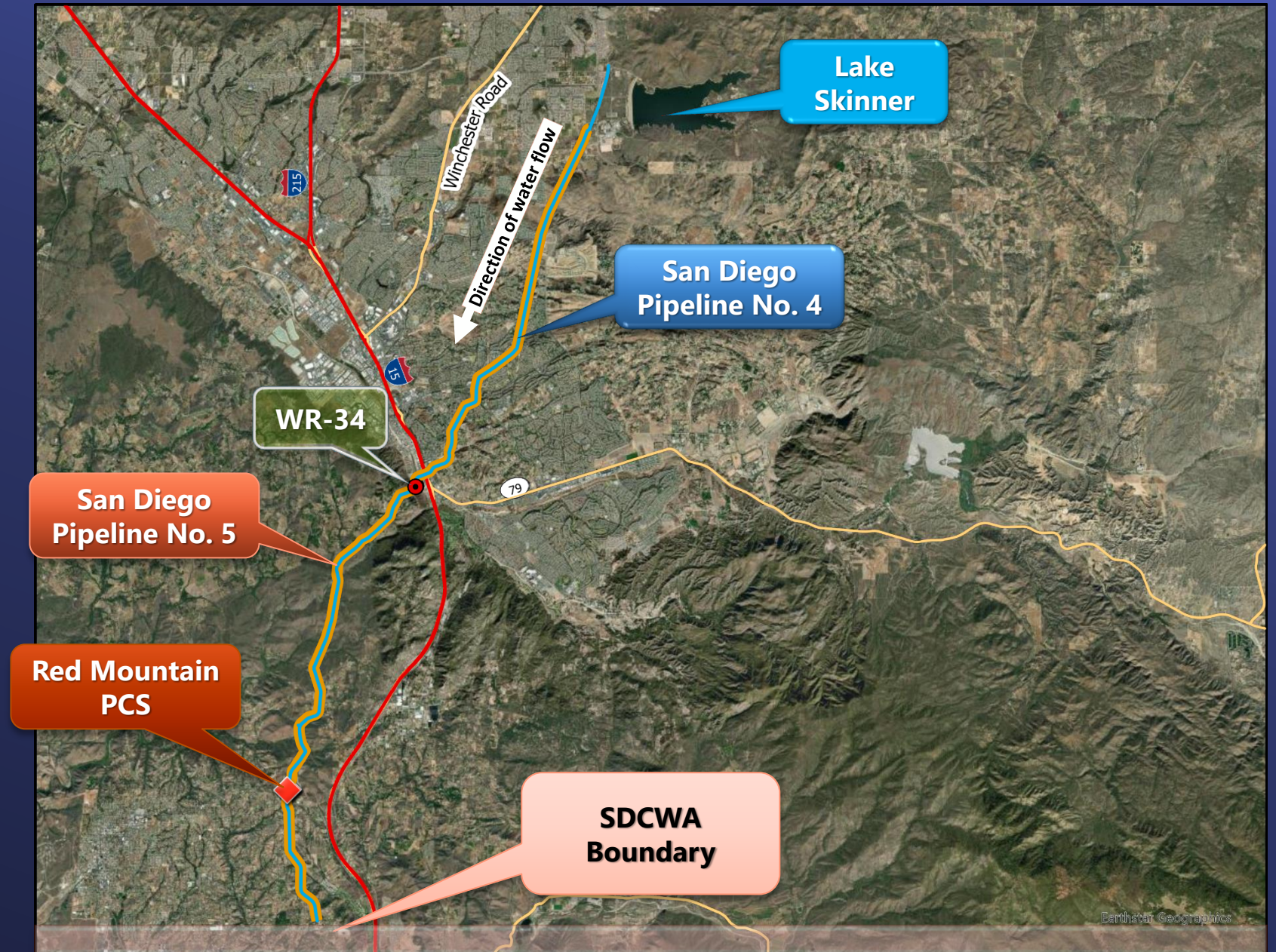
## Background

- San Diego County Water Authority requested shutdown of San Diego Pipeline (SD PL) No. 5
- Metropolitan shutdown Service Connection WR-34 (WR-34) to inspect the Red Mountain Pressure Control Structure
- Two sleeve valves required complete refurbishment





# Background





# Red Mountain Pressure Control Structure







# Service Connection WR-34

## Sleeve Valve Refurbishment

- Initially planned as one-month shutdown
- Refurbishment of two sleeve valves has taken much longer than originally anticipated
- One sleeve valve and a temporary bulkhead have been installed
- WR-34 returned to service on March 10, 2023



# Admin Code 4503

## Western Cooperation with Admin Code 4503

- Western Municipal Water District (Western) purchases untreated water via SD PL No. 5 at WR-34 to deliver to its retail agency Rancho California Water District (Rancho California)
- Rancho California uses delivery to meet its legal requirement to discharge flows to Murrieta Creek
  - Replenishes Murrieta Temecula Groundwater Basin
  - Potable water source for Camp Pendleton
- Agencies cooperated with Metropolitan's Admin Code Section 4503 and minimized the amount of treated water deliveries during the shutdown

## Incurring Costs

### Credit for Treatment Surcharge Costs

- WR-34 was shutdown four months longer than planned
- Western has had to purchase treated water from SD PL No. 4 to deliver to Rancho California during the prolonged shutdown to meet Rancho California's legal obligation
- Western has incurred the costs of Metropolitan's Treatment Surcharge

# Board Options

## Options

Option #1: Authorize the General Manager to credit up to \$200,000 to Western Municipal Water District for treatment surcharge costs incurred due to prolonged Metropolitan shutdown

Option #2: Do not authorize the General Manager to credit up to \$200,000 to Western Municipal Water District for costs incurred due to a prolonged Metropolitan shutdown



# Board Options

## Staff Recommendation

### Option #1





Finance, Audit, Insurance, and Real Property  
Committee

# Next Steps on the Climate Adaptation Master Plan for Water

Item 9-3

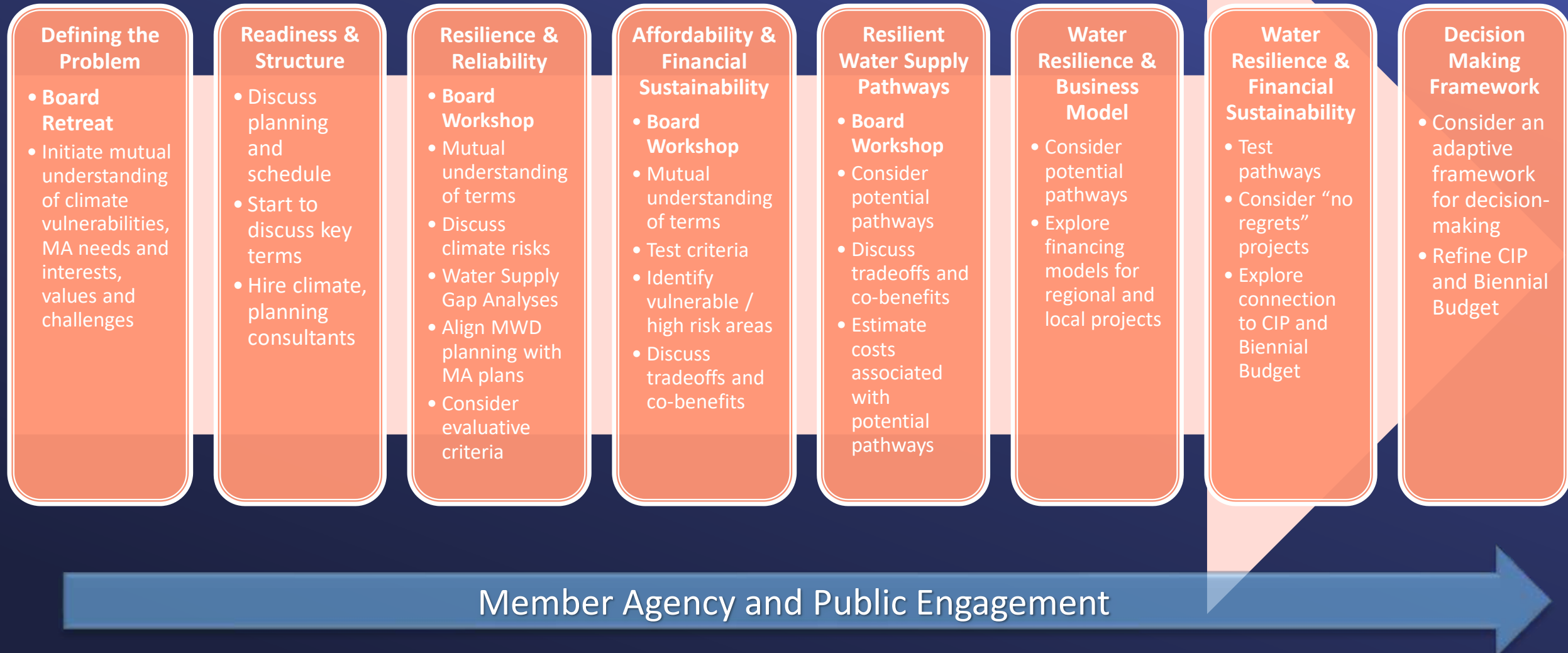
April 11, 2023

# Potential Upcoming Board Policy Decisions

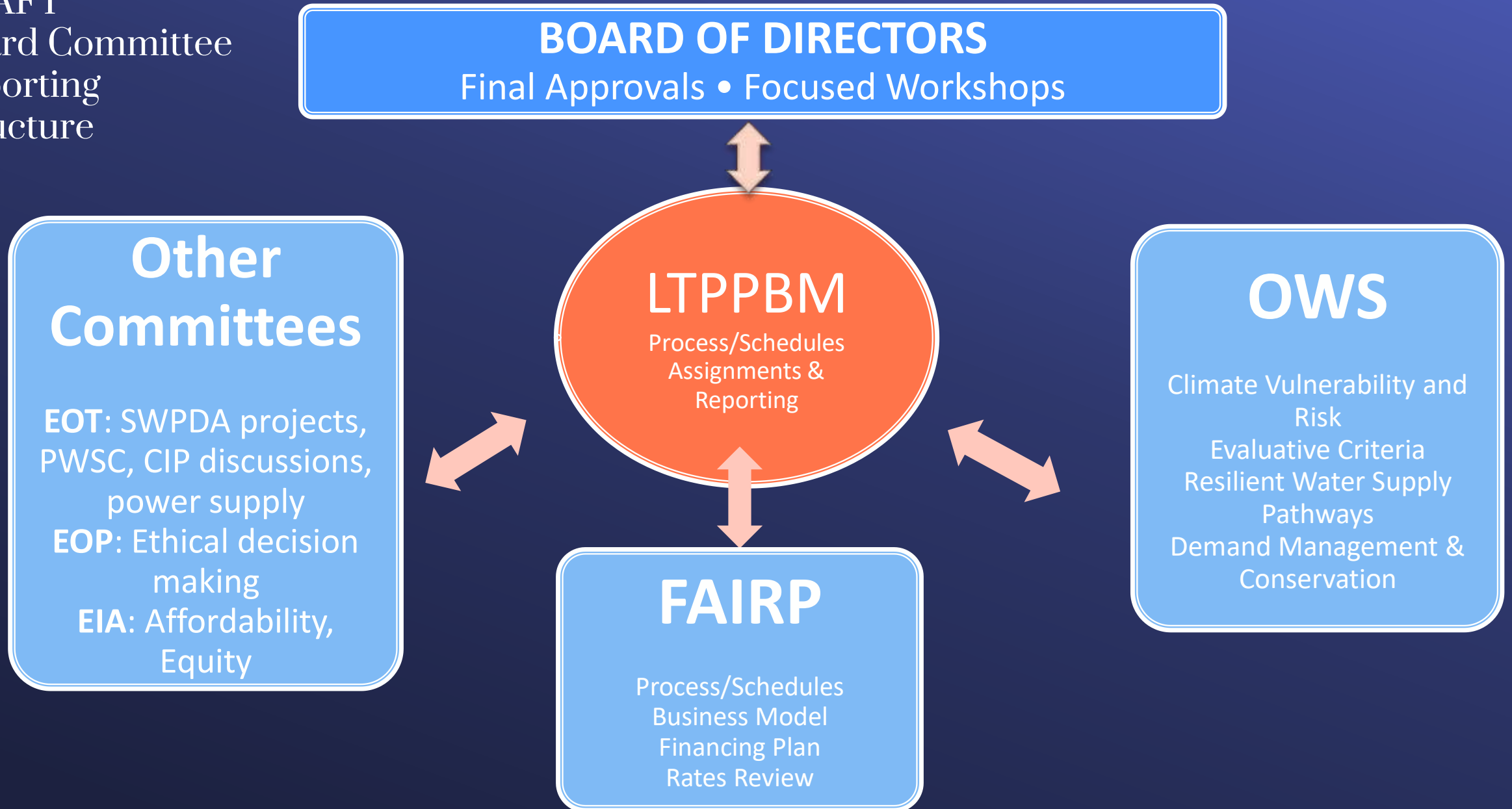
Climate Adaptation  
Master Plan for Water  
(CAMP4W)

- 1) Develop mutual understanding of key terms and outline goals and potential impacts for Metropolitan and Member Agencies related to:
  - Resilience, Reliability, Financial Sustainability, Affordability
- 2) Develop evaluative criteria to measure climate resilient strategies for:
  - Local and regional water supply and conveyance projects
  - Storage development inside and outside service area
  - Investments in imported water supply
  - Demand management and conservation programs
- 3) Identify potential pathways for future investment to meet resilience, reliability, financial sustainability and affordability goals and objectives and evaluate against criteria
- 4) Evaluate organizational needs for meeting goals and objectives including:
  - Business model options
  - Financing and rate structures
  - Workforce development

# Potential Climate Adaptation Master Planning Process







# Upcoming Board Workshops

Climate Adaptation  
Master Plan for Water  
(CAMP4W)

## Tuesday, May 23<sup>rd</sup>

Dialogue focused on:

- Communicating interests and needs
- Key terms: Resilience, Reliability, Financial Sustainability, Affordability

## Tuesday, June 27<sup>th</sup>

Dialogue focused on:

- Member Agency Needs Assessment
- Gaps Identification
- Alignment of Member Agency and Met planning

# Workshop #1: Key Terms

May 23, 2023

- Address the following:
  - Resilience
  - Reliability
  - Affordability
  - Financial Sustainability
- Metropolitan Staff will address the following questions:
  - How does Metropolitan define these terms now?
  - How are they used in practice?
  - How do evolving climate conditions impact our understanding of those terms?
  - What initial ideas does Met staff have for further developing our understanding?
- Prior to May 23 workshop, Member Agencies will be asked for input and their own definitions and practices





Finance, Audit, Insurance, and Real Property Committee

# Encroachment Management

Item 7a

April 11, 2023



# Encroachment Definition

Any situation in which a person or entity trespasses or uses Metropolitan's fee property without consent, prior rights, or interferes with Metropolitan's ability to use its easements.



# Encroachments by County

County	TOTAL	High	Medium	Low
Los Angeles	331	146	35	150
Riverside	144	16	55	73
Orange	25	7	11	7
San Bernardino	31	2	10	19
San Diego	27	1	10	16
<b>Total</b>	<b>558</b>	<b>172</b>	<b>121</b>	<b>265</b>
<b>Total %</b>		<b>30%</b>	<b>21%</b>	<b>47%</b>

# Encroachment Process

County	High Priority	Pending	Working	Agreement	Resolved
Los Angeles	146	56	32	20	38
Riverside	16	16	0	0	0
Orange	7	7	0	0	0
San Bernardino	2	2	0	0	0
San Diego	1	1	0	0	0
<b>Total</b>	<b>172</b>	<b>82</b>	<b>32</b>	<b>20</b>	<b>38</b>

# Encroachment Management Process

## Working

- Research
- Ranking
- Surveys
- Notifications

## Agreement

- Standard Agreement
- Exhibit
- Fees
- Insurance

## Resolved

- Removed Encroachment
- Prior Existing Rights

# Los Angeles- Foothill Feeder

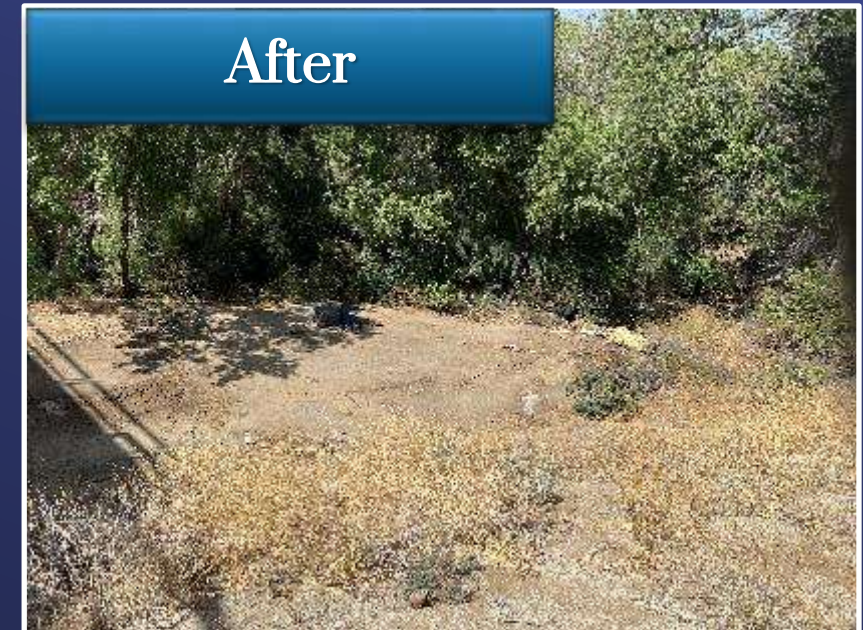
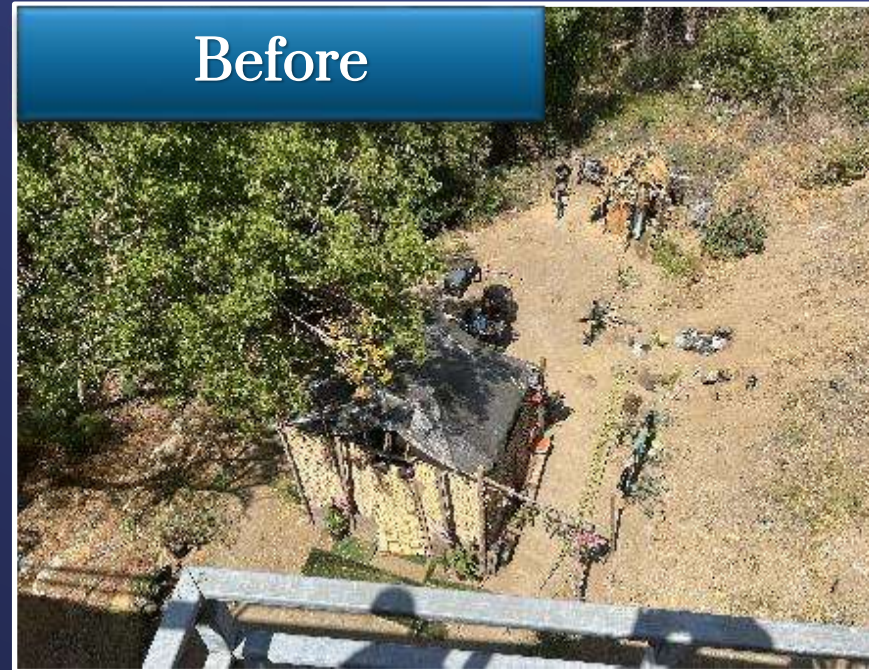
## Encroachment Removal





# Santa Ana Bridge- Biohazard clean-up

## Encampment Removal



# Activity Cost 2022

Account	Encroachment Plan	Trespass/ Encampments
Labor (3.1 FTEs)	\$431,000	\$225,300
Materials & Outside Contract Services	\$0	\$249,200
Totals	\$431,000	\$474,500
Total Encroachment/Trespass		\$905,500

