



2020 URBAN WATER MANAGEMENT PLAN



Olivenhain 2020 WaterSmart Landscape contest winner

June 2021



2020 URBAN WATER MANAGEMENT PLAN

June 2021

Prepared by:



14220 Sandhill Road
Poway, CA 92064

FINAL REPORT

Don MacFarlane, P.E.
Project Manager



In Association with



OMWD 2020 Urban Water Management Plan

Contents

Executive Summary and Lay Description.....	1
Chapter 1. Introduction and Overview	6
1.1 UWMP Organization	6
1.2 UWMP in Relation to Other Efforts	7
1.3 Urban Water Management Plans and Grant or Loan Eligibility.....	9
1.4 Demonstration of Consistency with the Delta Plan for Participants in Covered Actions.....	10
1.5 Urban Water Management Plans and the California Water Code	11
Chapter 2. Plan Preparation	14
2.1 Plan Preparation	14
2.2 Basis for Preparing a Plan	14
2.3 Regional Planning.....	15
2.4 Individual or Regional Planning and Compliance.....	15
2.5 Fiscal (FY) or Calendar Year and Units of Measure	16
2.6 Coordination and Outreach	16
Chapter 3. System Description	19
3.1 General Description	19
3.2 Service Area and Boundary Map.....	22
3.3 Service Area Climate	23
3.4 Service Area Population and Demographics.....	26
3.5 Land Uses within Service Area	29
Chapter 4. Water Use Characterization.....	31
4.1 Non-Potable Versus Potable Water Use	31
4.2 Past, Current, and Projected Water Use by Sector.....	32
4.3 Reporting Tables	34
4.4 Water Use for Lower Income Households.....	37
4.5 Climate Change Considerations	38
Chapter 5. SB X7-7 Baselines, Targets, and 2020 Compliance.....	39
5.1 Guidance for Wholesale Suppliers.....	39
5.2 SB X7-7 Forms and Summary Tables.....	39
5.3 Baseline and Target Calculations for 2020 UWMPs.....	40
5.4 Methods for Calculating Population and Gross Water Use	41
5.5 2020 Compliance Daily Per-Capita Water Use.....	42
5.6 Regional Alliance	42
Chapter 6. Water Supply Characterization	43
6.1 Water Supply Analysis Overview	43
6.2 Narrative Sections for OMWD’s Water Supply Characterization	44
6.3 Submittal Table Completion Using the Optional Planning Tool	63
6.4 Energy Information Reporting	64

Chapter 7. Water Service Reliability and Drought Risk Assessment	68
7.1 Introduction	68
7.2 Water Service Reliability Assessment	68
7.3 Drought Risk Assessment.....	77
7.4 Emergency Interties	79
7.5 SDCWA Scenario Planning - Managing an Uncertain Future	80
Chapter 8. Water Shortage Contingency Plan	82
8.1 Water Supply Reliability Analysis.....	82
8.2 Annual Water Supply and Demand Assessment Procedures	82
8.3 Six Standard Water Shortage Levels	84
8.4 Shortage Response Actions.....	87
8.5 Communication Protocols.....	99
8.6 Compliance and Enforcement.....	102
8.7 Legal Authorities	102
8.8 Financial Consequences of WSCP	103
8.9 Monitoring and Reporting	105
8.10 WSCP Refinement Procedures.....	105
8.11 Special Water Feature Distinction	106
8.12 Plan Adoption, Submittal, and Availability	106
Chapter 9. Demand Management Measures.....	108
9.1 Demand Management Measures for Wholesale Agencies	108
9.2 Demand Management Measures for Retail Suppliers.....	109
9.3 Reporting Implementation	112
9.4 Planned Implementation to Achieve Water Use Targets	114
9.5 Water Use Objectives (Future Requirements).....	115
Chapter 10. Plan Adoption, Submittal, Implementation.....	117
10.1 Inclusion of All 2020 Data	117
10.2 Notice of Public Hearing	117
10.3 Public Hearing and Adoption	118
10.4 Plan Submittal	118
10.5 Public Availability	118
10.6 Notification to Public Utilities Commission	119
10.7 Amending an Adopted UWMP or Water Shortage Contingency Plan.....	119

APPENDICES

- A – DWR Checklist of Compliance with Guidebook
- B – AWWA Water Loss Worksheet
- C – Affordable Sewer Service Resolution (No. 2016-5)
- D – SB X7-7 Calculations
- E – Recycled Water Mandate Ordinance (No. 173)
- F – 2019 Consumer Confidence Report

G – Water Shortage Contingency Plan (Ordinance No. 489)
H – Rates and Rules Brochure
I – Copy of Published Notice of Hearing
J – 2020 Regional Alliance Report
K – Addendum to 2015 UWMP

TABLES

Table 2-1 Retail: Public Water Systems	14
Table 2-2: Plan Identification	15
Table 2-3: Agency Identification	16
Table 2-4: Water Supplier Information Exchange.....	17
Table 2-A: Coordination with Stakeholder Agencies	18
Table 3-A: FY 2020 Water Use by Sector	21
Table 3-1: Current and Projected Service Area Population	26
Table 3-B: Age Distribution in the City of Encinitas	29
Table 3-C: Changes in Future Land Use.....	29
Table 4-1: Demands for Potable and Raw Water - Actual 2020	31
Table 4-A: Summary of Unit Use Adjustment Factors	33
Table 4-2 Retail: Use for Potable and Raw Water - Projected.....	34
Table 4-3: Total Gross Water Use (Potable and Non-Potable)	35
Table 4-4: 12 Month Water Loss Audit Reporting	35
Table 4-5: Inclusion in Water Use Projections	37
Table 4-B: Existing and Planned Low-Income Housing, City of Encinitas	37
Table 4-C: History of Water Use for 3459 Manchester Ave.....	38
Table 5-1: Baselines and Targets Summary	39
Table 5-2: 2020 Compliance	40
Figure 6-A: SDCWA and Member Agency Service Area Supply Portfolio Current and Projected.....	45
Table 6-1 Retail: Groundwater Volume Pumped.....	48
Table 6-B: Wastewater Collection Agencies Within OMWD Service Area	50
Table 6-2 Retail: Wastewater Collected Within OMWD Service Area in 2020.....	51
Table 6-3 Retail: Wastewater Treatment and Discharged Within OMWD Service Area in 2020	52
Table 6-4 Retail: Current and Projected Recycled Water Direct Beneficial Uses	54
Table 6-5 Retail: 2015 Recycled Water Use Projection Compared to 2020 Actual	55
Table 6-6 Retail: Methods to Expand Future Recycled Water Use.....	57
Table 6-C: North County One Water Program Participants and Demands.....	59
Table 6-7: Expected Future Water Supply Projects or Programs	61
Table 6-8 Retail: Water Supplies – Actual.....	61
Table 6-9 Retail: Water Supplies – Projected	62

Table O-1A: Recommended Energy Reporting – Water Supply Process Approach.....	64
Table O-2: Recommended Energy Reporting – Wastewater & Recycled Water	65
Table 6-D: Energy Intensity for Conveyance.....	67
Table 6-E: Energy Intensity for Treatment.....	67
Table 6-F: Energy Intensity for Distribution of Treated Water	67
Table 6-G: Non-Consequential Energy Intensity	67
Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)	70
Table 7-2 Retail: Normal Year Supply and Demand Comparison	72
Table 7-3 Retail: Single Dry Year Supply and Demand Comparison	73
Table 7-4 Retail: Multiple Dry Years Potable Supply and Demand Comparison	74
Table 7-A. 2021 – 2025 Demand Projection Multipliers.....	77
Table 7-5. Five-Year Drought Risk Assessment Tables to Address Water Code Section 10635 (b)	78
Table 7-B: OMWD Emergency Interconnections	79
Table 7-C: Potential Common Strategies to Strengthen Implementation.....	80
Table 7-D: Resource Mix Review Schedule	81
Table 8-A: Annual Assessment Decision-Making Process.....	83
Table 8-1: Water Shortage Contingency Plan Levels	86
Table 8-2: Demand Reduction Actions	88
Table 8-3: Supply Augmentation and Other Actions	93
Table 8-B: Administrative and Technical Capability.....	97
Table 8-C: Legal and Regulatory Capability.....	97
Table 8-D: Fiscal Capability	97
Table 8-E: Facility Specific Seismic Vulnerability and Mitigation Plan	99
Table 8-F: Contacts for the Possible Proclamation of a Local Emergency	103
Table 10-1 Retail: Notification to Cities and Counties	117

FIGURES

Figure 1-A – Integrated Regional Water Management Planning Region.....	9
Figure 3-A: OMWD Service Area	20
Figure 3-1: OMWD Service Area Boundary and Area Cities	22
Figure 3-B: Annual Rainfall (Lindbergh Field Station)	23
Figure 3-C: Average Monthly Climate Variables	24
Figure 3-2: Commercial/Industrial Buildings Constructed, By Decade.....	30

Executive Summary and Lay Description

ES.1 Introduction

Olivenhain Municipal Water District (OMWD) has prepared this 2020 Urban Water Management Plan (UWMP) to guide its conservation and water resource management programs and to comply with state law. The Urban Water Management Planning Act [California Water Code (CWC) §§ 10610 – 10656] (Act) requires urban water suppliers to report, describe, and evaluate various aspects of their water resources and plans for providing water service, such as:

- Water deliveries and uses
- Water supply sources
- Efficient water uses
- Demand Management Measures (DMMs); and
- Water shortage contingency planning

OMWD is a California public water system providing potable water, wastewater services, recycled water, hydroelectricity, and park services and is headquartered in Encinitas, San Diego County, California. In 2020, OMWD served 22,592 accounts and delivered 17,100 acre-feet (AF) of potable water. Under the Act, as amended, OMWD is required to submit an UWMP every five years and this report is the fiscal year (FY) 2020 plan.

ES.2 Lay Description Of Fundamental Determinations

In this section we provide a general summary description of the fundamental determinations of this UWMP. In the interest of keeping this section brief, the reader can find more information and detail in subsequent chapters and referenced documents.

Customer Demand for Potable Water

OMWD customer demand for potable water peaked in 2008 at nearly 25,000 acre-feet (AF). Since that time, demands have generally been declining due to increased water use efficiency (conservation), the increased use of, and related conversion to, recycled water, as described in the next section, and the increased cost of imported water from OMWD's supplier. Customer demand in FY 2020 was approximately 17,100 AF. An acre-foot is approximately 325,000 gallons and is generally enough to supply two to three single family residences for a year. OMWD has forecast that future potable demands will continue to decline for the same reasons. The decline depends on conservation, and in particular, landscape conversions from turf to California-native or other low water use landscapes. OMWD has a small amount of development remaining that will not contribute significantly to future demands. OMWD is approximately 95 percent built out and expects to be fully developed within approximately 10 years.

Customer Demand for Recycled Water

OMWD has aggressively implemented the use of recycled wastewater for irrigation in areas where demands are concentrated. Because recycled water requires a new, separate distribution system from the potable system, it is not cost-effective to serve all of OMWD's service area. Customer demand in

2020 was approximately 2,500 AF and OMWD forecasts the demand to grow to approximately 2,800 AF by 2030 and 2,900 by 2040.

The District provides sewer collection and treatment services to a portion of the District's service area and sells recycled water to golf courses and other customers for irrigation. The District's 4S Ranch Water Reclamation Facility (WRF) collects and treats sewage from two specific areas of the District, Rancho Cielo and 4S Ranch. Sewage is processed in the 4S WRF through various treatment stages to produce California Title 22 tertiary treated recycled water that can be used for irrigation purposes. The 4S WRF currently produces approximately 1 million gallons per day (mgd) of its maximum production of 2.0 mgd to meet recycled water demand in the southeast quadrant of the District's service area. In order to meet demand in the southeast, the District also purchases recycled water from Ranch Santa Fe Community Services District and City of San Diego.

The District also sells recycled water in the northwest portion of its service area. To meet recycled water demand in the northwest, the District has entered into recycled water purchase agreements with Vallecitos Water District and San Elijo Joint Powers Authority. Recycled water in the northwest is delivered through the utilization of metered interagency service connections.

Water Use Efficiency

Water use efficiency is often measured in gallons used per person, per day and expressed as gallons per capita per day (GPCD). OMWD's customer GPCD has decreased from approximately 400 GPCD in 2000 to approximately 206 GPCD in 2020. OMWD forecasts improved efficiency and decreases in GPCD, although not to the same extent as in the past 20 years. Water use efficiency varies throughout San Diego County based on land use. Agencies and cities that are urbanized with high-density and multi-family development tend to have lower GPCD than a District like OMWD that has predominantly single-family development, many with large lots and landscaping irrigation.

As required by the Water Conservation Act of 2009, Senate Bill X7-7, OMWD developed urban water use targets in its 2010 UWMP including a 20 percent water use reduction by 2020. OMWD has achieved its 2020 target.

Water Supply and Reliability

OMWD obtains 100 percent of its potable water supply from the San Diego County Water Authority (SDCWA). The supply is primarily surface water from the Sacramento-San Joaquin Delta (Delta) in northern California and the Colorado River, and is treated to meet or exceed all state and federal standards at the David C. McCollom Water Treatment Plant (DCMWTP). OMWD also purchases a small amount of treated water from SDCWA from the same surface water supplies but treated at the Skinner Filtration Plant owned by the Metropolitan Water District of Southern California (Metropolitan), or SDCWA's Twin Oaks Valley Water Treatment Plant. SDCWA supplies are known as imported water. OMWD treated water may also come from the Claude "Bud" Lewis Carlsbad Desalination Plant.

SDCWA has contracted for Colorado River supplies through a conserved water program with the Imperial Irrigation District, and also by constructing a concrete liner in the All American and Coachella Canals that deliver water from the Colorado River to Imperial and Riverside Counties. These are collectively known as Quantification Settlement Agreement (QSA) supplies. SDCWA has also contracted for supplies from the Carlsbad Desalination Plant. SDCWA considers both supplies to be "drought resilient" meaning they would remain available during a drought. SDCWA is also a member agency of

Metropolitan and as such has access to additional supplies from the Delta and Colorado River, and other sources. SDCWA has analyzed its supplies under normal, single-dry, and five consecutive dry-year conditions through the year 2045 and has concluded there will be no shortages. SDCWA has also completed a Drought Risk Assessment assuming a drought from 2021 through 2025 and has concluded there will be no shortages.

SDCWA assessed the seismic (earthquake) risk to its, and OMWD's water supplies. To mitigate these risks, SDCWA constructed \$1.5 billion in dam/reservoir, pump station, and pipeline improvements, completed in 2014, and is known as the Emergency Storage Project (ESP). Specifically, the Project was based on an earthquake severing the aqueducts that supply SDCWA for periods of two- and six-months. A complete description of ESP can be found in Section 11 of the SDCWA 2020 UWMP.

OMWD Local Supplies

OMWD has been investigating a brackish groundwater desalination project in the San Dieguito Valley. A feasibility study was completed in 2017 and a one-year pump test was completed in December 2020. The pump test further confirmed the technical feasibility of the project. Should OMWD move forward with this project, it has the potential to provide additional supply reliability and local control over costs. OMWD continues to increase the use of recycled water which offsets potable water use, and is drought resilient.

Water Supply Reliability Challenges and Strategies to Manage Risks

The primary sources of supply for SDCWA from Metropolitan are the Delta and the Colorado River. The primary sources of contractual supplies for SDCWA are the Colorado River and the Pacific Ocean through the Carlsbad Desalination Plant. DWR is in the process of completing environmental documents and permitting for a project known as Delta Conveyance. This project, along with California EcoRestore, are intended to achieve the State's mandated coequal goals of water supply reliability and the restoration of critical Delta habitat. Included in water supply reliability is planning for climate change. The outcome of the Delta Conveyance project will impact Delta supply reliability.

Federal studies have concluded that there is more demand on the Colorado River than it can supply both today and in the future. This is based on an improved understanding of the historical record of flows, and the potential impacts from climate change. The seven basin states that share the Colorado River supply have implemented strategies to reduce demand and in 2020 approved a drought contingency plan. The lower basin states of California, Arizona, and Nevada, along with the Republic of Mexico have worked aggressively to reduce demands and increase storage in Lake Mead, to avoid lake levels reaching the point where a shortage would be declared. The current operating guidelines for water deliveries and shortage sharing expire in 2026 and the basin states are working to have new guidelines completed before then.

SDCWA strategies to manage water supply risks include their long-term contracts for supplies from QSA and the Carlsbad Desalination Plant, and local storage. For OMWD, the primary strategies include the San Dieguito Valley Brackish Groundwater Project, increased recycled water supplies, and water use efficiency, all of which reduce the demand on imported water and improve reliability.

OMWD is a founding member of the North San Diego Water Reuse Coalition comprised of nine water and wastewater agencies that are closely coordinating activities to maximize beneficial reuse and improve the reliability of water supplies for the region.

Updated Water Supply Contingency Plan

The water supply contingency plan (WSCP) is a detailed set of actions that OMWD could implement in the case of an actual water shortage condition. As part of this 2020 UWMP, OMWD updated and adopted its WSCP, as described in Chapter 8. Actions could include demand management (reduction) measures, operational changes, and mandatory restrictions.

During 2015, OMWD demonstrated the effectiveness of its contingency planning in response to the Governor's Executive Order for a 25 percent reduction in use. In addition, through careful and conservative financial planning, OMWD was able to sustain operations without the use of its financial reserves. With its own storage facilities and water treatment plant, and the SDCWA's Emergency Storage Project, significant steps have been taken to prepare for catastrophic interruption of supplies.

ES.3 Key Elements of OMWD'S 2020 UWMP

Key elements of OMWD's 2020 UWMP are summarized below:

- **OMWD's 2020 UWMP meets the requirements of the California Water Code (CWC) and the Urban Water Management Planning Act.**

This UWMP was prepared according to the Final 2020 UWMP Guidebook for Urban Water Suppliers, issued by the State of California's Department of Water Resources (DWR). The Guidebook was prepared to assure compliance with the CWC and the Act. The DWR checklist of compliance with the Guidebook and the CWC is included as Appendix A.

- **OMWD has completed an open and collaborative UWMP process.**

OMWD has notified its wholesale supplier, SDCWA; the County of San Diego; the cities of Encinitas, Carlsbad, San Marcos, Solana Beach, San Diego, and other local cities; the local wastewater collection and treatment agencies; the San Diego Association of Governments (SANDAG); and others of the preparation of this 2020 UWMP and invited input and comment. The draft UWMP was published on OMWD's website on May 5, 2021 and a public hearing was held May 19, 2021. No oral or written comments were received. OMWD's Board of Directors adopted the 2020 UWMP at its regular meeting of June 16, 2021.

- **OMWD has updated its population and water demand projections based on the latest forecast by SANDAG.**

As a part of its 2020 Potable Water and Recycled Water Master Plan, OMWD obtained updated population and demographic forecasts from SANDAG Series 14. Using these forecasts, OMWD developed new water demand projections considering new development, reductions due to additional conservation efficiencies, and the potential effects of climate change. OMWD utilized SANDAG population figures for regional consistency.

- **Next steps and submission deadlines**

OMWD plans the following steps to complete the UWMP process:

- ✓ Electronic Submittal to DWR – No later than July 1, 2021

- ✓ Copies to Cities, County, State Library – No later than July 15, 2021
- ✓ Plan Available to the Public – No later than July 30, 2021

Chapter 1. Introduction and Overview

Olivenhain Municipal Water District (OMWD) has prepared this 2020 Urban Water Management Plan (UWMP) to guide its conservation and water resource management programs and to comply with state law. OMWD chose to update and restructure its existing 2015 UWMP, adopted on June 15, 2016, to facilitate the DWR review process.

According to California Water Code (CWC) § 10610.2(a) (2), “[t]he conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.” Similarly, CWC § 10608(h) provides that “[t]he factors used to formulate water use efficiency targets can vary significantly from location to location based on factors including weather, patterns of urban and suburban development, and past efforts to enhance water use efficiency.”

OMWD is a public agency organized under CWC § 71000 et seq. and is comprised of a five-member, publicly elected Board of Directors and appointed General Manager committed to its customers.

The 2020 UWMP serves as a long-term planning document to ensure a reliable water supply at the local level. OMWD has made great strides in implementing 2015 UWMP strategies, diversifying supplies, and promoting water use efficiency; with continued efforts in reducing water use and aggressively pursuing alternate sources of water such as recycled water, OMWD plans to achieve even greater potable water savings. A complete evaluation and update of the resource management strategies in this UWMP will occur every five years, with annual review performed by OMWD to track progress and consider any unanticipated factors in supply reliability.

1.1 UWMP Organization

This UWMP is organized consistently with the chapter and subchapter headings contained in the 2020 Final Urban Water Management Plans Guidebook for Urban Water Suppliers, with the following chapters:

Executive Summary and Lay Description

Chapter 1 – Introduction and Overview

Chapter 2 – Plan Preparation

Chapter 3 – System Description

Chapter 4 – Water Use Characterization

Chapter 5 – SBX 7-7 Baselines, Targets, and 2020 Compliance

Chapter 6 – Water Supply Characterization

Chapter 7 – Water Supply Reliability and Drought Risk Assessment

Chapter 8 – Water Shortage Contingency Plan

Chapter 9 – Demand Management Measures

Chapter 10 – Plan Adoption, Submittal, and Implementation

1.2 UWMP in Relation to Other Efforts

1.2.1 OMWD UWMP Demand Forecast

The demand forecast for this UWMP was based on the San Diego Association of Governments (SANDAG) Series 14 population and demographic projections. These projections are based on the general plans of the cities and unincorporated county areas that OMWD serves.

1.2.2 Groundwater Sustainability, Groundwater Management Plan

OMWD is currently investigating a brackish groundwater desalination project in the San Dieguito Valley, as described in section 6.2.1. Should this project move forward, OMWD will consider the preparation of a groundwater sustainability plan or a groundwater management plan.

1.2.3 Potable Water and Recycled Water Master Plan

OMWD's Board of Directors approved the 2015 Potable Water and Recycled Water Master Plan (Master Plan) on December 9, 2015. A copy of the Master Plan is available at the following link.

<http://www.olivenhain.com/MasterPlan> OMWD staff is in the scoping process for updated potable water and recycled water master plans which are scheduled for completion by 2023.

1.2.4 California Water Plan Update 2018 and Governor's Water Resilience Portfolio

The California Water Plan Update 2018 (Update 2018) provides recommended actions, funding scenarios, and an investment strategy to bolster efforts by water and resource managers, planners, and decision-makers to overcome California's most pressing water resource challenges. It reaffirms state government's unique role and commitment to sustainable, equitable, long-term water resource management; it also introduces implementation tools to inform sound decision-making. The plan's broad and diverse portfolio of recommended actions address California's critical, systemic, and institutional challenges.

Update 2018 presents a vision where all Californians benefit from such desirable conditions as reduced flood risks, more-reliable water supplies, reduced groundwater depletion, and greater habitat and species resiliency – all for a more sustainable future. Planning and policy priorities will have a mutual understanding of resource limitations, management deficiencies, and shared intent – with a focus on sustainability and multi-benefit actions that result in greater public health and safety; healthy economy; ecosystem vitality; and cultural, spiritual, recreational, and aesthetic experiences.

In 2019, Governor Newsom directed the secretaries of the California Natural Resources Agency, California Environmental Protection Agency, and the California Department of Food and Agriculture to identify and assess a suite of complementary actions to ensure safe and resilient water supplies, flood protection, and healthy waterways for the state's communities, economy, and environment. The order directs the state to think bigger and more strategically on water by directing the agencies to inventory and assess current water supplies and the health of waterways, future demands, and challenges. The

plan calls for increased investment in water supply diversity, protection of natural systems, and agency interconnection.

OMWD reviewed Update 2018 and the Governor's Water Resilience Portfolio and provided comments and suggestions, through two coalition letters.

1.2.5 Integrated Regional Water Management Plans (Updated by OMWD)

Since the legislature passed the Integrated Regional Water Management Planning Act in 2000 (CWC § 10530 et seq., added by Stats. 2002, c. 767), Integrated Regional Water Management Plans (IRWMP) have been developed throughout the state. This process involves an integrated approach to water management planning by providing the framework for local agencies to cooperatively manage available local and imported water supplies and improve water supply quality, quantity, and reliability. Many of the IRWMP elements (CWC § 10540 et seq.) are also part of an UWMP and can be addressed cooperatively during the UWMP process, if certain criteria are met. OMWD participated in the development of the San Diego IRWMP. In 2019, the plan was updated to comply with DWR's 2016 IRWM Program Guidelines, incorporate new water planning studies, and make the region eligible for future rounds of grant funding. A copy can be found at <http://www.sdirwmp.org> and a map of the planning region is included below as **Figure 1-A (next page)**. OMWD is also a member of the Regional Advisory Committee which was originally formed in December 2006 to assist the Regional Water Management Group in the completion of the IRWMP and in the prioritization of projects for Proposition 50 funding.

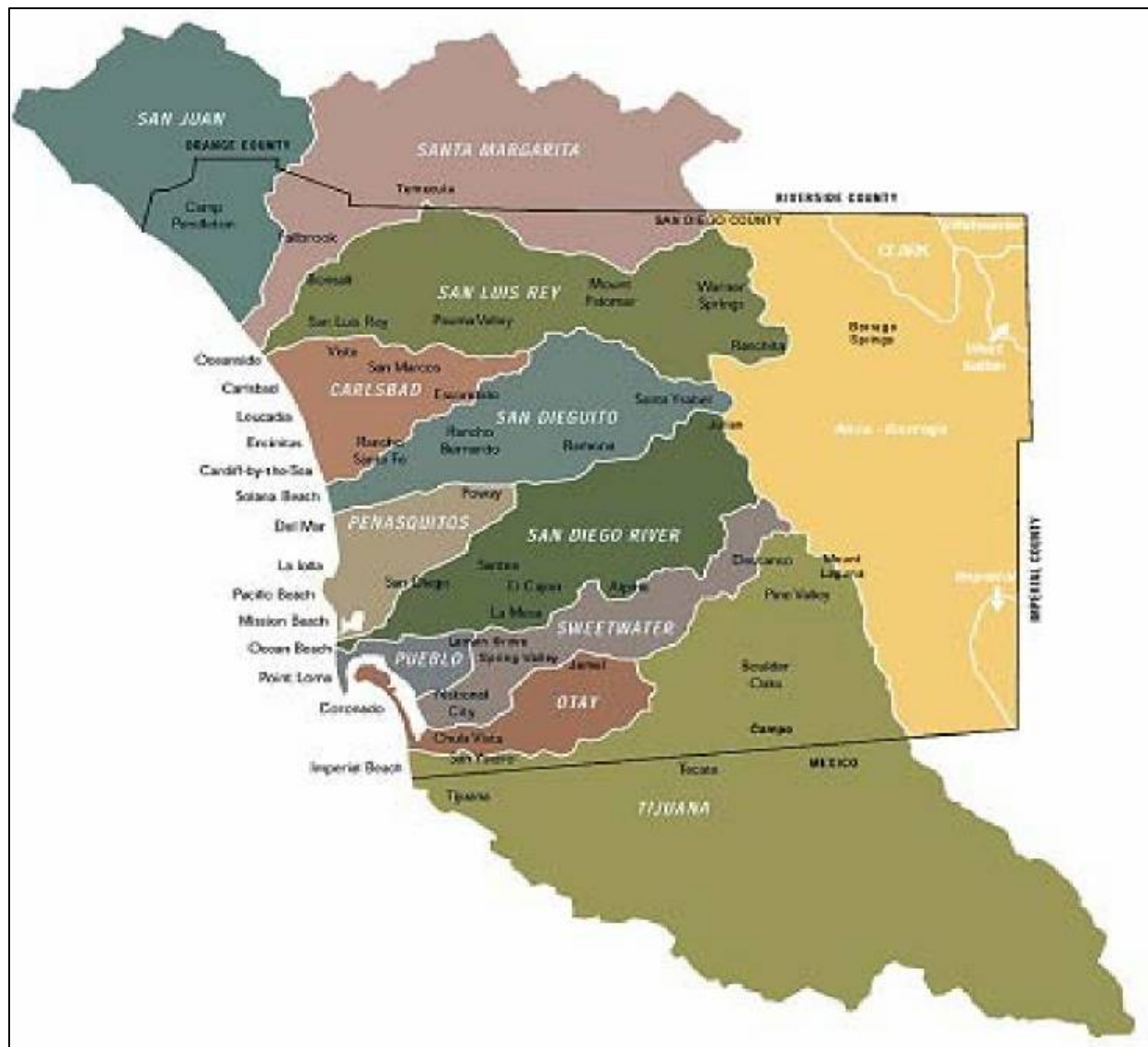
IRWMP supports OMWD's and the San Diego County Water Authority's (SDCWA) UWMPs by promoting regional planning and supporting projects that aim to increase water supply reliability and improve surface water and groundwater quality. IRWM planning and funding will help to make possible water supply projects in the areas of seawater desalination, recycled water, local surface water, and groundwater, which are part of the region's projected mix of water resources. The IRWM program also supports water conservation, another key element of OMWD's and SDCWA's UWMPs.

OMWD is a member of the North San Diego Water Reuse Coalition. This group seeks to optimize reuse and recycled water use by analyzing recycled water demands and supplies, and creating regional projects without regard to agency boundaries. The facility plan for the Coalition's Regional Recycled Water Project was finalized in 2012. The project received \$1.45 million in funding from Proposition 84, Round 1 and this was primarily used for a Programmatic Environmental Impact Report. In addition, each member of the project received \$90,000, and OMWD used its share for partial funding of the Village Park Recycled Water Project (VPRWP). In Round 2 of Proposition 84 funding, OMWD received \$540,600 which was used for the VPRWP and to expand recycled water to Surf Cup Sports, LLC's 55 acres of grass sports fields. San Elijo Joint Powers Authority (SEJPA) also received funding that was applied to the supply portion of the VPRWP.

Subsequent funding phases have seen individual Coalition members work together on specific elements of the larger regional project. Round 3 of funding was expedited and OMWD provided outreach support for the Carlsbad Recycled Water Plant and Distribution System Project. In Round 4, OMWD received \$600,000 for the Manchester Avenue Recycled Water Pipeline project. In 2020, Coalition members were

awarded \$2.82 million in funding from Proposition 1, Round 1. This funding included \$750,000 to OMWD for the South El Camino Real Recycled Water Pipeline Extension.

Figure 1-A – Integrated Regional Water Management Planning Region



1.3 Urban Water Management Plans and Grant or Loan Eligibility

Completion of a UWMP, including discussion of the status of a water supplier's implementation of DMMs, is required for an urban water supplier to be eligible for a water management grant or loan administered by DWR, the State Water Board, or the Delta Stewardship Council (CWC § 10631.5(a)). A current UWMP must also be maintained by the water supplier throughout the term of any grant or loan administered by DWR.

The water supplier must also comply with the water conservation requirements established by the Water Conservation Act of 2009. A retail water agency must meet its 2020 Water Use Target or have

submitted to DWR for approval a schedule, financing plan, and budget for achieving per capita reductions.

1.4 Demonstration of Consistency with the Delta Plan for Participants in Covered Actions

1.4.1 Background

An urban water supplier that anticipates participating in or receiving water from a proposed project, such as a multiyear water transfer, conveyance facility, or new diversion that involves transferring water through, exporting water from, or using water in the Sacramento-San Joaquin Delta (Delta), should provide information in their 2015 and 2020 UWMPs that can then be used in the certification of consistency process to demonstrate consistency with the Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-reliance (California Code Regulations, Title 23, Section 5003). This information is provided in Appendix K, and summarized in this section.

1.4.2 OMWD Consistency with WR P1

OMWD demonstrates consistency with WR P1 through a combination of its success in implementing water use efficiency strategies, developing its own local water recycling supply, and through the local and regional water supply projects it participates in as a member agency of SDCWA. OMWD's average water use has decreased from 359 gallons per capita per day (GPCD) as forecast in its 2005 UWMP to 206 GPCD based on the 2020 UWMP population and demand forecasts. OMWD's recycled water demand is forecast to increase from approximately 2,500 AFY in 2020 to 2,900 AFY by 2045, or approximately 18 percent of its total 2045 demand. OMWD is also actively investigating the San Dieguito Valley Brackish Groundwater Desalination Project with a minimum capacity of 1,120 AFY. Although not included in the calculations, this project, if implemented, would further reduce reliance on the Delta watershed and improve regional self-reliance.

In its Draft Appendix M, Addendum to the SDCWA's 2015 Urban Water Management Plan, Reporting on Reduced Delta Reliance, SDCWA demonstrates its service area's consistency with WR P1 by detailing the San Diego Region's collective contributions to regional self-reliance. The regional self-reliance demonstrated in SDCWA's Appendix M Table 3 consists of strategies implemented by SDCWA and its retail agencies including OMWD. In 2010, its baseline year, the percentage of water supplies within the SDCWA service area contributing to regional self-reliance was approximately 44 percent. In 2015, this grew to 45 percent; in 2020, 79 percent; and it is projected at 90-plus percent through 2045. SDCWA and its member agencies have accomplished this reduction in Delta reliance through water use efficiency, water recycling, and seawater desalination, each of which contributes approximately 10 percent. Local and regional water supply and storage projects make up approximately 70 percent and include the Imperial Irrigation District conserved water transfer and the All-American and Coachella Canal lining projects, cumulatively 278,700 AFY. Groundwater, brackish groundwater, surface water, and potable reuse make up the remaining increments of local supply.

WRP1 subdivision (c)(1)(C) requires water suppliers to report on the expected outcomes for measurable reductions in water supplies from the Delta watershed as either a reduction in percentage

or volume used of Delta supplies form a quantified baseline. As a member agency of Metropolitan, SDCWA's Draft 2020 UWMP demonstrates the reduction in Delta supplies received from Metropolitan in its Appendix M Table 4 which is derived from Metropolitan's Draft 2020 RUWMP. SDCWA water purchases from Metropolitan include supply from the State Water Project that Metropolitan receives as a State Water Contractor. Metropolitan's 2020 UWMP, Appendix 11, Table A. 11-3, indicates that in 2010, approximately 27 percent of its service area supply was from the Delta. In 2015 and 2020, this declined to approximately 20 percent. Metropolitan forecasts that its Delta portion of its supply will decline from 24 percent in 2025, to just under 20 percent in 2045.

In summary, through its own activities, the activities of SDCWA and its other retail member agencies and the activities of Metropolitan, OMWD is able to demonstrate its compliance with all aspects of WR P1.

1.5 Urban Water Management Plans and the California Water Code

1.5.1 Urban Water Management Plan Act of 1983

The Urban Water Management Planning Act (CWC §§ 10610 – 10656) (Act) requires urban water suppliers to report, describe, and evaluate various aspects of their water resources and plans for providing water service, such as:

- Water deliveries and uses
- Water supply sources
- Efficient water uses
- Demand Management Measures (DMMs) and
- Water shortage contingency planning

The Act directs water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies are available to meet existing and future demands. Urban water suppliers are required to assess current demands and supplies over a 20-year planning horizon (with an additional 5-year option) and consider various drought scenarios. Among other things, the Act also requires water shortage contingency planning and drought response actions to be included in a UWMP.

UWMPs are to be prepared every five years by urban water suppliers, which are defined by the Act as water suppliers providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet (AF) of water per year. The normal UWMP submittal cycle requires that they be updated at least once every five years on or before December 31 in years ending in five and zero. However, because of recent changes in UWMP requirements, state law has extended the deadline by which agencies must adopt their 2020 UWMPs to July 1, 2021. Although submitted in 2021, 2020 UWMPs will be referred to as 2020 UWMPs because they include FY 2020 water data and to retain consistency with the five-year submittal cycle under the Act.

This UWMP was prepared following the 2020 Final Urban Water Management Plan Guidebook for Urban Water Suppliers. It includes the DWR Methodologies, the Act, Senate Bill (SB) X7-7 (CWC § 10608 et seq.) (Water Conservation Bill of 2009) requirements, recent code changes, and other relevant information.

1.5.2 New Requirements

Since the completion of OMWD's 2015 UWMP, there are numerous additional requirements passed by the legislature for the 2020 UWMPs. Major new requirements include:

- **Five Consecutive Dry-Year Water Reliability Assessment** – The Legislature modified the dry-year water reliability planning from a “multiyear” time period to a “drought lasting five consecutive water years” designation. This is addressed in Chapters 4, 6, and 7.
- **Drought Risk Assessment (DRA)** – The drought risk assessment requires a Supplier to assess water supply reliability over a five-year period from 2021 to 2025 that examines water supplies, water uses, and the resulting water supply reliability under a reasonable prediction for five consecutive dry years. Chapter 7 describes the OMWD DRA.
- **Seismic Risk** – The water code now requires Suppliers to specifically address seismic risk to various water system facilities and to have a mitigation plan. This is addressed in Chapter 8.
- **Water Shortage Contingency Plan (WSCP)** – In 2018, the Legislature modified the UWMP laws to require a WSCP with specific elements. The WSCP is a document that provides a Supplier with an action plan for a drought or catastrophic water supply shortage. OMWD adopted its WSCP at its June 16, 2021 board of directors meeting as Ordinance No. 489. The WSCP is addressed in Chapter 8.
- **Groundwater Supplies Coordination** – The Water Code requires Supplier's 2020 UWMPs to be consistent with Groundwater Sustainability Plans (GSP), completed by Groundwater Sustainability Agencies (GSA). Currently, OMWD does not use groundwater as a supply and there are no GSPs in the service area. Should OMWD proceed with the San Dieguito Valley Brackish Groundwater Desalination Project, described in Section 6, OMWD may become the GSA and prepare a GSP. If the GSP is completed before 2025, that year's UWMP would be consistent with the GSP.
- **Lay Description** – The Legislature included a new statutory requirement for suppliers to include a lay description of the fundamental determinations of the UWMP. This has been included in the Executive Summary.

1.5.3 Water Conservation Act of 2009 (SB X7-7)

Based on legislative changes resulting from the passage of the Water Conservation Bill of 2009, UWMPs are also intended to assist water agencies and, in turn, the State of California to set targets and track progress toward decreasing daily per capita urban water use throughout the state. The passage of the Water Conservation Bill of 2009 requires urban retail water suppliers to determine and report various technical information in their UWMPs that is geared toward helping achieve the goal of the Water Conservation Bill of 2009 to reduce statewide per capita urban water use, such as base daily per capita water use (baseline) which is also commonly referred to as gallons per capita per day (GPCD), 2020 urban water use targets, 2015 interim urban water use targets, and compliance with daily per capita water use quotas. In this 2020 UWMP, OMWD reports on its compliance with its 2020 target.

1.5.4 SB 610 (2001) and SB 221 (2001)

SB 610 (in part, CWC §§ 10910 through 10915) and SB 221 (California Government Code §§ 65867.5, 66455.3, and 66473.7) added and amended provisions of state law to improve the link between

information on water supply availability and land use decisions made by cities and counties. In general terms, SB 610 requires the applicable public water system to prepare and adopt a water supply assessment to be included in the environmental documentation prepared by a city or county for certain types of proposed projects as defined by SB 610. SB 221 generally requires the approval of a development agreement or tentative map that includes more than 500 dwelling units to be conditioned on a written verification from the applicable public water system that sufficient water supplies will be available. OMWD has no remaining developments larger than 500 units.

1.5.5 Urban Water Use Objectives

CWC requires Suppliers to develop urban water use objectives for certain sectors, in order to meet their target water use calculated in the previous plan. These water use objectives will not be developed until 2023, and the first report will require information on what demand management measures (DMM) (water conservation measures) Suppliers will implement to meet their stated objectives. For the 2020 UWMP, DWR encourages, but does not require Suppliers to describe demand management measures implemented, or planned for implementation, to meet anticipated urban water use objectives. While OMWD does not commit to specific DMMs at this time, Chapter 9 does provide a description of some of the measures under consideration.

Chapter 2. Plan Preparation

2.1 Plan Preparation

This chapter determines that OMWD is required to prepare and UWMP and describes the coordination that OMWD will employ in developing the UWMP. The chapter includes the following sections:

- Basis for preparing a plan
- Regional Planning
- Individual or Regional Planning and Compliance
- Fiscal or Calendar Year and Units of Measure
- Coordination and Outreach

2.2 Basis for Preparing a Plan

OMWD is a public water system that serves portions of the cities of Encinitas, Carlsbad, San Diego, Solana Beach, and San Marcos, and all or portions of the unincorporated county communities of Elfin Forest, Rancho Santa Fe, Fairbanks Ranch, Santa Fe Valley, and 4S Ranch. OMWD has more than 3,000 service connections and supplies more than 3,000 acre-feet per year (AFY) and is therefore required to provide a UWMP every five years in accordance with CWC Section 10617. OMWD was formed in 1959 and has adopted and submitted a UWMP every five years since the Act was passed into law.

2.2.1 Public Water System

OMWD meets the Health and Safety Code definition of a Public Water System: “a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.” OMWD’s Public Water System number is 3710029.

2.2.2 Agencies Serving Multiple Service Areas/ Public Water Systems

OMWD has one service area and one public water system. Required plan information is summarized in **Table 2-1**.

Table 2-1 Retail: Public Water Systems

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	2020 Volume of Water Supplied (AF)
3710029	Olivenhain Municipal Water District	22,592	19,582
TOTAL		22,592	19,582

Notes: Active meters not including construction, fire, internal, or recycled.
Volume includes both potable and recycled water delivered 17,100 P + 2,482 R

2.3 Regional Planning

OMWD participated in SDCWA's regional planning and considered regional plans and coordinated efforts in the development of this 2020 UWMP.

2.4 Individual or Regional Planning and Compliance

2.4.1 Regional UWMP

OMWD is not preparing a Regional UWMP (RUWMP). OMWD is reporting individual planning and compliance and this 2020 UWMP addresses only its service area. OMWD has notified and coordinated with appropriate regional agencies and constituents.

2.4.2 Regional Alliance

OMWD is a part of a regional alliance with San Dieguito Water District (SDWD), Vallecitos Water District (VWD), and Rincon del Diablo Municipal Water District (RdDMWD) and is reporting on and complying with 2020 water use targets. OMWD has prepared a 2020 Regional Alliance Report, attached at Appendix J, and has submitted it separately to DWR. Required plan identification information is presented in **Table 2-2**.

Table 2-2: Plan Identification

Select Only One	Type of Plan		Name of RUWMP or Regional Alliance
X	Individual UWMP		
		Water Supplier is also a member of a RUWMP	
	X	Water Supplier is also a member of a Regional Alliance	Olivenhain Regional Alliance
	Regional UWMP		

2.5 Fiscal (FY) or Calendar Year and Units of Measure

2.5.1 Fiscal or Calendar Year

The following notes, along with **Table 2-3**, provide information required for the UWMP, specifying the basis of data reporting:

- **FY:** OMWD is reporting data on a FY basis.
- **2020 Reporting Year:** OMWD is reporting data for FY 2020, July 1, 2019 through June 30, 2020.
- **Units in Acre-Feet:** OMWD's 2020 UWMP will use acre-feet as the units of measure. (One AF = 325,851 gallons. A typical residential account in OMWD's service area uses approximately 0.5 AFY.)

2.5.2 Reporting Complete 2020 Data

OMWD is reporting water use and planning data for the entire fiscal year of 2019-2020.

2.5.3 Units of Measure

OMWD will report water volumes in acre-feet.

Table 2-3: Agency Identification

Table 2-3: Supplier Identification	
Type of Agency	
	Agency is a wholesaler
X	Agency is a retailer
Fiscal or Calendar Year	
	UWMP Tables Are in calendar years
X	UWMP Tables Are in fiscal years
Year Begins on July 1	
Units of Measure Used in UWMP	
Unit	Acre-Feet (AF) (1 AF = 325,851 gallons)

2.6 Coordination and Outreach

2.6.1 Wholesale and Retail Coordination

OMWD relies upon SDCWA for 100 percent of its potable water supply either as raw water for treatment at OMWD's David C. McCollom Water Treatment Plant (DCMWTP), or as treated water. OMWD has provided SDCWA with projected water demand in five-year increments for the next 20 years in an email dated April 29, 2021. OMWD supplements its own recycled water production with supplies from VWD, SEJPA, Rancho Santa Fe Community Services District (RSFCSD), and the City of San Diego. OMWD regularly coordinates with these agencies regarding recycled water supplies. Agency coordination information is summarized in **Table 2-4**.

Table 2-4: Water Supplier Information Exchange

Table 2-4 Retail: Water Supplier Information Exchange
The retail supplier has informed the following wholesale supplier(s) of projected water use in accordance with CWC section 10631.
Wholesale Water Supplier Name
Potable Water: <ul style="list-style-type: none">• San Diego County Water Authority
Recycled Water: <ul style="list-style-type: none">• Vallecitos Water District• San Elijo Joint Powers Authority• City of San Diego• Rancho Santa Fe Community Services District

2.6.2 Coordination with Other Agencies and the Community

OMWD coordinated the preparation of its UWMP with appropriate local agencies, including other water suppliers that share a common source, water management agencies and relevant public agencies, to the extent practical. Notification of the update of the 2020 UWMP was sent out more than 60 days prior to the public hearing to all water management agencies, wastewater agencies, and cities in and adjacent to OMWD's service area. Notice was also sent to the County of San Diego and the Building Industry Association. Please refer to **Table 2-A** (not required by DWR) on the following page for additional information on OMWD's coordination process.

The draft UWMP was made available on OMWD's website beginning on May 5, 2021 to encourage participation by OMWD customers. In addition, customers were invited to attend and participate in the public hearing held on May 19, 2021 and the UWMP board adoption on June 16, 2021. Within 30 days of the adoption of the final UWMP, copies will be sent to DWR, the California State Library, all cities within OMWD's service area, and the County of San Diego. Specifically, copies of the water service reliability portion of the final UWMP will be provided to the County and all cities within which OMWD provides water service. Furthermore, within 30 days of filing the final UWMP with DWR, the UWMP will be posted on OMWD's website and available to review in hardcopy form at OMWD's offices during normal working hours, when COVID-19 restrictions are lifted.

2.6.3 Notice to Cities and Counties

OMWD notified the Cities of Encinitas, Carlsbad, San Diego, Solana Beach, and San Marcos, and the County of San Diego at the start of the UWMP process, in advance of the required 60 days prior to the UWMP public hearing.

Table 2-A: Coordination with Stakeholder Agencies

Coordinating Agencies	Participated in Plan Development	Commented on Draft	Attended Public Meetings	OMWD Contacted For Assistance	Was Offered Draft Plan in Three Forms	Was sent Notice of Intention to Adopt
Other water suppliers						
• Carlsbad MWD					x	x
• San Dieguito Water District	x				x	x
• City of San Diego					x	x
• Vallecitos Water District	x				x	x
• Rincon del Diablo MWD	x				x	x
• Santa Fe Irrigation District	x				x	x
Wastewater agencies						
• Encina Wastewater Authority				x	x	x
• Fairbanks Ranch CSD		x		x	x	x
• San Elijo JPA		x		x	x	x
• Leucadia Wastewater District				x	x	x
• Rancho Santa Fe CSD		x		x	x	x
• Whispering Palms CSD		x		x	x	x
Water management agencies						
• San Diego County Water Authority	x			x	x	x
Relevant public agencies						
• City of Carlsbad						
• City of Del Mar					x	x
• City of Encinitas					x	x
• City of Escondido					x	x
• City of Poway					x	x
• City of San Diego						
• County of San Diego					x	x
• City of San Marcos					x	x
• City of Solana Beach					x	x
• San Diego Association of Governments					x	x
• San Diego LAFCO					x	x
• SD County Board of Supervisors						
General public					x	x
•						
Other						
• Encinitas Union School District						
• Poway Unified School District						
• Dept. of Water Resources		x		x	x	
• State Clearing House					x	x
• Building Industry Association					x	x

Chapter 3. System Description

3.1 General Description

This chapter presents a general description of OMWD’s physical system, its service area, the climate, population, and demographics. OMWD is located in San Diego County in the southern portion of the State of California.

OMWD is a public agency providing water, wastewater services, recycled water, hydroelectricity, and operation of Elfin Forest Recreational Reserve and has been serving water to its customers since 1961. OMWD was originally incorporated on April 9, 1959 for the purpose of developing an adequate water supply for the landowners and residents of its service area. On June 14, 1960, OMWD voted to become a member of SDCWA, which is a member of Metropolitan Water District of Southern California (Metropolitan), thus becoming eligible to purchase imported water from SDCWA aqueducts and distribute this water throughout its service area. OMWD is one of 24 member agencies of SDCWA. Member agency status entitles OMWD to directly purchase water for its needs on a wholesale basis. OMWD relies on SDCWA to plan for and provide a reliable water supply to the entire county.

OMWD strives to provide a high level of service and to maintain close communication with its customers, and is proud of its reputation as an accessible, productive, and progressive public agency. OMWD is governed by a five-member Board of Directors, whose members are publicly elected by division. The public is notified of all board meetings pursuant to the Ralph M. Brown Act, and these meetings are open for public comment and participation.

OMWD includes portions of the cities of Encinitas, Carlsbad, San Diego, Solana Beach, and San Marcos, and portions or all of the County of San Diego unincorporated communities of Elfin Forest, Rancho Santa Fe, Fairbanks Ranch, Santa Fe Valley and 4S Ranch. A map of OMWD’s service area is included below as **Figure 3-A**.

OMWD Mission Statement

Water - Providing safe, reliable, high-quality drinking water while exceeding all regulatory requirements in a cost-effective and environmentally responsive manner.

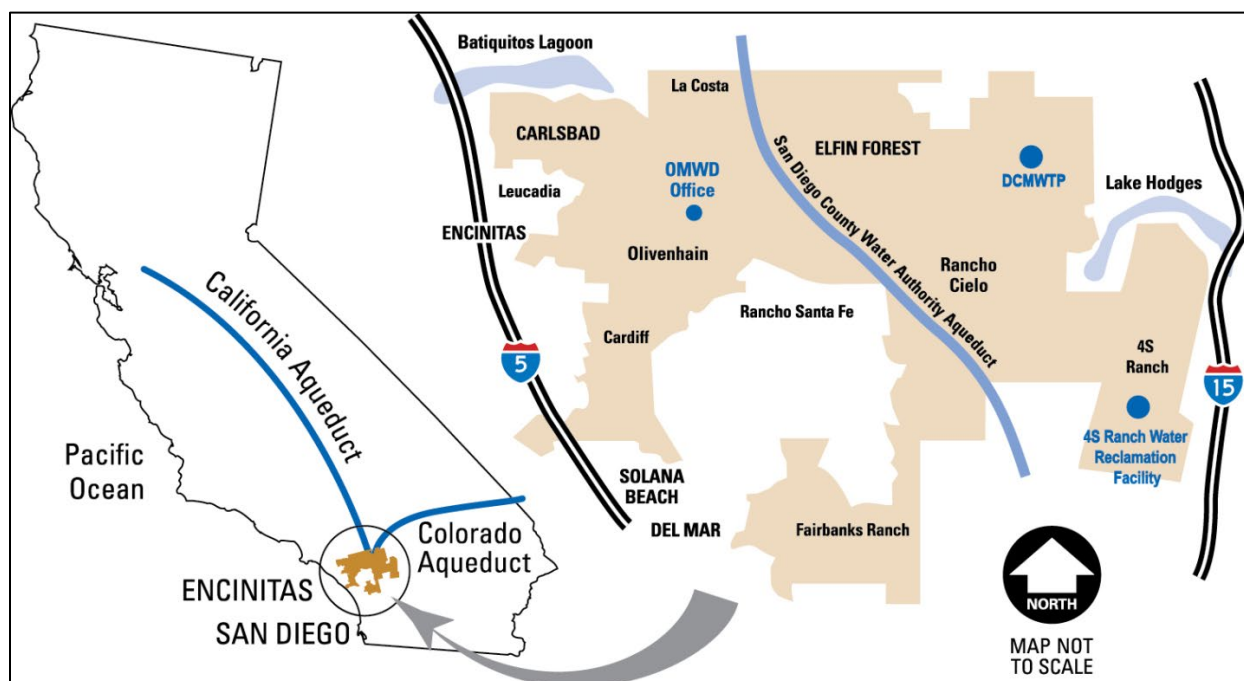
Recycled Water - Providing recycled water and wastewater treatment in the most cost-effective and environmentally responsive method.

Parks - Safely operating the Elfin Forest Recreational Reserve and providing all users with a unique recreational, educational, and environmental experience.

Emergency Management - Complying with policies and procedures that adhere to local, state, and federal guidelines for national security and disaster preparedness.

Sustainable Operations - Pursuing alternative and/or renewable resources with the most sustainable, efficient, and cost-effective approach.

Figure 3-A: OMWD Service Area



All customers in OMWD’s service area are metered and there are no significant areas using potable water that are not served by OMWD. The growth in number of installed meters has paralleled OMWD’s growth in water use, with the number of installed meters increasing from 1,250 in 1972 to 22,592 as of June 30, 2020. The number of service connections for customer meters vary in size from 5/8-inch to 6-inch. Approximately 85 percent of customer meters are 3/4-inch and smaller, and these are mostly residential customers. Residential customers account for approximately 80 percent of OMWD’s total water use.

3.1.1 Potable Water System

All of the water supply delivered by OMWD for potable use is purchased from SDCWA as either treated or raw water. SDCWA water can be delivered to OMWD through five service connections, all from SDCWA’s Second San Diego Aqueduct. Four are treated water connections and one is a raw water connection. The majority of water purchased from SDCWA is raw water treated by OMWD and then served to its customers. OMWD provides potable water service to customers through a distribution system that currently includes approximately 466 miles of potable water pipelines, 12 closed storage reservoirs, six pump stations, and a 450 kW hydroelectric generation station.

3.1.2 Water Treatment

Located at the base of the Olivenhain Dam and Reservoir, the DCMWTP was the largest of its kind in the world upon its completion and incorporates the latest membrane ultrafiltration technology, providing more certain removal of waterborne health threats in a cost-effective, environmentally safe manner. The 34 million gallons per day (MGD) membrane treatment plant came online April 2002, initially capable of treating 25 MGD. It was expanded by 9 MGD in FY 2004-05 to its present capacity.

In 2012, OMWD was required to meet a more stringent set of water quality regulations that have been promulgated by the United States Environmental Protection Agency as part of the Long Term 2 Enhanced Surface Water Treatment Rule (LT2 ESWTR). In order to meet the LT2 ESWTR regulations, various changes were made to the treatment plant with respect to how the water treatment membranes are operated and maintained. These improvements include addressing issues with equalizing flow changes at both the front end and back end of the treatment train and improving OMWD's ability to handle solids which are removed from the water during the treatment process. The Environmental Impact Report for the DCMWTP was certified by OMWD's Board of Directors in March 1994; a Notice of Exemption was filed with the County of San Diego in February 2011 for construction of LT2 ESWTR-related improvements at the plant. Bonds were sold by OMWD to fund the LT2 ESTWR improvements and construction was completed in 2014, and OMWD received a loan from California's Department of Public Health in the amount of \$32,000,000 from the Safe Drinking Water State Revolving Fund. Other than scheduled maintenance shutdowns of the raw water pipelines in SDCWA's Second Aqueduct, the plant remains fully operational. OMWD purchases treated water from SDCWA during these aqueduct shutdowns.

The mechanisms supporting the DCMWTP result in significant savings to OMWD in terms of operating costs and increased reliability. The available hydraulic gradient from the pipelines which deliver water to the DCMWTP, is converted to energy through the use of turbines. This energy helps run the plant and can save OMWD approximately \$1 million per year in power costs. Ancillary facilities including an electrical sub-station, pump station, and flow control facility are in place to better prepare OMWD for a catastrophic event such as a regional power outage.

3.1.3 Land Use and Water Demands

OMWD is approximately 95 percent built out. The remaining growth is spread out across OMWD's service area except for 4S Ranch which is nearly built out, with only 11 buildable lots remaining.

As recently as FY 1970, agriculture accounted for over 70 percent of OMWD's total water use, but this percentage has decreased over the years. As total agricultural use has declined, domestic use has grown. Agriculture today represents only 3 percent of the total water demand in OMWD, using 1,938 AF of water in FY 2005 and 684 AF in FY 2010. For FY 2020, water use is shown in **Table 3-A** below (numbers used are rounded to the nearest whole number).

Table 3-A: FY 2020 Water Use by Sector

Water Use	Percent of Total
Single Family Residential	76
Multifamily Residential	4
Commercial	4
Agriculture	3
Irrigation	13

Domestic water consumption covers both indoor and outdoor uses. Indoor water uses include sanitation, bathing, laundry, cooking, and drinking. Most outdoor water use entails landscape irrigation.

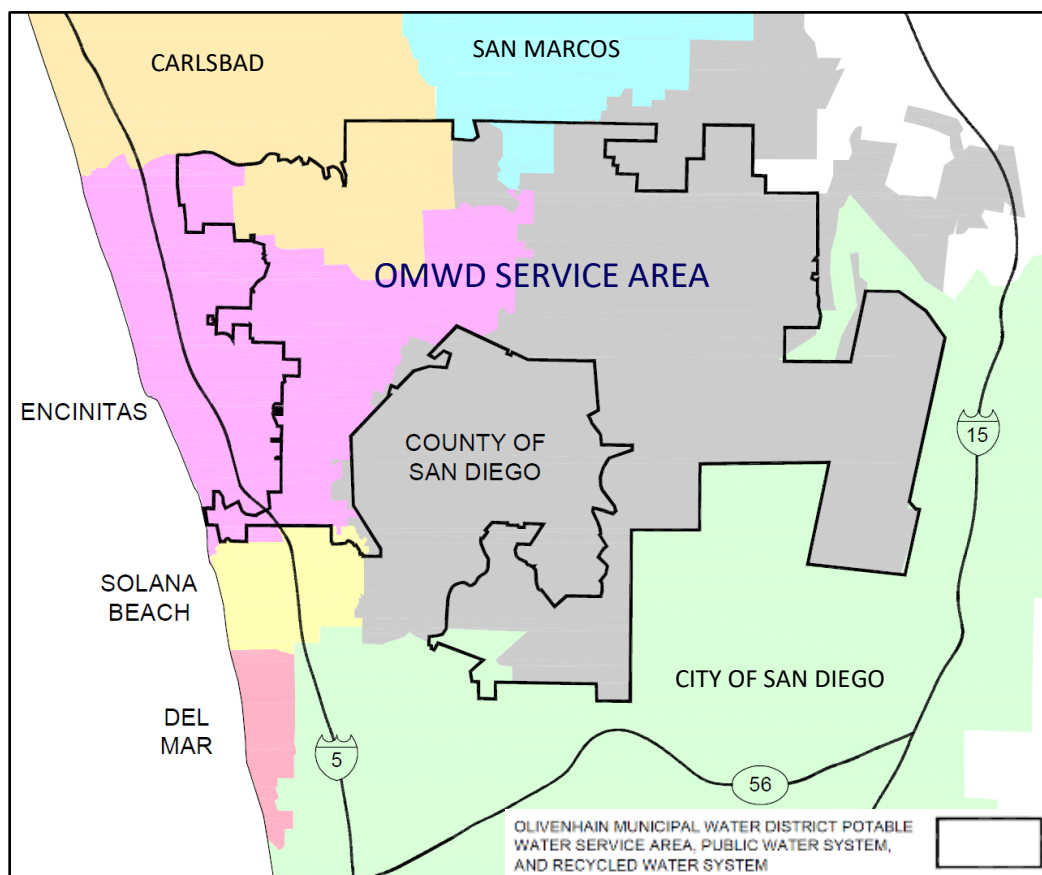
Commercial water demands generally consist of uses that are necessary for the operation of a business or institution, such as drinking, sanitation, and landscape irrigation. Major commercial water users include service industries, such as restaurants, car washes, laundries, and hotels. Economic statistics developed by the San Diego Regional Chamber of Commerce indicate that almost half of San Diego's residents are employed in commercial (trade and service) industries.

OMWD utilizes its Master Plan as a long-term capital planning tool to address existing and future facility needs within OMWD's three enterprise areas: potable water, wastewater, and recycled water. The Master Plan is updated approximately every five years. OMWD is approximately 95 percent built out and expects to be fully developed within approximately 10 years.

3.2 Service Area and Boundary Map

The exterior boundary shown in **Figure 3-1** is OMWD's potable water service area, the public water system boundary, the recycled water service area boundary, and the jurisdictional boundary. Within this boundary are two existing recycled water distribution systems, the Northwest and Southeast Quadrants. OMWD does not have a raw water distribution system and there have been no changes to the service area from the beginning of the baseline period through 2020.

Figure 3-1: OMWD Service Area Boundary and Area Cities

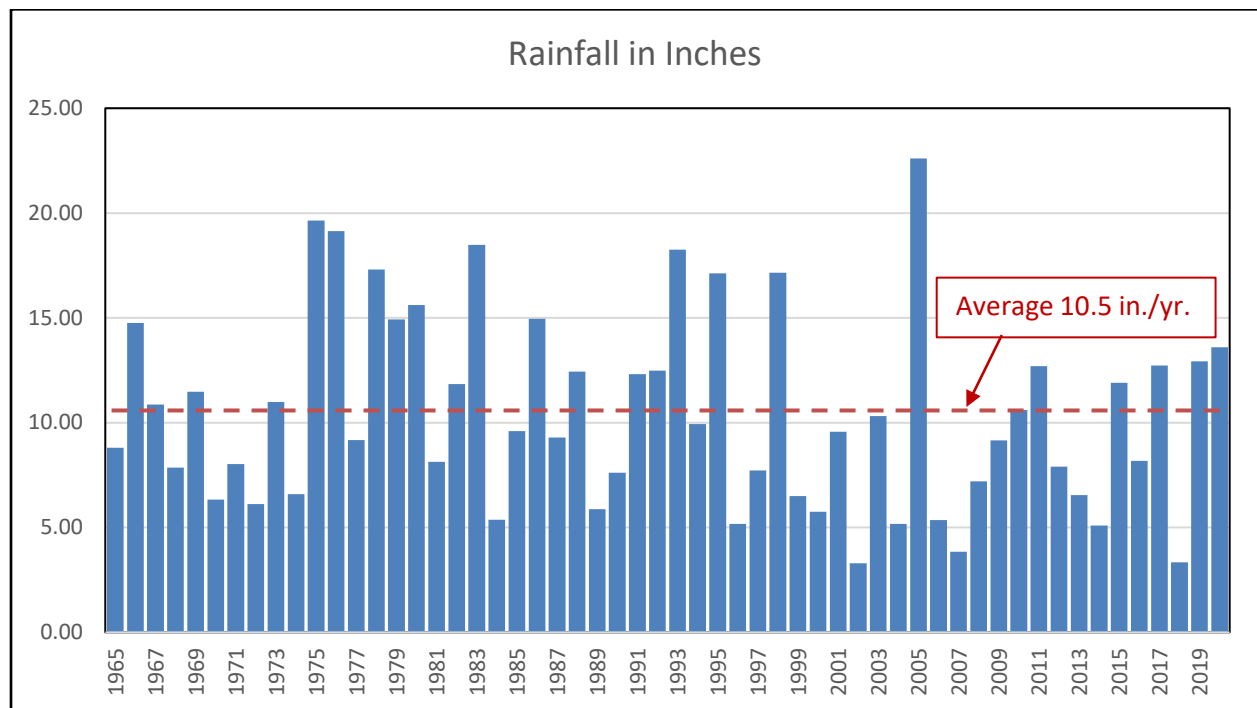


3.3 Service Area Climate

Many of the areas served by OMWD feature a mild coastal climate, varied topography, and convenient proximity to major urban areas. Therefore, OMWD has experienced fairly rapid urbanization, although rural, undeveloped area still remains. Inland areas are both hotter in summer and cooler in winter.

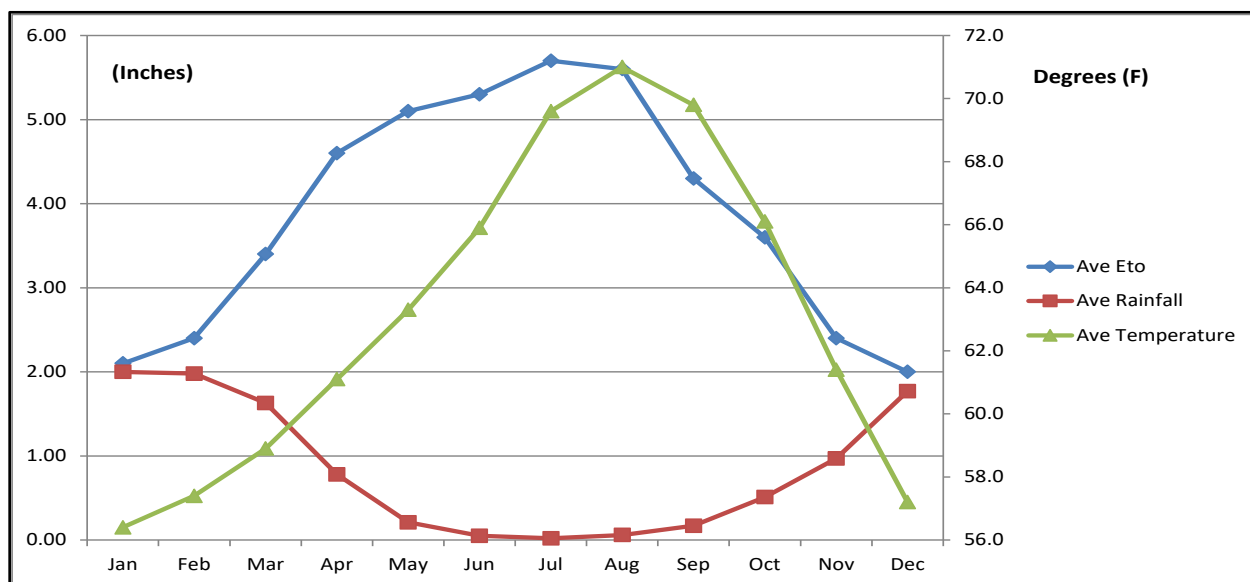
Average annual rainfall is approximately 10.50 inches per year on the coast and in excess of 14 inches per year inland. As shown in **Figure 3-B**, local rainfall exceeded the historic annual average 25 times since 1965 (55 years) but only six times since 2000. In water years 2005, 2010, 2015, and 2020, rainfall totaled 22.60, 10.60, 11.91 and 13.6 inches respectively. More than 80 percent of the region's rainfall occurs between December and March. The Lindbergh Field Station, California Irrigation Management Information System Station #184, utilized in this section is located on the coast in the City of San Diego, approximately 24 miles south of the City of Encinitas and OMWD.

Figure 3-B: Annual Rainfall (Lindbergh Field Station)



Variations in weather affect short-term water requirements, causing demand spikes during hot, dry periods and reductions in use during wet weather. These predominantly dry conditions resulted in record level demands during FY 2004, only to decrease heavily with record rainfall in FY 2005. More recently, FY 2016, 2017, 2019, and 2020 water use averaged 16,900 AFY while FY 2018, a hot dry year had water use in excess of 19,400 AFY. On a monthly basis, water requirements tend to increase during the summer months when a decrease in rainfall combines with an increase in temperatures and an increase in evapotranspiration levels as shown in **Figure 3-C** on the next page.

Figure 3-C: Average Monthly Climate Variables



3.3.1 Climate Change

OMWD completed the Climate Change Vulnerability Assessment Screening Form for Urban Water Management Planning in Appendix I, Considering Climate Change Impacts, of the DWR Guidebook. OMWD obtains 100 percent of its potable water supply from SDCWA which in turn receives a significant portion of its supply from the Colorado River and the Pacific Ocean, and a small portion from Metropolitan. SDCWA addressed the impact of climate change on its supply volume and reliability, as summarized in section 6.2.10. Metropolitan's two sources of supply are the Sacramento-San Joaquin Delta via the State Water Project, and the Colorado River, both of which are climate-sensitive. Metropolitan has taken climate change into account in its planning work for the Colorado River and the Sacramento-San Joaquin Delta. DWR has addressed climate change in its California Delta Conveyance program including flooding and sea-level rise.

The summary of the screening exercise along with approaches, not covered by Metropolitan or SDCWA, are as follows:

- Water Supply and Demand
 - The OMWD water supply and demand are vulnerable to climate change.
 - Landscaping demand may be affected by changes in average precipitation and runoff volume, increasing temperature, and the frequency and intensity of droughts.
 - Groundwater is currently not a major supply source.
 - The San Dieguito groundwater basin has been affected by seawater intrusion in the past. Should OMWD move forward with this project, project supplies will be planned to avoid seawater intrusion.
 - The Delta and Colorado River supplies are affected by snowmelt and rely on stored water supplies.

- Throughout this UWMP, OMWD will rely on SDCWA's climate change analysis so that OMWD and SDCWA are planning under a consistent set of climate change projections. See section 6.2.10.1 of this UWMP.
- OMWD has also incorporated climate change analysis into the water use projections.
- Extreme Heat
 - Climate change may increase customer water usage.
 - To review the impact of extreme heat, OMWD has analyzed water use peaking factors on a pressure zone level and compared them to 2015 levels. The peaking factors represent outdoor water use for irrigation during extreme heat.
 - In general, OMWD is finding a small change in peaking factors. OMWD does not own or operate open storage reservoirs for potable water storage and so increases in evaporative-related water losses are not expected to be an impact.
 - To date, OMWD has not experienced increased corrosion, wear from heat expansion, or difficulties operating cooling systems. Moving forward, OMWD will consider extreme heat in its infrastructure planning.
- Water Quality in Water Supplies
 - Lower dissolved oxygen levels, algal blooms, disinfectant biproducts, and lower assimilative capacity of a receiving water body could affect Metropolitan and SDCWA supplies.
 - There is potential for sea level rise and increased salinity in the Delta.
- Sea Level Rise and Water Supply Source Infrastructure
 - Sea level rise can impact the Sacramento – San Joaquin Delta supply infrastructure and Metropolitan and SDCWA supplies.
- Flooding – Water Supply Sources and Associated Infrastructure
 - The Sacramento – San Joaquin Delta supply relies on flood protection infrastructure including both levees and dams.
- Wildfire
 - The State Water Project watershed and infrastructure has experienced an increase in wildfire activity in the past 5 years, reportedly due to climate change. This could affect Metropolitan and SDCWA supplies.
- Sea Level Rise and Coastal Structures
 - Sea level rise and coastal erosion are not expected to impact water supplies.

3.4 Service Area Population and Demographics

3.4.1 Service Area Population

The current and projected population for OMWD was developed by SANDAG as a part of its most recent growth and demographic forecast known as Series 14. The Series 14 forecast is based on regional demographic and economic forecasts, and on the adopted land use plans of the County of San Diego and the various municipalities within OMWD's service area. Additional information on the forecast and SANDAG's forecast methodologies are available on the SANDAG website, www.SANDAG.org. OMWD is approximately 95 percent built out and SANDAG forecasts the population will actually decrease from 2025 forward due to an aging population and fewer family members in each house. Current and projected future OMWD population counts are summarized in **Table 3-1**.

Table 3-1: Current and Projected Service Area Population

Population Served	2020	2025	2030	2035	2040	2045
	72,179	71,146	69,530	68,954	68,260	68,248

Source: SANDAG Series 14, custom data sort to OMWD service area boundary

In 2010, OMWD contracted with the State of California, Department of Finance (DOF) to develop a special population projection for its service area. Following completion of the projection it has been updated using annual growth factors, provided by DOF for San Diego County. OMWD has been using the results as the basis for projecting its future growth, and for various reporting to the State. OMWD has consistently used SANDAG population projections for its UWMPs. The two projections are significantly different. Once the 2020 census data is available, OMWD will contract with SANDAG to produce an updated projection and will attempt to reconcile it with DOF. If the two can be reconciled, OMWD will likely use the SANDAG projection going forward as it is well-documented and consistent with SDCWA and its member agencies. OMWD meets its SB X7-7 target per capita water use with either projection.

3.4.2 Other Demographic Factors

3.4.2.1 Economic Factors -OMWD

COVID-19 and related government mitigation measures have impacted the operating and financial condition of many local agencies throughout San Diego County.

On March 12, 2020, OMWD declared a COVID-19 emergency in response to the State of Emergency declared by California Governor Gavin Newsom. On April 2, 2020, Governor Newsom issued an Executive Order protecting homes and small businesses from water shut-offs while the State is responding to the pandemic. The Governor's order was issued to ensure water service will continue to be provided under any circumstance as water is critical and essential for everyone.

OMWD's operation and financial position has not been significantly impacted by the COVID-19 pandemic. OMWD has experienced a delay in collection of its water service revenues. Available reserves in water and sewer unrestricted funds were utilized to cover temporary delays in collection

of revenues, to fund essential services, and to make timely debt service payments. The District also has kept the duration of its investments relatively short for liquidity access.

OMWD has also experienced an increase in personnel and non-personnel expenses such as materials, safety supplies, and equipment during the COVID-19 pandemic. In fiscal year 2020, OMWD spent approximately \$292,000 in COVID-19 related expenses, such as safety supplies, spare parts, and computer expenses in response to the statewide stay-at-home order. A request for reimbursement of eligible COVID-19 related costs was submitted to FEMA in October 2020.

To avoid further delays in collection of its water service revenues, OMWD is assessing more liens on properties for non-payment of water services as well as offering payment arrangements and/or deferred payment to help rate payers who have been financially impacted by COVID-19.

Several state mandates are expected to increase costs and decrease revenues. AB 1668 (2018) and SB 606 (2018) mandate annual water use objectives that will increase administration costs and decrease revenues. SB 555 (2015) required the California State Water Resources Control Board (SWRCB) to adopt water loss standards for retail water suppliers that increased administrative costs and may increase operational expenses. SB 998 (2018) provides new criteria for disconnection of services due to non-payment and limits OMWD's ability to collect past due amounts. Possible action on AB 401 (2015), a low-income rate assistance program could increase administration costs, result in a water rate subsidy, and add fees. The Governor's draft Water Resilience Portfolio includes investment in water supply diversification, the protection of natural systems, and building agency interconnections.

Rising wholesale costs from both Metropolitan and SDCWA will impact OMWD's cost of water and there is further pressure to increase costs from major infrastructure projects like Sacramento – San Joaquin Delta Conveyance. Water purchases from SDCWA are OMWD's largest expense. OMWD continues to take steps to be less reliant on imported water by diversifying its supplies through the development of local supplies such as recycled water and groundwater.

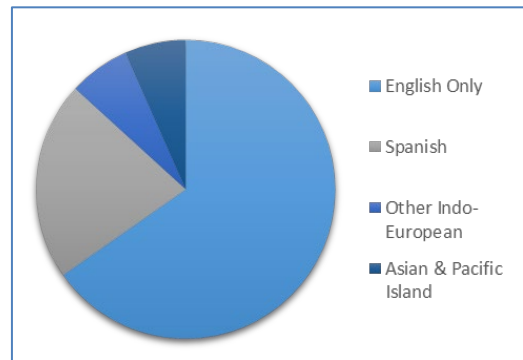
3.4.2.2 Economic Factors - Customers Including Unemployment

COVID-19 has resulted in significant increases in unemployment and decreases in income. In San Diego County, unemployment rose from 3.2 percent in 2019 to 15 percent in April 2020.

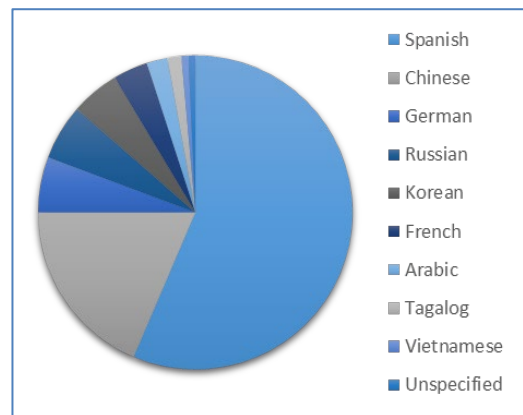
3.4.2.3 Languages and Cultural Clusters

OMWD staff reviewed data from the U.S. Census Bureau regarding languages spoken at home. Unfortunately, census data is not organized within the boundaries of OMWD. Therefore, staff retrieved and analyzed workable data by using the approximate locations of census tracts. As shown below, nearly 80 percent of the households speak English only. Of the households speaking other languages, Spanish was the largest at 7.9 percent.

LANGUAGES SPOKEN AT HOME	
Language	Percentage
English Speaking Only	79.3%
Speak a Language Other Than English	20.7%
-- Spanish	7.9%
-- Other Indo-European	6.9%
-- Asian & Pacific Island	5.5%
-- Other	0.5%



NON-ENGLISH LANGUAGES SPOKEN AT HOME	
Language	Percentage
Spanish	7.9%
Other Indo-European	4.4%
Chinese (Mandarin, Cantonese, etc.)	2.6%
Other Asian languages	1.2%
German, etc.	0.8%
Russian, Polish, Slavic, etc.	0.8%
Korean	0.7%
French	0.5%
Arabic	0.3%
Tagalog, Filipino, etc.	0.2%
Vietnamese	0.1%
Unspecified	0.1%



The above data does not factor in the level of English proficiency of those who speak a language other than English at home (e.g., the “Speak a Language Other Than English” percentage is not a report of customers that cannot speak English).

OMWD coordinated with the City of Encinitas to find out what information might be available on customer education levels, general health status, and age of population served. The City provided their Draft Sixth Cycle Housing Element, 2021 – 2029, Appendix B which provided the age information within the City.

3.4.2.4 Customer Education Levels

No information readily available.

3.4.2.5 General Health Status

No information readily available.

3.4.2.6 Age of Population Served

Table 3-B below provides the age distribution within the City of Encinitas. OMWD serves a portion of the City.

Table 3-B: Age Distribution in the City of Encinitas

Under 5	5 - 14	15 - 24	25 - 34	35 - 44	45 -54	55 – 64	65+
5.0%	12.2%	9.0%	13.3%	13.9%	15.0%	14.8%	17.6%

Note that these are the actual percentages from the Encinitas document and do not add up to 100%

3.4.2.7 Economic Viability and Types of Non-residential Land Uses

Commercial districts are scattered throughout OMWD with the largest being along El Camino Real and Encinitas Boulevard in the City of Encinitas, Rancho Santa Fe Road in the Cities of Encinitas and Carlsbad, and 4S Ranch in the County of San Diego. In general, prior to COVID-19, these areas have been economically viable. COVID-19 has caused many small and medium-sized businesses to stop operations and while some may return, others are no longer viable for either economic or health-related reasons.

3.4.2.8 Redevelopment and Special Tax Districts

Redevelopment and special tax districts are not prevalent in OMWD.

3.5 Land Uses within Service Area

3.5.1.1 General

OMWD has a wide variety of land uses within its service area including residential, commercial, institutional, agriculture, and open space. The population, land use, and demographic projections in this UWMP were prepared by SANDAG, in five-year increments, based on the land use plans of the local and regional land use authorities. OMWD's potable water supplier, SDCWA also utilized population and land use projections from SANDAG.

3.5.1.2 Types of Housing

OMWD does not have significant non-residential populations. OMWD's service area does have diverse population densities ranging from high-density multi-family and mobile home communities to large estate lots and ranches. Water use among residential accounts varies significantly, from approximately 90 gallons per day per unit for multi-family residential (MFR) units to approximately 1,600 gallons per day per unit for the inland lower density single family residential (SFR) areas. The change in land uses between 2020 and 2040 is relatively small both in total numbers and percentage for each land use, as shown in **Table 3-C** below.

Table 3-C: Changes in Future Land Use

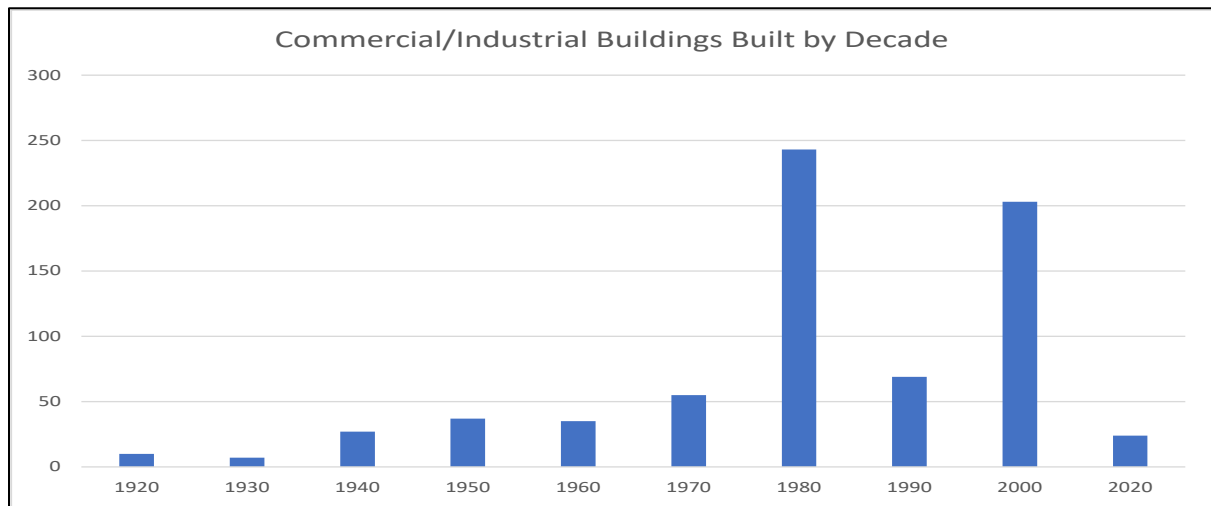
Cust Class	2020		2025		2030		2035		2040		2045	
	Units	%	Units	%	Units	%	Units	%	Units	%	Units	%
SFR	21,727	82	21,969	82	22,212	81	22,504	81	22,795	82	23,133	82
MFR	4,817	18	4,805	18	5,064	19	5,110	19	5,156	19	5,156	18
Total	26,544	100	26,774	100	22,276	100	27,614	100	27,951	100	28,289	100

* SANDAG Series 14 v 17Forecast

3.5.1.3 Age of Buildings

No information was readily available on the age of residential buildings within OMWD. The County of San Diego was able to provide the age of commercial and industrial buildings within the City of Encinitas. Some of these buildings are not within OMWD and there are additional buildings within OMWD that are outside the City of Encinitas. The distribution of building construction by decade, is shown in **Figure 3-2**. In general, OMWD serves the eastern, and newer portion of the City of Encinitas, while San Dieguito Water District serves the western, and older portion of the City. The figure shows approximately 76 percent of the buildings were constructed since 1980, and 32 percent since 2000.

Figure 3-2: Commercial/Industrial Buildings Constructed, By Decade



Chapter 4. Water Use Characterization

4.1 Non-Potable Versus Potable Water Use

OMWD total water use during FY 2020 is summarized in **Table 4-1**.

Table 4-1: Demands for Potable and Non-Potable Water - Actual 2020

Submittal Table 4-1 Retail: Demands for Potable and Non-Potable Water - Actual			
Use Type	2020 Actual		
Use Category	Additional Description (as needed)	Level of Treatment When Delivered	Volume (AF)
Single Family		Drinking Water	12,003
Multi-Family		Drinking Water	655
Commercial		Drinking Water	676
Industrial		Drinking Water	0
Institutional/Governmental	Included in Commercial		0
Landscape		Drinking Water	2,004
Groundwater recharge			0
Saline water intrusion barrier			0
Agricultural irrigation		Drinking Water	434
Wetlands or wildlife habitat			0
Sales/Transfers/Exchanges to other agencies			0
Subtotal			15,772
Losses	Non-Revenue Water, including actual losses	Drinking Water	1,328
TOTAL			17,100

Notes:

- Volumes reported for individual customer classes are metered sales, exclusive of non-revenue water and actual losses.
- Single-family includes other domestic and fire meters
- Commercial includes use by schools and construction
- Non-revenue water calculated as difference of SDCWA FY 2020 deliveries and OMWD FY 2020 sales, exclusive of minor change in storage.

All of OMWD's sales are metered, and OMWD classifies customer types consistently with DWR guidelines. OMWD does not have transfers, exchanges, sales to other agencies, surface water augmentation, wetlands or wildlife habitat, or other water uses, but does sell water treatment services to a neighboring retail water agency, Vallecitos Water District.

4.2 Past, Current, and Projected Water Use by Sector

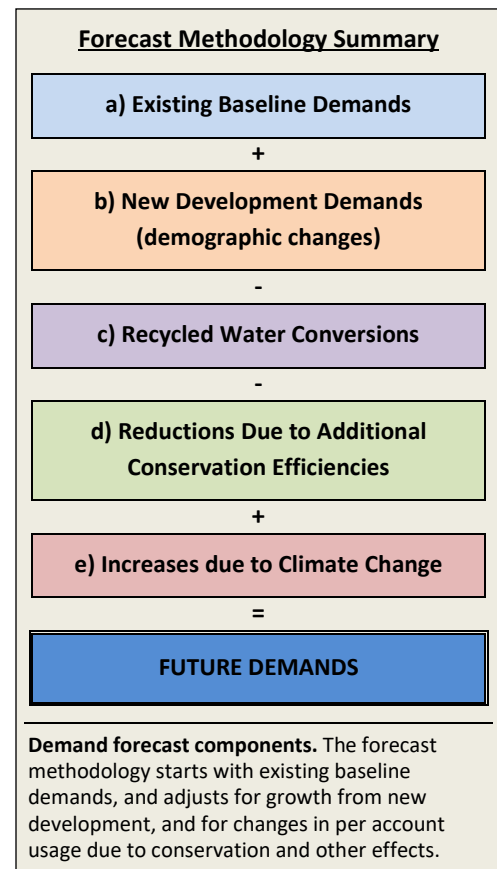
4.2.1 Projected Water Use Approach / Methodology

OMWD forecasts future water demands using existing normal-condition demands as a base, and scales these Baseline Demands based on the net effects of growth, conservation, and other factors. The forecast methodology is outlined below.

- a) **Existing baseline unit demands.** The Plan uses the average water use during calendar years 2016 through 2020 as the baseline condition, representative of current normal water use. Precipitation during these five years varied, with three being slightly above normal, one being slightly below normal, one being significantly below normal, and with the average of the five being normal. There were no emergency water use restrictions in place, and no recessionary economic effects.

Using the OMWD water sales database, the forecast calculates baseline condition use by customer class, and by geographic region of OMWD. This baseline condition use provides the foundational starting point for the forecast.

- b) **New development (demographic changes).** New development demands are generated using the baseline unit use factors and the SANDAG Series 14 projections for OMWD at the Zone of Benefit level of spatial resolution.
- **Residential:** Single-family residential (SFR) and multi-family residential (MFR) usage is scaled upwards proportionate to housing unit counts for each category, and then adjusted downwards for projected declines in Persons per Household rates.
 - **Commercial:** Commercial, industrial, and governmental (collectively, COM) usage is scaled upwards from existing use proportionate to employment projections.
 - **Irrigation:** Usage is scaled upward as a weighted average of the change in SFR, MFR, and COM usage.
- c) **Recycled water conversions.** The 2015 Plan included an adjustment for projected recycled water conversions scheduled to occur within the OMWD Village Park neighborhood, and in the vicinity of San Dieguito Road. These conversions continue and are reflected in the baseline condition use estimates and projections.



The Village Park Recycled Water Project is expanding the use of recycled water in OMWD's service area, further reducing potable demands.

- d) **Reduced demands due to additional conservation efficiencies and other factors.** The Plan projects unit use rates will continue to decline over time in response to increased water rates, conservation education, and shifting landscape preferences. These factors are summarized in **Table 4-A**.

Table 4-A: Summary of Unit Use Adjustment Factors

FACTORS DRIVING UNIT USE REDUCTIONS	
1) Landscape ordinances	As required by state law from 2010 and as amended by the State Water Resources Control Board in 2015, all land use jurisdictions have adopted landscape ordinances limiting new landscape construction water use to 55% ET for residential construction, and 45% for non-residential construction. The state requirements also limit turf utilization in all types of construction and in and streetscape uses. As a result, new construction in OMWD's service area will feature less grass and use less water in comparison to pre-2010 construction.
2) Weather-based irrigation controllers	Newer landscape irrigation controllers can automatically adjust irrigation schedules consistent with actual climate conditions and plant water needs, reducing unnecessary use due to over-irrigation. The use of these controllers will become increasingly common during the planning horizon.
3) Turf retirement	Metropolitan and SDCWA provide financial incentives to customers who replace grass with low water use landscapes, helping drive a transition of customer landscape preferences away from turf. In OMWD's service area, this transition will likely continue gradually over the course of the planning horizon.
4) High-efficiency clothes washers	Newer clothes washing machines, in particular front-loading versions, are more water-efficient than older traditional-style washers.
5) High-efficiency toilets	California regulations enacted in 2011 require new toilets to operate with a maximum of 1.28 gallons per flush, compared to 1.6 gallons per flush per the previous 1992 requirements. This will reduce water use at new SFR and MFR construction. Rebate programs funded by Metropolitan and others will support a gradual transition to the newer toilets.
6) MFR submetering	Future MFR construction will be subject to requirements that individual units are submetered and billed by usage. The direct price signal to the consumer results in reduced water use.
7) Increasing real prices / behavioral changes	Retail water rates may continue to increase at a rate faster than inflation, driven by increases in wholesale rates. Customers respond by reducing use.

- e) **Increased Demands due to Climate Change.** Per SDCWA's most recent climate change analysis, (2020 Draft Urban Water Management Plan, Section 2.4.4) the median average daily maximum temperature for the SDCWA service area will increase approximately 3.3 degrees Fahrenheit in 2050. This will lead to increased irrigation demands as detailed in Section 4.5

4.3 Reporting Tables

4.3.1 Projected Potable Water Demands

The demand forecast projects that future demands will remain approximately at current demand levels or decline. Population is forecast to decrease due to fewer people per dwelling unit. Water use per account and per capita will continue to decline in response to conservation and other factors outlined above. OMWD's projected potable water use is summarized in **Table 4-2**.

Table 4-2 Retail: Use for Potable and Raw Water - Projected

Use Type	Additional Description (as needed)	Projected Water Use			
		2025	2030	2035	2040
Single Family		12,230	11,950	11,720	11,480
Multi-Family		640	620	610	600
Commercial		750	750	750	740
Industrial	Included in commercial	0	0	0	0
Institutional / Governmental	Included in commercial	0	0	0	0
Landscape		2,190	2,120	2,090	2,070
Groundwater recharge		0	0	0	0
Saline water intrusion barrier		0	0	0	0
Agricultural irrigation		570	540	510	480
Wetlands or wildlife habitat		0	0	0	0
Sales/Transfers/ Exchanges to other agencies		0	0	0	0
Other Potable	Temporary Construction Meters	40	20	20	20
Other Non-Potable		0	0	0	0
Subtotal		16,420	16,000	15,700	15,390
Losses	Non-Revenue Water, including actual losses	990	960	940	920
TOTAL		17,410	16,960	16,640	16,310

Notes:

- Volumes reported for individual customer classes are metered sales, exclusive of non-revenue water and actual losses.
- Non-revenue water estimates as difference of total system deliveries and metered sales

4.3.2 Projected Recycled Water Demands

The Plan projects that recycled water use will increase slightly with the expansion of OMWD’s recycled water system into the Village Park neighborhood of Encinitas. OMWD’s projected recycled water use is summarized in **Table 4-3**.

4.3.3 Projected Total Water Demands

OMWD’s total projected demands, inclusive of potable and recycled demands, are summarized in **Table 4-3**.

Table 4-3: Total Water Use (Potable and Non-Potable)

	2020	2025	2030	2035	2040
Potable Water, Raw, Other Non-Potable <i>from Tables 4-1 and 4-2</i>	17,100	17,410	16,960	16,640	16,310
Recycled Water Demand <i>from Table 6-4</i>	2,482	2,693	2,819	2,834	2,855
Optional Deduction of Recycled Water Put Into Long-Term Storage¹	0	0	0	0	0
TOTAL WATER USE	19,582	20,103	19,779	19,474	19,165
1 Long-term storage means water that is placed into groundwater or surface storage that is not removed from storage in the same year. Supplier may deduct recycled water placed in long-term storage from their reported demand.					

4.3.4 Table 4-4: Preceding Five-Year Water Loss Audit Reporting

Distribution system water losses result from leaks from pipelines and storage facilities. OMWD has used the American Water Works Association Method and Guidebook Appendix L worksheet to report and calculate system losses. For CY 2019, OMWD’s reported losses were 1,127 AF. The worksheets are provided as **Appendix B** and will be submitted electronically to DWR. The audit results are summarized in **Table 4-4**.

Table 4-4: Last Five Years of Water Loss Audit Reporting

Reporting Period Start Date (mm/yyyy)	Volume of Water Loss*
01/2015	1,090
01/2016	883
01/2017	1,227
01/2018	1,187
01/2019	1,127
*Taken from the field “Water Losses” (a combination of apparent losses and real losses) from the AWWA worksheet	
<u>Note:</u> Calendar year 2019 is latest available. 2015 data not validated by a third party.	

OMWD follows industry best practices in its operations and maintenance to minimize system losses and other non-revenue water. OMWD practices include the following:

- Meter Testing and Replacement: OMWD's field service technicians routinely test water meters to ensure that meters are accurate within 1.5 percent. Currently, OMWD has a meter-testing program that prioritizes meter testing on high-capacity water users as meters are mechanical devices that on occasion will malfunction. Twenty-five years ago, OMWD had many different brands of water meters including Hersey, Precision, Rockwell, and Badger meter products. It replaced nearly all of these meters with Sensus meters. Sensus meters work in conjunction with their industry-leading Advanced Metering Infrastructure (AMI) system and certain other manufacturers (e.g. Master Meter and Neptune) are Sensus-certified for AMI compatibility.
- Cathodic Protection: The soil in OMWD's service area is considered "hot," or highly corrosive by corrosion industry standards. Beginning in the 1970s, OMWD conducted corrosion engineering investigations and began installing cathodic protection systems throughout its distribution system, protecting steel water mains and copper service lines. These actions were highly effective in reducing the frequency of leaks. The cathodic protection program includes 28 rectifier-impressed current zones that are operational around the clock. OMWD has thousands of sacrificial systems that protect isolated pipelines as well as individual meter services. The cathodic protection system has worked so well, OMWD has incorporated this system into its specification guidelines.
- Operations Control: OMWD has proactively updated its distribution system with state-of-the-art telemetry systems that are programmed to alert operators automatically of incidents and system issues, such as rising reservoir levels. There are safeguards for every pressure zone. OMWD's service area is unique in that the majority of its water pressure is fed through hydraulic gradients, or gravity fed. OMWD has over 70 pressure reducing systems that feed into various pressure zones. Pressure reducing stations cut high pressure down to acceptable levels for consumers. Each pressure reducing station has safeguards for over-pressurization of the zones. OMWD has telemetry for each zone to alert operators when a pressure relief valve opens to relieve pressure, allowing the operator to respond and prevent water loss.
- Account Monitoring: OMWD maintains journals produced from meter reading data that show exceptions from average usage on each account. The parameter used is 200 percent over or under average usage for irrigation customers and 150 percent over or under average use for other customers. Lower consumption can indicate a slowing or stopped meter. Higher consumption can indicate a leak. Field service technicians check these exceptions against the account's usage history and determine whether the usage recorded for the month is reasonable in the light of its monthly usage history. If considered unusual, technicians will visit the property to check the read, look for the appearance of a leak, and make contact with the customer. Stopped meters are replaced within several days of their discovery.
- Continuous Use Report: Field service technicians also run a continuous use report for AMI meters. Customers who experience continuous use that is outside their normal usage pattern are notified that they may have a leak

Also, field service technicians meet with customers who question high usage or a change in their usage pattern. Customers are then notified of apparent leaks, which can be fixed to prevent further

high usage and higher bills. Field service technicians also contact customers in the event that neighbors have reported water flowing from these properties. When customers cannot be reached, meters will be shut off at the curb stop and cards hung to notify customers as to why their water was turned off.

- **Other:** Other miscellaneous water loss prevention measures include metering of OMWD’s flushing program, firefighting water use metering, water loss trending of damaged fire hydrants, interconnect meter preventative maintenance, construction metering, and prohibition of “jumpers”- or unmetered connections.

4.4 Water Use for Lower Income Households

OMWD’s water demand forecasting methodology, as summarized in Section 4.2.1, incorporates all of the existing and planned housing for each of the land use jurisdictions within OMWD’s service area. These housing elements, inclusive of low-income housing, are included in the demographic summaries and forecasts of SANDAG on which OMWD water demand forecasts are based. OMWD’s water demand forecast therefore incorporates all of the existing and planned low-income housing of each of its land use jurisdictions, as summarized in **Table 4-5**.

Table 4-5: Inclusion in Water Use Projections

Are Future Water Savings Included in Projections?	Yes
Approach to Demand Projection	Chapter 4
Are Lower Income Residential Demands Included in the Projections?	Yes

OMWD has an existing policy adopted under SB 1087 (Government Code § 65589.7 and CWC § 10631.1) for the granting of priority for water services to proposed developments that include housing units for lower income households. Under SB 1087 (2005), water and sewer service providers were required to adopt a policy and procedures by July 1, 2006 and then at least once every five years. A copy of OMWD’s Resolution 2016-5 updating this policy is included as **Appendix C**.

OMWD coordinated with the City of Encinitas with respect to existing and planned low-income housing within OMWD. The City provided the following list of projects, as summarized in **Table 4-B**. All of listed developments are planned, except for 3459 Manchester Avenue. **Table 4-C** provides the history of water use for that property.

Table 4-B: Existing and Planned Low-Income Housing, City of Encinitas

Housing Element Site	Existing / Planned	Units
701 N. El Camino Real	P	31
2220, 2228, 2230 El Camino Real	P	113
Rancho Santa Fe Road	P	36
Sage Canyon Drive	P	60
3459 Manchester Avenue	E	60
Total		300

Table 4-C: History of Water Use for 3459 Manchester Ave.

Fiscal Year	Annual Water Use (100 CF)	GPD/Unit
2020	24	49
2019	29	60
2018	31	64
2017	27	56
2016	24	48
2015	21	43
2014	23	47
2013	23	48
2012	24	48
2011	26	54
2010	22	45
2009	25	52
Annual Average	25	51

4.5 Climate Change Considerations

OMWD's water demand forecast incorporates predicted effects of climate change on irrigation demands. Using data assembled by SDCWA in its 2020 UWMP¹, OMWD has adjusted irrigation unit use factors to account for a 1.7 percent increase in reference evapotranspiration by 2050. Additional review of climate change issues for the San Diego County area and how the region is adapting to long-term climate change are presented in SDCWA's 2020 UWMP section 2.4.4.

¹ CWA 2020 Urban Water Management Plan, Section 2.4.4: "Projected Climate Change Impact on Water Demands." SDCWA documents current climate modeling showing a median increase in average daily maximum temperature for the SDCWA service area of approximately 3.3 degrees Fahrenheit in 2050. SDCWA's Demand Forecast Technical Memorandum indicates a residential sector elasticity coefficient for this metric of 0.31, leading to an overall increase in water use of 1.0 percent. OMWD has adjusted this to apply only to the outdoor use component of its forecast model. Assuming outdoor use is 60 percent of total use, the resulting increase in these demands is 1.7 percent.

Chapter 5. SB X7-7 Baselines, Targets, and 2020 Compliance

Water Conservation Act of 2009 (SB X7-7)

In 2009, the California legislature approved and the governor signed the Water Conservation Act of 2009, known as SB X7-7. This legislation required urban water agencies achieve a reduction in per capita water use of 20 percent by 2020, relative to certain specified baseline conditions.

As a part of the Water Conservation Act of 2009, urban water suppliers are required to develop a 2020 urban water use target, and also a 2015 interim target, that meets the bill's water conservation intent. In 2010, DWR released a manual titled Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use, which provided retail water agencies with specific requirements and methodologies for setting water use efficiency goals and compliance standards for 2020. The manual provided four alternative methods for calculating targets. OMWD selected Method 1 for use in its 2010 UWMP, and identified a baseline period of from 1999 through 2008. The resulting 2015 interim and 2020 targets were 317 and 282 gallons per capita per day.

This chapter updates the 2015 calculations, and reports on compliance with the 2020 target.

5.1 Guidance for Wholesale Suppliers

OMWD is a retail supplier and is not a wholesale supplier.

5.2 SB X7-7 Forms and Summary Tables

5.2.1 SB X7-7 Verification Form (Baselines and Targets)

Table 5-1 below is the SB X7-7 Verification form submitted with OMWD's 2015 UWMP.

Table 5-1: Baselines and Targets Summary

Baseline Period	Start Year	End Year	Average Baseline GPCD	Confirmed 2020 Target*
10 - 15 year	1999	2008	352	282
5 Year	2004	2008	348	
*All values are in Gallons per Capita per Day (GPCD)				
NOTES:				

5.2.2 SB X7-7 2020 Compliance Form

Actual per capita water use in OMWD for FY 2015 was 247 GPCD, less than the SB X7-7 2015 target level of 317 GPCD, indicating compliance with the SB X7-7 2015 interim target. Actual per capita water use in OMWD for FY 2020 was 206 GPCD, less than the SB X7-7 2020 target level of 282 GPCD. This indicates OMWD is in compliance with the SB X7-7 2020 target. SB X7-7 compliance information is summarized in **Table 5-2**.

Table 5-2: 2020 Compliance

Actual 2020 GPCD*	2020 Total Adjustment	Adjusted 2020 GPCD	2020 Confirmed Target GPCD	Did Supplier Achieve Targeted Reduction for 2020?
206	0	206	282	Yes
NOTES: Data for FY 2019-20				

5.2.3 Submittal Tables 5-1 and 5-2

Submittal tables 5-1 and 5-2 are included in the previous sections. The complete set of the Water Conservation Act of 2009 calculation tables is included in **Appendix D**.

5.2.4 Regional UWMP / Regional Alliance

OMWD is not a part of a regional UWMP. OMWD is a participant in the Olivenhain Regional Alliance, as described in section 5.6, below.

5.3 Baseline and Target Calculations for 2020 UWMPs

- OMWD calculated baselines and targets in its 2015 UWMP.
- OMWD has had no changes to its distribution area and does not need to update its baseline or target.
- OMWD Submitted a 2015 UWMP.
- OMWD is Not Newly Subject to UWMP Requirements.
- OMWD has Not Expanded its Distribution Service Area.
- OMWD has Not Contracted its Distribution Service Area.
- OMWD does Not Have Large Partial Customers Who Became Whole Customers.

5.4 Methods for Calculating Population and Gross Water Use

5.4.1 Service Area Population

OMWD's population was estimated by SANDAG which is consistent with its previous UWMPs. OMWD's wholesaler, SDCWA, as well as many other SDCWA member agencies, also used estimates by SANDAG.

5.4.1.1 Department of Finance

OMWD serves portions of five incorporated cities and a portion of the unincorporated County of San Diego. In 2010, OMWD contracted with the State of California, Department of Finance (DOF) to develop a special population projection for its service area. Following completion of the projection it has been updated using annual growth factors, provided by DOF for San Diego County. OMWD has been using the results as the basis for projecting its future growth, and for various reporting to the State. OMWD has consistently used SANDAG population projections for its UWMPs. The two projections are significantly different. Once the 2020 census data is available, OMWD will contract with SANDAG to produce an updated projection and will attempt to reconcile it with DOF. If the two can be reconciled, OMWD will likely use the SANDAG projection going forward as it is well-documented and consistent with SDCWA and its member agencies. OMWD meets its SB X7-7 target per capita water use with either projection.

- OMWD is not using the American Community Survey to estimate the 2020 population.
- OMWD is not using the person-per-connection method to estimate the 2020 population.
- OMWD is not using the DWR population tool to estimate the 2020 population.

5.4.2 Gross Water Use

5.4.2.1 Calculation of Gross Water Use

OMWD's gross water use is the water that enters its distribution system over the 12-month fiscal year from July 1, 2019 through June 30, 2020 with the exclusions listed below.

5.4.2.2 Exclusions and Deductions to Gross Water Use

OMWD has incorporated the following allowable exclusions and deductions from gross water use, but has not deducted a small amount of water, approximately 15 AF, sold to SFID:

- Recycled water
- Water conveyed to VWD (another urban supplier), because the wholesaler bills them directly
- Water delivered for agricultural use

5.5 2020 Compliance Daily Per-Capita Water Use

OMWD is not making 2020 adjustments for factors outside of its control, extraordinary institutional water use, economic adjustment, weather normalization, COVID-19, or special situations. OMWD met its 2020 target.

5.6 Regional Alliance

The Water Conservation Act of 2009 authorizes urban retail water suppliers to determine and report progress toward achieving these targets either on an individual agency basis, or collectively as part of a regional alliance of neighboring water agencies. Accordingly, OMWD, VWD, SDWD, and RdDMWD formed a regional alliance pursuant to the Water Conservation Act of 2009. All of these members are recipients of water from a common wholesale water supplier, in this case SDCWA, and all of the members are located within the South Coast Hydrologic Region as shown in the California Water Plan.

The regional alliance members have entered into a cooperative agreement and have jointly notified DWR of the formation of their regional alliance. In accordance with the DWR Guidebook and DWR Methodologies, the members have prepared an urban water use target and an interim urban water use target for the region, as presented in the UWMPs of each of the alliance members. Each member of the regional alliance has also developed its own set of interim and urban water use targets, along with other supporting data and determinations, all of which is included in each member's individual UWMP. (OMWD's individual interim and urban water use targets are set forth above in Tables 5-1 and 5-2.) The 2015 Interim target for the alliance is 228, while the 2015 actual GPCD was 170, and therefore the alliance achieved its target reduction for 2015. The 2020 target for the alliance is 204, while the 2020 actual GPCD was 150, and therefore the alliance achieved its target reduction for 2020. The regional alliance report and required tables have been uploaded electronically by OMWD. The other members of the alliance will attach the report and tables as an appendix to their UWMP.

Chapter 6. Water Supply Characterization

This chapter describes the existing and planned sources of water available to OMWD including purchased or imported water, groundwater, surface water, stormwater, recycled water, desalinated water, and exchanges or transfers. This chapter also includes a discussion of potential climate change and regulatory impacts to these supplies. Overall supply reliability is discussed in Chapter 7. Tables designated with a letter, such as Table 6-A, are to facilitate the presentation of information but are not required.

6.1 Water Supply Analysis Overview

Although OMWD has made significant progress in reducing its demand for potable water through implementation of water conservation strategies and development and expansion of its recycled water system, in 2020, OMWD purchased 100 percent of its potable supply as untreated water from SDCWA. Additional alternative water supplies have been identified for potential implementation within OMWD's service area. Where applicable in the supply discussions that follow in this section, the unit cost of an alternative water supply measure is compared to OMWD's marginal cost of conventional imported supplies. Other relevant considerations are also discussed. As set forth below, diversification of water supply sources reduces OMWD's operational risks and reliance on SDCWA as the single source of potable water supply in the region. The experience of statewide droughts and the adoption by the SWRCB of an Emergency Regulation for Urban Water Conservation has only reinforced the need for continued water use efficiency and development of local drought-resilient water supplies. California and San Diego County went through two severe multi-year droughts in the last twelve years, both resulting in water shortages and allocation of imported water supplies by Metropolitan and SDCWA. During both drought events (2009-2011 and 2014-2015) OMWD experienced cutbacks in its supplies from SDCWA and consequently adopted extraordinary conservation measures to manage the shortages. Those very recent experiences also illustrated the importance of preserving regional stored water reserves, by both Metropolitan and SDCWA, to cope with what is expected to be more frequent and extended droughts. In addition to continued water use efficiency, the development of additional local drought-resilient supplies by OMWD is the most significant drought preparedness action that can be taken. Local supplies not only reduce the demand for imported water, but in a shortage, help protect and maintain crucial stored water reserves for more extended periods during drought.

To become more drought-resilient and improve the reliability of its supplies, OMWD is striving to derive one-third of its total supply from local sources. A large portion of this is projected to come from recycled water sources through expansion of its existing recycled water distribution system and supplied through recycled water purchases from other agencies. The remainder is projected to come from other local sources, potentially including desalinated brackish groundwater and/or desalinated seawater and potable reuse.

Chapter 7 of this UWMP is an assessment of water supply reliability and concludes that under single and multi-dry year scenarios, OMWD has a reliable water supply through 2045, with no shortages in dry years. This conclusion is based upon the SDCWA 2020 UWMP water supply reliability assessment contained in the SDCWA Water Shortage and Drought Response Plan. In spite of this conclusion, the

development of local water supplies like the ones described in this section has never been more important. History has shown that the major imported supplies of Metropolitan and SDCWA, such as the Bay-Delta and the Colorado River, are subject to reductions from environmental and regulatory restrictions, over-allocation, and natural occurrences. As noted above, the experience of the last two multi-year droughts have demonstrated the importance of developing hydrologically independent local water supplies like those being planned by OMWD. Recycled water on the scale that OMWD is contemplating, and brackish groundwater or seawater desalination, are highly reliable, virtually unaffected by variable weather patterns, and are a most cost-effective strategy to adapt to climate change. Local supplies provide greater local control and are generally easier to implement. Local supply projects are smaller, with fewer stakeholders, and with environmental and regulatory requirements that are more straightforward to evaluate, comply with, and/or mitigate, and permit. OMWD also has greater control of the cost of producing local supplies like recycled water, for example.

In its water supply reliability assessment, SDCWA has assumed that Metropolitan will allocate water under its preferential rights formula. This assumption results in a surplus of supply but in practical application, the Metropolitan Act only allows Preferential Rights to meet demands. In Section 10 of its UWMP, SDCWA notes that there are critical uncertainties over the future amounts of imported water supply available to Metropolitan, including the success of the California Delta Conveyance permitting process and the willingness of the water users to pay the cost. Whether those improvements go forward can have a significant effect on State Water Project yield and available Metropolitan supply under certain hydrologic and regulatory conditions. Other uncertainties that can affect supply availability include changing policies, regulations, laws, and social attitudes; new regulatory restrictions, emerging contaminants, and endangered species; and Delta levee failures, prolonged multi-year droughts, and impacts from climate change. In Section 10, SDCWA applies scenario planning to manage these uncertain futures. In a specific evaluation of the year 2035, the strategy to address the gaps in supply are the new local supply projects of SDCWA and its member agencies including recycled water, brackish groundwater desalination, potable reuse, groundwater recharge and recovery, and seawater desalination with an estimated yield of nearly 200,000 AFY. Clearly, the continued development of local water supplies by SDCWA member agencies, such as those being contemplated by OMWD and other participants in the North San Diego Water Reuse Coalition, is critical to both OMWD's and the region's water supply reliability.

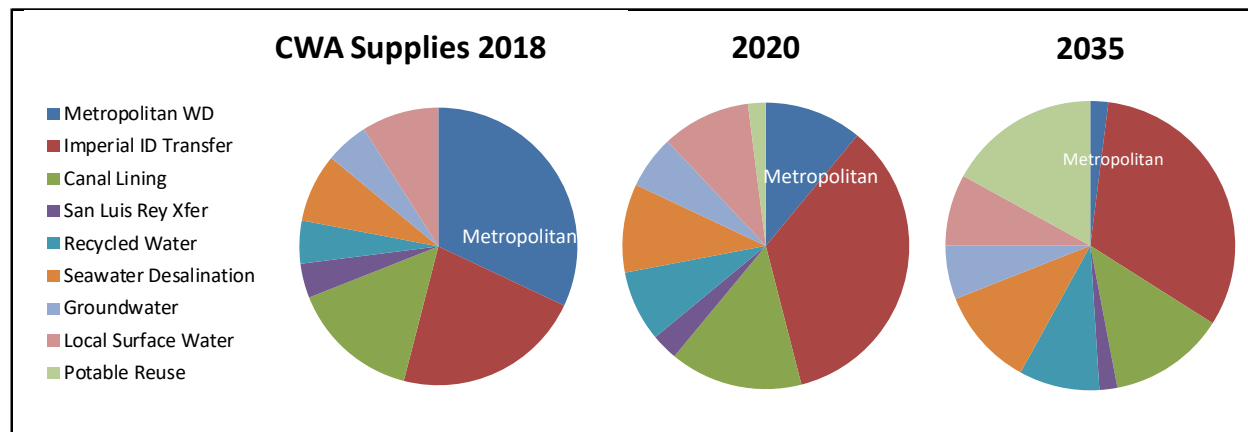
6.2 Narrative Sections for OMWD's Water Supply Characterization

6.2.1 Purchased or Imported Water

In 2020, OMWD purchased 100 percent of its potable supply from SDCWA. A complete description of the SDCWA service area and its supplies can be found in SDCWA's 2020 UWMP [www://sdcwa.org/your-water](http://www.sdcwa.org/your-water). SDCWA and its retail member agencies, including OMWD have greatly diversified the region's supply from 1991 when 95 percent of San Diego County's water supply was provided by Metropolitan. SDCWA has developed firm supplies from an agreement with Imperial Irrigation District for conserved water (200,000 AFY), the Carlsbad Desalination Plant (50,000 AFY), and the All-American and Coachella Canal Lining Supplies (78,700 AFY), for a total of 327,500 AFY, a significant portion of its future demand and total regional water use. In 2015, Metropolitan provided approximately 57 percent of the county's supply while in 2018 it was 32 percent. Metropolitan is expected to provide 11 percent in 2020, 12

percent in 2035, and 17 percent in 2045. A breakdown of SDCWA’s service area supplies is shown below in **Figure 6-A**.

Figure 6-A: SDCWA and Member Agency Service Area Supply Portfolio Current and Projected



Metropolitan has two main sources of supply, the California State Water Project and the Colorado River. A complete description of all of Metropolitan and its supplies can be found in Metropolitan’s Regional UWMP <http://mwdh2o.com/aboutyourwater/Planning-Documents>. OMWD has relied upon the water supply information provided by SDCWA and Metropolitan in preparing OMWD’s 2020 UWMP and for purposes of fulfilling the informational requirements of CWC §§ 10631(b) and (c).

6.2.2 Groundwater

OMWD does not currently receive any potable supply from groundwater. OMWD has studied a supply from the San Elijo/Escondido Creek Basin and is currently studying the San Dieguito Valley Basin, both within its service area.

OMWD is studying a project to produce 1,120 acre feet per year (1.0 MGD) of desalinated groundwater for potable water supply. The supply would come from wells in the San Dieguito Basin. A pipeline would deliver the brackish groundwater to a reverse osmosis (RO) desalination treatment plant. The product water would then be delivered into the existing potable water system. The brine from the RO membranes could be conveyed through a new pipeline to SEJPA’s San Elijo Water Reclamation Facility or directly to its ocean outfall. Recharge of the groundwater with recycled water could also be contemplated as part of this project.

Potential groundwater resources within the OMWD service area include the following:

- San Elijo Valley Basin

This basin is formally titled by DWR as San Elijo Valley, Basin 9-23. It is in the Carlsbad Hydrologic Unit of the Carlsbad Watershed Management Area and is a portion of the Escondido Creek Hydrologic Subarea (HSA) 904.6. The subarea is further subdivided into the San Elijo HSA 904.61, Escondido HSA 904.62, and the Lake Wohlford HSA 904.63.

- San Elijo Valley Alluvial Groundwater Basin

Groundwater flows in the alluvium of Escondido Creek, which is generally less than 100 feet thick. The alluvial deposits are river channel deposits ranging from coarse to fine and may include some overbank or lacustrine deposits of clay and silt in places. Downstream, the river deposits occur in between estuarine deposits of fine sand, silt, and clay that contain brackish water and marine fossil invertebrates of Middle to Late Holocene age, to depths of from 80 to 140 feet, east to west. The alluvial river deposits are less than 1,000 feet wide at the eastern end of the creeks, and 1,500 feet or more as they merge with the lagoon sediments. The total volume of alluvial deposits is approximately 66,000 acre-feet, including San Elijo Lagoon from the ocean to the divergence of Escondido and La Orilla Creeks. This volume also includes all of the alluvium in those creeks to their emergence from the low mountains separating the coast and the Escondido Valley. The project supply wells would most likely be located in this basin.

- San Elijo Valley Groundwater Project

In 2017, OMWD has completed a draft Title XVI Feasibility Study of the San Elijo Basin that was partially funded by the United States Department of Interior, Bureau of Reclamation (BOR). This basin is also known as the western Escondido Creek or Eastern San Elijo Lagoon watershed and is within the Carlsbad Hydrologic Unit. The study concluded that potable water could be produced for between \$2,190 and \$2,280 per acre-foot. The then current water rate projections by SDCWA for treated water estimated costs at \$1,700 per acre-foot in the year 2021. This source of water is cost-competitive with similar local supply projects being planned in San Diego County and with SDCWA's Claude "Bud" Lewis Carlsbad Desalination Plant source. The San Elijo Valley Groundwater Project is considered potentially feasible at this time pending further technical and environmental studies.

- San Dieguito Valley Groundwater Basin

This basin is formally titled the San Dieguito Creek, Basin 9-12. It is in the San Dieguito Hydrologic Unit 905.00 of the San Dieguito River Watershed Management Area and is a portion of the Escondido Creek HSA 904.6. The San Dieguito River Basin is in the Solana Beach Hydrologic Area and is numbered 905.1. The Hydrologic Area is divided into the Rancho Santa Fe HSA numbered 905.11 and the La Jolla HSA (Lusardi Canyon) numbered 905.12.

The San Dieguito Valley is a V-shaped alluvial valley cut into Eocene La Jolla Group rock units which are exposed along the sides of the valley as it broadens and enters into San Dieguito Lagoon located near the cities of Del Mar and Solana Beach. The lagoon debouches into the ocean through a sustained narrow tidal inlet at the shoreline.

The San Dieguito River Watershed drains westward from the Sutherland Reservoir and the western Peninsular Range Mountains through the Solana Beach Hydrologic Area which is located below Lake Hodges and then into the San Dieguito Groundwater Basin. Three main creeks drain into the San Dieguito River in the upper hydrologic area: Lusardi Creek from the south at La Jolla Valley and La Zanja and Gonzales Creeks from canyons with the same names.

The San Dieguito Valley Groundwater Basin is approximately 5.6 square miles in size and contains approximately 52,000 acre-feet of water² when full. The basin consists of an upper basin forebay area (i.e., recharge area) where groundwater occurs in a generally unconfined sand and gravel aquifer located between Lusardi Creek and the Morgan Run area and middle and lower basin areas where a medial clay zone divides groundwater into two aquifers, a shallow upper unconfined aquifer and a deep lower confined aquifer.

Recharge into the basin occurs predominately from the water in the San Dieguito River into the unconfined aquifer in the upper basin forebay area. Recharge also occurs from irrigation, rainfall, and through several impoundments located primarily in the upper area of the basin. Some recharge may also occur from the underlying rock formations.

- San Dieguito Valley Brackish Groundwater Desalination Study

OMWD was awarded a 2014 Water Desalination Grant from DWR for a project known as the San Dieguito Valley Brackish Groundwater Desalination Study that would determine if sufficient groundwater is available on a sustainable basis to support the 1,120 AFY product water supply. This basin is also known as the western San Dieguito Basin and is within the San Dieguito Hydrologic Unit. The feasibility study was completed in 2017 and concluded that the project was feasible for production of 1,120 AFY, and possibly more.

To further confirm technical feasibility, OMWD conducted a one-year pump test of a new well between December 2019 and November 2020. This work was partially funded by DWR through the Water Desalination Grant Program and Metropolitan/CWA's Future Supply Actions funding program. The pump test data analysis and modeling were completed in April 2021 and confirmed project technical feasibility. During FY 2022 and FY 2023, OMWD and its Board of Directors may conduct additional project investigations.

Groundwater Management

The California Water Code contains provisions allowing local agencies to adopt Groundwater Management Plans (GMPs) or Groundwater Sustainability Plans (GSPs) to assist with management and protection of the state's water resources. There are no formal adopted groundwater management plans for either the San Elijo or San Dieguito basin. Should OMWD proceed with implementing a project in one of the basins, they would consider being the lead agency for a GMP or GSP. The San Elijo and San Dieguito groundwater basins are low priority for GSPs and neither has been adjudicated.

Overdraft Conditions

DWR periodically assesses the condition of the state's groundwater basins relative to overdraft. DWR's most recent assessment of the San Elijo Valley and San Dieguito Valley basins, as presented in DWR Bulletin 118 Interim Update 2016, indicates that the basins are not in overdraft. OMWD would manage any future groundwater project in these basins to avoid overdraft.

² Evaluation of the San Dieguito, San Elijo, and San Pasqual Hydrologic Subareas for Reclaimed Water Use, San Diego County, California, U.S. Geological Survey Water Resources Investigation Report 83-4044, John A. Izbicki, 1983.

Historical Groundwater Pumping

OMWD did not pump groundwater between 2016 and 2020. Required information for the UWMP is summarized in **Table 6-1**.

Table 6-1 Retail: Groundwater Volume Pumped

<input checked="" type="checkbox"/>	Supplier does not pump groundwater. The supplier will not complete the table below.					
Groundwater Type	Location or Basin Name	2016	2017	2018	2019	2020
	None	--	--	--	--	--
TOTAL		0	0	0	0	0

6.2.3 Surface Water

OMWD does not currently use, or plan to use, self-supplied surface water. OMWD does have the rights to 3,443 AF of operational storage of surface water in the SDCWA system. There are two major water courses that traverse OMWD, Escondido Creek and the San Dieguito River.

Escondido Creek is a part of the Carlsbad Hydrologic Unit, drains the peninsular mountain ranges east of the Escondido Valley and is controlled by dams at Lake Wohlford and Lake Dixon. It flows through the City of Escondido, Harmony Grove, San Elijo Canyon, and the San Elijo Valley to the San Elijo Lagoon and the Pacific Ocean. Natural runoff is intermittent and is supplemented with urban and agricultural drainage. The runoff supplies riparian vegetation along the creek, recharges the groundwater basins, and any remaining flow discharges into the lagoon. The San Elijo Lagoon Conservancy is in the process of restoring native vegetation along the creek and restoring the lagoon. Izbicki estimated the average runoff at 6,970 AFY although it should be noted that the mean runoff is typically much lower for this type of watershed in San Diego County. Data for 2004 through 2009 from Carollo³ reported a higher average runoff of 14,560 AFY. Escondido Creek has not been developed for municipal supplies because of the low yield, water quality, and lack of cost-effective impoundment projects. Development today would face significant environmental challenges. The Escondido Creek flow is the largest component of recharge for the groundwater basin and would be critical to the groundwater projects described in section 6.2.2.

The San Dieguito River drains the coastal mountain ranges with elevations in excess of 5,500 feet and is a part of the San Dieguito Hydrologic Unit. Runoff is controlled by the Sutherland Reservoir Dam and the Lake Hodges Dam, just upstream of OMWD, both of which are owned and operated for water supply by the City of San Diego. Water impounded at Sutherland Reservoir can be diverted to San Vicente Reservoir in the San Diego River watershed for municipal use. The City of San Diego, Santa Fe Irrigation District, and San Dieguito Water District use Lake Hodges for municipal water supply. The Lake Hodges

- ³ Opportunities and Constraints Analysis of the Eastern San Elijo Lagoon/ Western Escondido Creek and the San Dieguito Groundwater Basin, Technical Memorandum 1 – Preliminary Water Quality Investigations, Olivenhain Municipal Water District, Carollo, January 2010.

Dam controls an area of over 300 square miles and spills infrequently. In 2012, SDCWA completed construction of the Hodges Olivenhain Pumped Storage Project which provides the ability to move additional water out of Lake Hodges, further reducing the frequency of small volume spills. Recently, the State of California, DWR, Division of Safety of Dams, placed limits on the maximum water level in Lake Hodges due to concerns with the Dam. This even further reduced the frequency of a spill. The watershed downstream of Lake Hodges is relatively small and produces low, intermittent flow in the river and for that reason has not been developed for municipal supply. No data is available on current flow in the San Dieguito Basin (Carollo, 2010). The River is however a critical source of recharge for the groundwater projects discussed in section 6.2.1.

6.2.4 Stormwater

OMWD does not intentionally divert stormwater for beneficial use. OMWD will consider stormwater as a source of recharge for the groundwater supply projects described in section 6.2.1.

6.2.5 Wastewater and Recycled Water

OMWD has long been a leader in water reuse in San Diego County and has aggressively built and expanded its recycled water distribution systems to serve beneficial uses that are cost-effective. OMWD currently meets approximately 13 percent of its water demands from recycled water. OMWD's goal is to provide 20 percent of its total supply from recycled water. OMWD's recycled water system can be broken down into two separate quadrants, the Southeast Quadrant and the Northwest Quadrant (NWQ). The quadrants are not connected. The Village Park Recycled Water Project was one of the recycled water conversion projects in the NWQ completed in 2017 and ultimately is expected to supply irrigation demands of approximately 243 AFY. To supply its recycled water distribution system, OMWD recycled every drop of wastewater entering its 4S Ranch Water Reclamation Facility (4S Ranch WRF) and has developed agreements with VWD, the City of San Diego, RSFCSD, and SEJPA for additional supply. Preliminary discussions have been initiated with three small community services districts located within OMWD to develop additional supply. In this section, we describe

- Recycled water coordination
- Wastewater collection, treatment, and disposal
- The recycled water system
- Potential, current, and projected recycled water uses, and
- Actions to encourage and optimize future recycled water use.

6.2.5.1 Recycled Water Coordination

The production and distribution of recycled water within OMWD's service area is accomplished through cooperative interagency agreements between OMWD, the City of San Diego, the City of Carlsbad, RSFCSD, VWD, and SEJPA. OMWD developed its Master Plan in coordination with these participating agencies with the result of developing recycled water use programs that have a regional benefit and assist other agencies with meeting their water reclamation goals.

OMWD has taken a cooperative, regional approach in expanding the availability of recycled water to its customers by partnering with nine other agencies to study greater interconnection and

development of northern San Diego County’s recycled water infrastructure. The North San Diego Water Reuse Coalition is a cooperative effort of nine northern San Diego County water and wastewater agencies collaborating on a plan to connect the region – taking inventory of where there is a supply of wastewater and a demand for recycled water for irrigation, industrial, or potable uses. By working together, these agencies are demonstrating a commitment to provide a reliable, drought-proof source of water for the region and reduce discharge of wastewater to the ocean. This cooperative, inter-agency effort also illustrates an integrated water management commitment that is a cost-effective, environmentally responsible approach to water supply planning. The Regional Recycled Water Project is intended to develop regional recycled water infrastructure to increase the capacity and connectivity of the recycled water storage and distribution systems of coalition members and maximize reuse of available wastewater supplies. To do this, the project will replace potable water uses with recycled water components, convert facilities to recycled water service, connect discreet recycled water systems to one another, increase recycled water storage capacity, distribute recycled water to effectively meet recycled water demands, and implement advanced water treatment to produce and use potable reuse water within the project area. It is aimed at matching supplies with demands, without regard to jurisdictional boundaries, to optimize the cost-effective use of recycled water, and improve water supply reliability in the region.

6.2.5.2 Wastewater Collection, Treatment, and Disposal

This section summarizes the collection and treatment of wastewater generated within OMWD’s service area.

Wastewater Collected Within the Service Area

Within OMWD’s boundaries, wastewater collection is provided by eight separate districts as listed in **Table 6-B**.

Table 6-B: Wastewater Collection Agencies Within OMWD Service Area

Agency Name	Treatment within OMWD Boundaries	Disposal within OMWD Boundaries
OMWD	4S Ranch WRF	100 Percent Recycled for Beneficial Reuse in Southeast Quadrant System
Leucadia Wastewater District	None	None
City of Encinitas	None	Portion of Supply for Northwest Quadrant System
City of San Diego	None	Portion of Supply for Southeast Quadrant System
City of Solana Beach	None	Portion of Supply for Northwest Quadrant System
Rancho Santa Fe Community Services District (CSD)	Rancho Santa Fe WRF Santa Fe Valley WRF	Percolation Pond 100 Percent Recycled for Beneficial Reuse in Southeast Quadrant System
Whispering Palms CSD	Whispering Palms WRF	Percolation Pond
Fairbanks Ranch CSD	None	None

Note: Wastewater collected by the Cities of Encinitas, San Diego, and Solana Beach is treated outside of OMWD's boundaries and a portion is provided back to OMWD as recycled water. Each of these agencies collects and treats wastewater from their service area to either advanced primary, secondary, or tertiary levels depending upon their individual permit requirements and their disposal method.

Each of the agencies listed above was contacted to collect estimates of either flow or the number of equivalent dwelling units (EDUs) served. OMWD and Whispering Palms Community Services District (WPCSD) are the only agencies that maintain flow records of the customers within OMWD. Where EDU estimates were provided, typical unit flows in gallons per EDU per day were applied to estimate the flow from customers with OMWD. Wastewater collection estimates are shown in **Table 6-2**.

Table 6-2 Retail: Wastewater Collected Within OMWD Service Area in 2020

Percentage of 2020 service area covered by wastewater collection system (optional)						
Percentage of 2020 service area population covered by wastewater collection system (optional)						
Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume (AF) Collected from OMWD Service Area 2020	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within OMWD Area?	Is WWTP Operation Contracted to Third Party?
Encinitas – Cardiff	Estimated	527	San Elijo JPA	San Elijo WRF	No	No
Encinitas – Encinitas	Estimated	100	Encina WA	Encina WPCF	No	No
Fairbanks Ranch CSD	Estimated	42	Fairbanks Ranch CSD	Fairbanks Ranch WPCF	No	Yes
Leucadia Wastewater District	Estimated	2,400	Encina WA	Encina WPCF	No	No
OMWD	Metered	932	Olivenhain MWD	4S Ranch WRF	Yes	No
Rancho Santa Fe CSD	Metered	182	Rancho Santa Fe CSD	Santa Fe Valley WRF	Yes	Yes
Rancho Santa Fe CSD	Estimated	150	Rancho Santa Fe CSD	RSF WRF	Yes	Yes
City of San Diego	Estimated	109	City of San Diego	Point Loma WWTP	No	No
City of Solana Beach	Estimated	25	San Elijo JPA	San Elijo WRF	No	No
Whispering Palms CSD	Metered	287	Whispering Palms CSD	Whispering Palms WRF	Yes	Yes
TOTAL		4,754				

NOTES: CSD = Community Services District, MWD = Municipal Water District, JPA = Joint Powers Authority, WA = Wastewater Authority, WRF = Water Reclamation Facility, WPCF = Water Pollution Control Facility, WWTP = Wastewater Treatment Plant

Wastewater Treatment and Discharge Within the Service Area

There are four wastewater treatment plants within OMWD's service area; OMWD's 4S Ranch WRF, Rancho Santa Fe CSD's Rancho Santa Fe WRF and Santa Fe Valley WRF, and WPCSD's Whispering Palms WRF. 100 percent of the effluent from the 4S Ranch WRF and the Santa Fe Valley WRF is

recycled within OMWD for beneficial use. Discharge from the other two WRFs is to percolation ponds. Data from these WRFs is presented in **Table 6-3**.

Table 6-3 Retail: Wastewater Treatment and Discharged Within OMWD Service Area in 2020

WW Treatment Plant Name	Discharge Location Name or Identifier, Order No. R9-2003-0007	Discharge Location Description	Method of Disposal	Treats WW Generated Outside of Service Area?	Treatment Level	2020 Volumes (AF)			
						WW Treated	Dis-charged Treated WW	Recycle Within Service Area	Recycle Outside Service Area
4S Ranch WRF	Recycled Water System	OMWD Southeast Quadrant	Other	No	Tertiary	932	1,150	1,150	0
Santa Fe Valley WRF	Recycled Water System	OMWD Southeast Quadrant	Other	No	Tertiary	182	182	182	0
Rancho Santa Fe WRF	Percolation Pond	County of SD, Via de Santa Fe at Calzada del Bosque	Percolation ponds	Yes	Secondary, Disinfected / Title 22	354	354	0	0
Whispering Palms WRF	Percolation Pond	County of SD, Via de Santa Fe south of El Apajo	Percolation ponds	No	Secondary, Disinfected / Title 22	287	287	0	0
TOTAL						1,755	1,973	1,332	0

NOTES: WRF = Water Reclamation Facility. None of the treatment plants have an instream flow permit requirement.

6.2.5.3 Recycled Water System

Southeast Quadrant Recycled Water Distribution System

In July 1998, OMWD assumed responsibility for sewage collection, treatment, and disposal from the County of San Diego for two areas within its boundaries. These areas include 4S Ranch, Rancho Cielo, and portion of the unincorporated area surrounding them. These two areas encompass a total of approximately 5,300 acres containing single family dwelling units in addition to a variety of other commercial and public uses. OMWD also provides sewer service to several areas outside OMWD's water service area boundaries, including Santa Luz North Affordable Housing (10 acres) and Black Mountain Ranch East Clusters (50 acres), the Heritage Bluffs Development (160 acres), and Avion (84 Units) within the City of San Diego. Black Mountain Ranch East and Heritage Bluffs have been annexed to OMWD's sewer service area.

Through an extensive sewage collection system and sewage pumping stations, the 4S Ranch WRF is able to treat all wastewater effluent received, and produce high-quality recycled water for non-potable irrigation uses such as golf courses, parks, schools, and greenbelts within developed areas. The 4S Ranch WRF is a 2.0 million gallon per day (MGD) water reclamation facility and has the capacity to provide sewer collection and Title 22 tertiary-level treatment services to ultimate build-out, currently projected at approximately 3,700 single family residences, 1,500 multi-family

residences, and 1,900 commercial parcels. Black Mountain Ranch East added approximately 90 single family residences and Heritage Bluffs added approximately 170 single family residences. Another development, Avion is expected to be on line in 2023 to 2024.

The recycled water system facilities include a 3 million gallon (MG) recycled water blending reservoir, a 410 acre-foot recycled water storage pond, several pump stations, a 1 MG recycled water tank, and over 5 miles of recycled water pipeline ranging in size from 8 inches to 20 inches.

In 2020, the 4S Ranch WRF collected and treated approximately 932 AF of wastewater.

In addition to recycling its own water at 4S Ranch WRF, OMWD purchases recycled water from neighboring agencies. Sources and their approximate 2020 volumes include the City of San Diego's North City Reclamation Plant (377 AF) and the Santa Fe Valley Water Reclamation Facility (182 AF).

Northwest Quadrant Recycled Water Distribution System

OMWD has constructed approximately 2.9 miles of 8- and 12-inch diameter recycled water pipelines within existing streets in the northern portion of the City of Encinitas and the southern portion of the City of Carlsbad. Recycled water became available in this area as a result of the "Northwest Quadrant (NWQ) Recycled Water Pipelines Project," which provides recycled water from VWD's Mahr Reservoir. The area served by the project was identified by the 1996 Recycled Water Master Plan as having a significant number of landscape irrigation users and close proximity to a source of recycled water. OMWD does not have the facilities to serve the area with recycled water from the 4S Ranch WRF. In anticipation of future recycled water service, OMWD has previously installed or required developers to install, pipelines in the NWQ that eventually became dedicated recycled water services. OMWD received a grant for the NWQ project in the amount of \$500,000 from the U.S. Department of the Interior. In 2014, OMWD added a second supply for this system from San Elijo Joint Powers Authority. In 2020, VWD provided approximately 650 AF and SEJPA provided 78 AF of recycled water for irrigation uses in the NWQ.

In 2020, the Village Park Recycled Water Project Phase I distributed approximately 124 AFY of recycled water within the Village Park community of the City of Encinitas. Recycled water supplied by SEJPA is conveyed from SEJPA's Oakcrest Reservoir north to OMWD's Wiegand Reservoir through a 12-inch pipeline. From Wiegand, the water is conveyed easterly through a 12-inch pipeline to a pump station just west of El Camino Real and then pumped through 12-inch and smaller pipelines to customers in Village Park to irrigate turf and plants in the common use areas of numerous homeowners' associations (HOAs).

OMWD's 2015 Potable Water and Recycled Water Master Plan can be found at <http://olivenhain.com/MasterPlan>.

6.2.5.4 Potential, Current, and Projected Recycled Water Uses

This section discusses potential, current and projected recycled water uses within the service area.

Current and Planned Uses of Recycled Water

The current recycled water use in the Southeast and Northwest Quadrants is almost entirely for landscape and golf course irrigation. There are no current or planned commercial and industrial or

industrial uses. Indirect potable reuse (groundwater recharge), surface water augmentation, and direct potable reuse will be considered in the future as planned projects and the regulations evolve.

The Southeast Quadrant is supplied by the 4S Ranch WRF, the Santa Fe Valley WRF, and the City of San Diego Connection Numbers 1 and 2. The supplies are mixed within the system and so it is not possible to determine which source provides which use. The Northwest Quadrant service area does not have any golf courses and therefore the VWD and SEJPA supplies are entirely used for landscape irrigation except for a small 9-hole golf course in Encinitas. The beneficial uses of recycled water within OMWD's service area, are shown in **Table 6-4**.

Table 6-4 Retail: Current and Projected Recycled Water Direct Beneficial Uses

Agency Producing Recycled Water:				OMWD, VWD, SD, SEJPA, RSFCSD					
Agency Operating Recycled Distribution System:				Olivenhain Municipal Water District					
Supplemental Water Added in 2020				0					
Source of 2020 Supplemental Water									
Beneficial Use Type	Potential Ben Use	Potential Amount (AF)	General Descript	Level of Treat	2020	2025	2030	2035	2040
Ag irr					--	--	--	--	--
L'scape irr			HOA common areas	Tertiary	1,644	1,855	1,981	1,996	2,017
Golf irr			Golf course irrigation	Tertiary	838	838	838	838	838
Comm					--	--	--	--	--
Ind					--	--	--	--	--
Energy					--	--	--	--	--
Seawater barrier					--	--	--	--	--
Recreatn					--	--	--	--	--
Wetlands					--	--	--	--	--
GW recharge (IPR)*					--	--	--	--	--
Res Aug (IPR)*					--	--	--	--	--
DPR					--	--	--	--	--
Other									
				TOTAL :	2,482	2,693	2,819	2,834	2,855

Planned Versus Actual Use of Recycled Water

Table 6-5 lists the volume of recycled water that was planned for 2020 in the 2015 UWMP and the amount that was actually delivered. The difference is approximately two percent.

Table 6-5 Retail: 2015 Recycled Water Use Projection Compared to 2020 Actual

Beneficial Use Type	2015 Projection for 2020	Actual 2020 Use
Agricultural irrigation	--	--
Landscape irrigation (excludes golf courses)	1,539	1,644
Golf course irrigation	904	838
Commercial use	--	--
Industrial use	--	--
Geothermal and other energy production	--	--
Seawater intrusion barrier	--	--
Recreational impoundment	--	--
Wetlands or wildlife habitat	--	--
Groundwater recharge (IPR)	--	--
Surface water augmentation (IPR)	--	--
Direct potable reuse	--	--
Other	--	--
TOTAL	2,443	2,482

6.2.5.5 Actions to Encourage and Optimize Future Recycled Water Use

Mandatory Use and Financial Incentives

California’s Recycling Law (CWC § 13500 et seq.) establishes a policy to encourage the use of recycled water and provides that the use of potable domestic water for the irrigation of green belt areas, cemeteries, golf courses, parks, and highway landscaped areas constitutes an unreasonable use of water where recycled water is available for such uses, as further set forth by statute. Among other provisions, CWC §§ 71610 and 71611 authorize OMWD to provide and sell recycled and non-potable water within OMWD’s service area. It is the policy of OMWD’s Board of Directors to encourage and mandate the development of recycled water and non-potable water within OMWD’s service area.

To promote the use of recycled water by its customers, OMWD adopted mandatory use Non-Potable Water Ordinance 173 (Ordinance 173) that requires new irrigation and other qualifying customers to use recycled water when and where available. Conditions of the ordinance are incorporated into detailed “conditions of service” agreements that OMWD signs with new customers. The agreements stipulate that when recycled water is available, the users shall retrofit their facilities to utilize recycled water. OMWD also requires the installation of recycled water pipe in new developments to facilitate conversion to recycled water use when the water is available. The cost of recycled water is currently approximately 68 percent of the Tier 1 cost of treated water used for irrigation and 73 percent of the Tier 2 cost. Recycled water customers pay reduced capacity fees, as compared to potable water capacity fees, because they do not pay SDCWA capacity fees, as SDCWA does not deliver recycled water. A copy of OMWD’s Ordinance 173 is included in **Appendix E**.

For developments constructed in OMWD's service area before Ordinance 173, the financial means to retrofit systems in order to take recycled water may not be readily available. In order to facilitate such retrofits, OMWD's Board of Directors established the Recycled Water Loan Program. The loan provides the initial capital to start the retrofit project and requires the funds to be paid back to OMWD within three years. Customers continue to pay the potable cost for water and the difference between the recycled rate and potable rate is used to pay off the loan. Recently, some customers have covered the installation and conversion costs involved specifically to take advantage of the lower cost and drought-proof supply.

There are some irrigation customers within OMWD who are either too distant from recycled water sources, or whose demands are too small for an extension of the recycled water distribution system to be currently affordable. OMWD will continue to seek private, state, and federal funding for these opportunities.

Regional Recycled Initiatives

In addition to OMWD's efforts, agencies throughout San Diego County are presently in an intensive phase of water recycling planning and construction. OMWD is coordinating its recycling planning activities with the North San Diego Water Reuse Coalition and SDCWA and has received grant funding from the US Bureau of Reclamation. Additional information on area wide recycling planning is set forth in SDCWA's UWMP.

District Recycled Water Projects

Building on its existing recycled water projects, OMWD is undertaking or planning several additional projects to further expand recycled water use and reduce potable water use in its service area. Planned OMWD projects are listed in **Table 6-6 (next page)**. These projects are further described below.

Manchester Avenue Recycled Water Pipeline Extension Phases I and II

OMWD received an IRWM Proposition 84 and a Proposition 1 grant to fund a portion of this extension of an existing SEJPA pipeline to serve fifteen to twenty customers and approximately 60 AFY. The project is expected to be constructed in 2022 and this demand has been included in the year 2025 projections.

Village Park Recycled Water Project Phase I

Customers within the original Phase I project continue with site conversions with time. Some customers may take until 2040 to complete site conversions.

Village Park Recycled Water Project Phase II

OMWD developed a Village Park Recycled Water Project Phase II to serve interested customers in close proximity to Phase I infrastructure while beginning to interconnect the Village Park and Northwest Quadrant Systems. Specifically, Phase II will serve several customers along El Camino Real, Glen Arbor Drive, and Avenida La Posta. The demands have been included in the 2030 forecast. The proposed customers currently use approximately 65 AFY. Village Park Phase II could be eligible for State of California Proposition 1 grant funding. Proposition 1 provides up to 35 percent of project costs. Federal funding is also possible.

Table 6-6 Retail: Methods to Expand Future Recycled Water Use

56 - 59	Page location of narrative		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Use (AFY)
Mandatory Use	California's Recycling Law (CWC § 13500 et seq.). OMWD adopted mandatory use Non-Potable Water Ordinance 173	In progress	Not Quantifiable
Financial Incentives	Reduced capacity fees and commodity rates.	In Progress	Not Quantifiable
Regional Incentives	Metropolitan and SDCWA programs and grant funding.	In Progress	Not Quantifiable
District Recycled Water Projects	See below	See Below	See Below
Diegueño Middle School	Distribution system extended to the site. School to purchase meters and convert the site.	2022	10
Manchester Avenue Phase I & II	Pipeline extension, site conversions, landscape irrigation.	2022	60
Village Park Recycled Water Project I	Multiple short pipelines, site conversions, common area and landscape irrigation.	2025 - 2035	65
Village Park Recycled Water Project Phase II	Multiple short pipelines, site conversions, common area and landscape irrigation.	2025	17
Garden View Road	Pipelines, site conversions, common area and landscape irrigation.	2025 - 2030	44
Extension 153 Phase I	Pipeline extension, site conversions, common area and landscape irrigation.	2030	189
Bridges Golf Club and HOA	Joint pump station, pipeline, and steel tank project with SEJPA and possibly SDWD and SFID, golf course, common area, and landscape irrigation.	2030	400
Rancho Cielo Phase I	Pipeline extension, site conversions, common area and landscape irrigation. Via Ambiente median and Village Center	2030	30
Extension 153 Phase II	Pipeline extension, multiple site conversions, common area and landscape irrigation.	2035	300
Rancho Cielo Phase II	Pipeline extension, site conversions, common area and landscape irrigation. Higher elevations.	2035	70
TOTAL			1,185

NOTES:

Garden View Road

This would be an extension of the Village Park Phase I system serving approximately 10 customers and 44 AFY. This demand has been included in the 2025 projection.

Extension 153 Phases I and II

Extension 153 is a recycled water distribution pipeline that serves golf course customers in the Fairbanks Ranch and San Dieguito Valley areas within the Southeast Quadrant system. Several potable irrigation customers adjacent to the existing main line have contacted OMWD and requested service. OMWD reviewed all of the irrigation meters in the area and identified those that can be served cost effectively. Their demands total approximately 189 AFY, a recycled water supply is available, and the Extension 153 pipeline has capacity although more rigid scheduling of deliveries may be required to serve all the potential customers. These Phase I customers continue to convert and forecast to be online in 2030. Phase II is projected for 2030 or later. In 2019, OMWD constructed Extension 153A to deliver recycled water to Surf Cup Sports for the irrigation of soccer fields. The agreement with Surf Cup Sports requires the use of a minimum of 50 AFY for 10 years. The project received partial funding from an IRWM grant.

Bridges Development Recycled Water Project

The Bridges Golf Course and HOA (Bridges) is an OMWD customer located north of San Dieguito Reservoir and west of SFID's Badger Filtration Plant in Rancho Santa Fe. In 2014, its irrigation water use was 400 to 500 acre-feet. The Bridges development has long been interested in recycled water service and OMWD is interested in serving them but there is no recycled water available in the area. The Bridges Golf Course is the only golf course in OMWD's service area that is not yet served recycled water.

A source of recycled water is potentially available from SEJPA approximately six miles to the west. The next step for this project would be to prepare a conceptual facilities plan and cost estimate, in partnership with SEJPA and possibly Santa Fe Irrigation District, for a pump station and to reline an existing 30-inch pipeline. There are additional customers within other districts along the pipeline route that may be served by the project. The project may be a good candidate for grant funding including the IRWM grants and Proposition 1. This demand has been included in the 2030 forecast.

Rancho Cielo Phases I and II

This development is located to the east of the Bridges and likely would not have recycled water available until the Bridges is served. The demands have been included in the 2030 projection.

More detail on these projects can be found in the 2015 Potable Water and Recycled Water Master Plan: <http://olivenhain.com/MasterPlan>.

North County One Water Program

The wastewater flows and facilities from two coastal treatment facilities in northern San Diego County, the Encina Water Pollution Control Facility (EWPCF) and the San Elijo Water Reclamation Facility (SEWRF), represent a unique opportunity for large-scale production of purified water.

The EWPCF in the City of Carlsbad, California could accommodate an advanced water purification facility that could produce an estimated 17,800 AFY to 22,200 AFY or more of purified water by 2030. The EWPCF has key assets available for production of purified water such as an ocean outfall, available land for advanced treatment, treated secondary effluent and technically capable staff (refer to the Encina Wastewater Authority’s [EWA] *2018 Water Reuse Feasibility Study*).

The SEWRF in the Cardiff area within the City of Encinitas, California could also accommodate an advanced water purification facility that could produce an estimated 400 AFY to 3,100 AFY of purified water by 2030. The SEWRF also has key assets available for production of purified water such as an ocean outfall, available land for advanced treatment, treated secondary effluent and technically capable staff (refer to the *2019 Recycled Water Expansion Plan* for Santa Fe Irrigation District, San Dieguito Water District, San Elijo Joint Powers Authority, Olivenhain Municipal Water District, and Leucadia Wastewater District).

The Encina Wastewater Authority (EWA) and San Elijo Joint Powers Authority (SEJPA) have been working with multiple local water agencies to develop the North County One Water Program, building on over a decade of collaborative efforts in the region by the North San Diego Water Reuse Coalition. With the combined flows, the North County One Water Program could supply an estimated 18,000 AFY to 25,000 AFY or more of purified water overall for potable reuse by 2030. OMWD is supportive of this future program and is interested in purchasing up to 2,500 AFY of purified water for future irrigation customers, other uses, or to replace existing supplies.

Table 6-C: North County One Water Program Participants and Demands

Agency	Demand for Purified Water (AFY)
San Dieguito Water District	2,000
Santa Fe Irrigation District	3,000
City of Poway	3,000
Vallecitos Water District	2,200 to 5,500
Olivenhain Municipal Water District	2,500
City of Carlsbad	3,500
Total	16,200 to 19,500

6.2.6 Desalinated Water

As described in section 6.2.1, OMWD is currently studying a project to produce 1,120 acre feet per year (1.0 MGD) of desalinated groundwater for potable water supply. The supply would come from wells in the San Dieguito Basin. A pipeline would deliver the brackish groundwater to a reverse osmosis (RO) desalination treatment plant. The product water would then be delivered into the existing potable water system. The brine from the RO membranes could be conveyed through a new pipeline to SEJPA’s San Elijo Water Reclamation Facility or directly to its ocean outfall.

OMWD sits adjacent to the world's largest water supply, the Pacific Ocean, and it provides a potential long-term water supply alternative. OMWD is currently focused on brackish groundwater desalination but should this not prove feasible, seawater desalination may be considered. The Claude "Bud" Lewis Carlsbad Desalination Plant started deliveries to SDCWA in December 2015 and provides up to 56,000 AFY and approximately eight percent of the county's supply. OMWD has supported this regional effort to develop a desalination facility and, as a member agency of SDCWA, can access this supply and benefits from the reliability it provides.

6.2.7 Exchanges and Transfers

6.2.7.1 Exchanges

OMWD has no existing or planned exchanges. Both SDCWA and Metropolitan are actively engaged in exchanges and transfers designed to increase the storage of wet year surplus water for use in dry years, and also directly supplement supplies during dry years. Additional information regarding the exchange and transfer activities of SDCWA and Metropolitan are set forth in their respective 2020 UWMPs.

In the future, there may be the possibility of purchasing water from other wholesalers. Currently, Metropolitan owns the infrastructure that delivers water to SDCWA who wholesales the water to local water agencies. The costs of maintaining the infrastructure are a large factor in the cost of water and therefore wheeling charges are significant.

As a member agency of SDCWA, which in turn is a member agency of Metropolitan, OMWD shares its imported water supply with all of the Southern California south coastal plain, using only what it needs when it needs it. OMWD does not currently control any water resources or major storage facilities of its own, and therefore is generally not in a position to engage in significant exchanges and transfers.

OMWD has an agreement with VWD, immediately adjacent to the north, for the sale of treated water services. However, OMWD notifies SDCWA of the amount of water sold to VWD and SDCWA charges them for the raw water costs, and so this is not considered an "exchange." The agreement was executed in 2014 and the first deliveries were in September 2015. The agreement expires at the end of 2031 and the minimum volume is 2,750 acre-feet per year.

6.2.7.2 Transfers

OMWD has no existing or planned exchanges.

6.2.7.3 Emergency Interties

Emergency interties are described in section 7.4.

6.2.8 Future Water Projects

To properly factor its member agency plans for local water supply development into its overall water supply planning, SDCWA uses the following terminology relative to projects:

- Verifiable – CEQA satisfied, permits are in hand, or contracts have been executed.

- Additional Planned – Actively pursuing, feasibility studies completed, continue to fund advanced planning efforts.
- Concept – In pre-planning and pre-feasibility analysis phase.

Table 6-7 includes only “Verifiable” and “Additional Planned” projects. OMWD’s other future water projects include the brackish groundwater desalination project described in section 6.2.1 and the recycled water projects described in section 6.5.5, which are considered “Concept.”

Table 6-7: Expected Future Water Supply Projects or Programs

56 - 59	Page location of narrative					
Name of Future Projects or Programs	Joint Project with other agencies?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply
	Yes/No	Agency Name				
Various Recycled Water Projects (Table 6-6)	Yes	San Elijo Joint Powers Authority, City of San Diego	Recycled water for irrigation to replace potable.	2025 - 2040	Normal Year Dry Year	1,185

6.2.9 Summary of Existing and Planned Sources of Water

Table 6-8 provides OMWD’s actual source and volume of water for FY 2020. **Table 6-9** provides OMWD’s projected source and volume of water that is reasonably available.

Table 6-8 Retail: Water Supplies – Actual

Water Supply	Additional Detail on Water Supply	FY 2020		
		Actual Volume (AF)	Water Quality	Total Right or Safe Yield (optional)
Purchased or Imported Water	San Diego County Water Authority	17,100	Drinking Water	Not Quantified
Recycled Water	See Table 6-4	2,482	Recycled Water	Not Applicable
TOTAL		19,582		

Table 6-9 Retail: Water Supplies – Projected

Water Supply (Source)		Projected Water Supply							
		2025		2030		2035		2040	
		RAV	RSF	RAV	RSF	RAV	RSF	RAV	RSF
P/I	CWA	17,410		16,960		16,640		16,310	
GW	Table 6-4	0		0		0		0	
RW		2,693		2,819		2,834		2,855	
Total		20,103		19,779		19,474		19,165	
<p>NOTES: RAV = Reasonably available volume, RSF = Total right or safe yield, P/I = Purchased or imported, GW = Groundwater, RW = Recycled water.</p> <p>Only "verifiable" and "additional planned projects" have been included in this table. Verifiable = CEQA satisfied, permits in hand, or contracts have been executed. Additional Planned = actively pursuing but not yet verifiable.</p>									

6.2.10 Special Conditions

6.2.10.1 *Climate Change Effects – Influence on Water Supply*

CWA has evaluated the potential influence of climate change on its supply, on which OMWD is reliant for its potable supply. The following summarizes SDCWA's analysis and is excerpted from the March 2021 Public Review Draft of its UWMP.

CWA's qualitative assessment of the impact of climate change on water supplies is based on *Managing an Uncertain Future: Climate Change Adaptation Strategies for California's Water* (Hanak and Lund 2008)

[Excerpt from SDCWA Public Review Draft UWMP, March 2021]

The term climate change refers to changes in long-term averages of daily weather. Changes to climate will be gradual, providing water supply agencies the ability to adapt planning strategies to manage for the supply uncertainties. The effect on supply would be gradual and captured in each five-year update to the UWMP.

Researchers have concluded that increasing atmospheric concentrations of greenhouse gases, such as carbon dioxide, are causing the Earth's air temperature to rise. While uncertainties remain regarding the exact timing, magnitude, and regional impacts of the temperature and potential precipitation changes due to climate change, researchers have identified several areas of concern that could influence long-term water supply reliability. These potential areas are listed below:

- **Loss of Natural Snowpack Storage.** Rising temperatures reduce snowpack in the Sierra Nevada because more precipitation falls as rain, and snowmelt occurs sooner. Snowpack in the Sierra Nevada is the primary source of supply for the State Water Project. Snowpack is often considered a large surface "reservoir," where water is slowly released between April and July each year. Much of the state's water infrastructure was designed to capture the slow spring runoff and deliver it during the drier summer and fall months. DWR projects that the Sierra snowpack will experience a 25 to 40 percent reduction from its historic average by 2050.

- **Sea Level Rise.** Rising sea levels could increase the risk of damage to water and water recycling facilities from storms, high-tide events, and erosion of levees. A potential catastrophic levee failure in the Delta could interrupt supplies from the State Water Project, potentially reducing supply deliveries to the San Diego region from Metropolitan. In addition, rising sea levels could cause saltwater intrusion into the Delta, degrading drinking water quality. More freshwater releases from upstream reservoirs would be required to repel the seawater and maintain salinity levels for municipal, industrial, and agricultural uses.
- **Changes in Average Precipitation and Runoff Volume.** The effect of climate change on overall precipitation and runoff volumes is still unclear and highly uncertain. For example, a number of studies conclude that the flow of the Colorado River may be reduced by climate change, but a wide disparity exists on the predicted volume of that change. The yield from local surface water resources could potentially be reduced, if annual runoff volumes are reduced due to a decline in precipitation or there is an increase in evapotranspiration in reservoirs. Research has yet to clarify how precipitation levels may be impacted by climate change.
- **Change in Frequency and Intensity of Droughts.** Warming temperatures, combined with potential changes in rainfall and runoff patterns, could exacerbate the frequency and intensity of droughts.

The SDCWA UWMP includes scenario planning with a strategy to improve supply reliability by increasing local supplies. This scenario planning process is summarized in section 7.5 and Table 7-B describes the strategies.

6.2.10.2 Regulatory Conditions

The main water supplies for Metropolitan and SDCWA are the Sacramento – San Joaquin Delta and the Colorado River. Metropolitan is an active participant in the Delta Conveyance and Delta Water Quality Control Plan planning and permitting processes and the Colorado River management programs. Both agencies have considered regulatory conditions in their water supply planning and UWMPs.

6.2.10.3 Other Locally Applicable Criteria

There does not appear to be local criteria that affect the characterization of the Delta and Colorado River supplies.

6.3 Submittal Table Completion Using the Optional Planning Tool

The optional planning tool and a monthly breakdown of supplies was not utilized. OMWD receives 100 percent of its potable water supply from SDCWA. SDCWA has planned its storage and conveyance facilities to take into account the variation in monthly demand from its member agencies and therefore can supply the demand needed. OMWD and its recycled water suppliers have also planned their storage and conveyance facilities to take into account the variation in monthly demand from its member agencies and therefore can supply the demand needed. For this reason, demands and supplies are analyzed on an annual basis.

6.4 Energy Information Reporting

6.4.1 Olivenhain Municipal Water District

Potable Water – OMWD purchases both untreated and treated water from SDCWA. These supplies are not within OMWD’s operational control and therefore in accordance with the Guidebook Appendix O, have not been included in the tables below. However, a brief summary of the SDCWA energy intensity calculations is provided at the end of this section. The complete discussion can be found in the SDCWA 2020 UWMP, Appendix I, Energy Intensity Calculations. SDCWA treated water is delivered directly to the distribution system with no storage or energy consumption. SDCWA untreated water is delivered directly to the David C. McCollom Water Treatment Plant (DCMWTP) with no storage or energy consumption. After treatment, the water is delivered directly to the distribution system. OMWD does not have a raw water distribution system.

In **Table O-1A**, the volume of water shown for Extract and Divert, Conveyance, Place into Storage, Conveyance, and treatment is the sum of untreated water and treated water delivered by SDCWA. The volume of water shown for Distribution includes losses through the treatment processes. Treatment energy consumption is the net of energy consumption and hydropower production at the DCMWTP. Distribution energy consumption is the net of energy consumption and the Roger Miller Hydroelectric plant production. OMWD does not have non-consequential hydropower.

Table O-1A: Recommended Energy Reporting – Water Supply Process Approach

Start 07/01/19 End 06/30/20	Urban Water Supplier Operational Control							
	Water Management Process Upstream is not embedded in the values reported						Non-Consequential Hydropower (If applicable)	
	Extract and Divert	Place into Storage	Convey- ance	Treat- ment	Distribut- ion	Total Utility	Hydropower	Net Utility
Volume of Water Entering Process (AF)	17,190	0	0	16,850	17,100	17,100	0	
Energy Consumed (kWh)	0	0	0	2,339,679	1,078,515	3,418,194	0	
Energy Intensity (kWh/AF)	0	0	0	139	63	200	0	
Energy Intensity (kWh/MG)	0	0	0	427	193	614	0	

CWA Untreated = 16,850 SDCWA Treated = 340 Total SDCWA = 17, 190. Greater than Table 4-1 17,100
Excel filename “Demand data” Staff compiling hydropower production amounts.

Wastewater – OMWD has two wastewater collection systems under its operational control, Rancho Cielo and 4S Ranch. All flows are conveyed to the 4S Ranch Water Reclamation Facility, owned and operated by OMWD, for secondary and tertiary treatment. In Table O-2, the volume of wastewater for Collection/Conveyance and Treatment is what is delivered to the 4S WRF. The Discharge/Distribution volume reflects losses in the treatment process. The Collection/Conveyance energy consumed is the cost of the wastewater lift stations. All of the WRF effluent is recycled. Treatment energy consumed is for all processes through secondary treatment. Because all the wastewater is recycled, there is no energy consumption associated with Discharge/Distribution of wastewater.

Recycled Water - In **Table O-2**, there is no energy consumed for recycled water Conveyance/Collection as it just moves a short distance from the secondary to tertiary processes. The energy consumed for treatment to recycled water standards is for tertiary treatment, filtration and disinfection. The energy consumed for Discharge/Distribution is for pumping.

Table O-2: Recommended Energy Reporting – Wastewater & Recycled Water

Reporting Period Start 07/01/2019 Reporting Period End 06/30/2020	Urban Water Supplier Operational Control			
	Water Management Process			
Upstream is not embedded in the values reported. Acre-Feet Units	Collection/ Conveyance	Treatment	Discharge/ Distribution	Total
Volume of Wastewater Entering Process	932	932	932	932
Wastewater Energy Consumed (kWh)	836,570	1,950,907	0	2,787,477
Wastewater Energy Intensity (kWh/AF)	898	2,093	0	2,991
Wastewater Energy Intensity (kWh/MG)	2,755	6,424	0	9,179
Volume of Recycled Water Entering Process	932	932	932	932
Recycled Water Energy Consumed (kWh)	0	1,050,488	994,609	2,045,097
Recycled Water Energy Intensity (kWh/AF)	0	1,127	1,067	2,194
Recycled Water Energy Intensity (kWh/MG)	0	3,459	3,275	6,734

- (1) There is one power meter for the 4S WRF which includes treatment processes through secondary, and also filtration and disinfection to produce recycled water that meets Title 22 requirements. A split of power requirements for secondary and tertiary treatment has been assumed at 65 percent wastewater and 35 percent recycled water.

6.4.2 San Diego County Water Authority

CWA provides wholesale water supply to 24 member agencies, including OMWD. SDCWA imports approximately 90 percent of the potable water used in San Diego County and operates and maintains the aqueduct delivery system, which consists of approximately 310 miles of large-diameter pipelines. The aqueduct system is primarily gravity flow and the majority of SDCWA's energy use is for treating, conveying, and storing the water.

1. Energy expended by SDCWA includes conveying raw water supplies to water treatment plants or member agency connections, treating water, and distributing treated water. It also includes

consequential energy generation which is produced concurrent with water deliveries and non-consequential energy generation that is not directly associated with water deliveries. Energy intensity is based on water flow data from calendar years 2018 and 2019. Energy intensity does not include the Carlsbad Desalination Plant as it is operated by Poseidon Water. However, OMWD is primarily an untreated water customer of SDCWA and receives very little treated water from the Carlsbad Desalination Plant. The Lake Hodges Pumped Storage Project is not related to the delivery of water. Consequential energy includes the Lake Hodges pumping operations for deliveries to the aqueduct and the Rancho Penasquitos Pressure Control Hydroelectric Facility (PCHF). Non-consequential energy production includes the Lake Hodges water management generation used to regulate Lake levels. Energy intensity is summarized in Tables 6-B through 6-E.

Conveyance

This is mostly energy generated by the Rancho Penasquitos PCHF with small usage by flow control, rectifiers, and other miscellaneous facilities. Energy usage is summarized in **Table 6-D**.

Table 6-D: Energy Intensity for Conveyance

	CY 2018	CY 2019
Water Delivered (AF)	261,995	205,982
Energy Used (kWh)	-8,976,341	-6,712,508
Energy Intensity (kwh/AF)	-34.3	-32.6

6.4.2.1 Twin Oaks Water Treatment Plant

Energy usage is summarized in **Table 6-E**.

Table 6-E: Energy Intensity for Treatment

	CY 2018	CY 2019
Water Delivered (AF)	46,921	28,664
Energy Used (kWh)	5,058,836	3,212,796
Energy Intensity (kwh/AF)	107.8	112.1

6.4.2.2 Distribution of Treated Water, Valley Center Pump Station, Small Miscellaneous Facilities

Energy usage is summarized in **Table 6-F**.

Table 6-F: Energy Intensity for Distribution of Treated Water

	CY 2018	CY 2019
Water Delivered (AF)	159,515	126,526
Energy Used (kWh)	1,772,050	971,042
Energy Intensity (kwh/AF)	11.1	7.7

6.4.2.3 Non-Consequential Management of Lake Hodges Reservoir Levels

Energy usage is summarized in **Table 6-G**.

Table 6-G: Non-Consequential Energy Intensity

	CY 2018	CY 2019
Water Delivered (AF)	422	4,339
Energy Used (kWh)	-1,386	-4,062
Energy Intensity (kwh/AF)	-3.3	-0.9

Chapter 7. Water Service Reliability and Drought Risk Assessment

7.1 Introduction

Chapter 7 primarily addresses OMWD’s potable water service reliability and drought risk assessment. Non-potable water (recycled water) supply reliability is addressed in section 7.2.4. OMWD is currently 100 percent reliant on SDCWA for its potable water supply and, therefore, the potable water supply reliability assessment in this chapter is based upon the SDCWA assessment from its 2020 UWMP, available at [www://sdcwa.org/your-water](http://www.sdcwa.org/your-water). SDCWA has executed contracts for a number of sources of water including the Carlsbad Desalination Plant (50,000 AFY), water conserved from Imperial Irrigation District (IID) (200,000 AFY) and the lining of the All-American and Coachella Canals (78,700 AFY), and other sources as described in its UWMP. The IID and canal lining supplies are referred to as QSA supplies. In addition, SDCWA is a member agency of Metropolitan whose major sources include the Sacramento - San Joaquin Delta and the Colorado River. OMWD is investigating a brackish groundwater desalination project that would reduce dependence on SDCWA, as described in section 6.2.1. This project is in the feasibility stage of analysis and is not yet considered in the reliability assessment. OMWD met approximately 13 percent of its 2020 total demand for water through its existing recycled water supplies.

7.2 Water Service Reliability Assessment

7.2.1 Constraints on Water Sources

Historically, except for dry years, the supply from SDCWA is very consistent in quantity and quality. SDCWA’s and Metropolitan’s main sources of supply are the State Water Project and the Colorado River and both sources face legal, environmental, and climatic challenges. To address these challenges to the State Water Project supply, DWR is going through a permitting process known as the Delta Conveyance Project and EcoRestore. It has been documented that the Colorado River supply is oversubscribed and, to address this, SDCWA and Metropolitan have implemented a number of conservation, land fallowing, transfer, and storage projects. Both the State Water Project and the Colorado River are described in the SDCWA and Metropolitan 2020 UWMPs, the latter of which is available at <http://mwdh2o.com/aboutyourwater/Planning-Documents>.

OMWD meets or exceeds all state and federal water quality standards for drinking water. OMWD’s DCMWTP utilizes ultrafiltration membrane technology that provides more certain removal of waterborne health threats than conventional filtration, while also benefiting the environment through minimal chemical usage and residual production. In 2020, approximately 98 percent of all potable water delivered to OMWD customers was treated at the DCMWTP. The remainder of the water is produced by the Carlsbad Desalination Plant, SDCWA’s Twin Oaks Valley Water Treatment Plant in San Marcos, or Metropolitan’s Skinner Water Treatment Plant in Riverside County.

The DCMWTP is a robust plant and can handle many types of water quality changes without any impact on the quality of the product water. The primary impact of any such changes is a reduction in overall capacity as well as increased chemical and electrical costs. The plant does not, however, have extensive pre-treatment equipment because source water quality testing during design indicated it was not necessary. With this combination of consistent source water quality, and robust treatment processes, the DCMWTP has never been out of operation because of source water quality.

Prior to 2013, OMWD could receive raw water for treatment at the DCMWTP from either Olivenhain Reservoir or from the SDCWA's Second San Diego Aqueduct through a 78-inch diameter pipeline. In 2012, SDCWA completed a project known as the Hodges-Olivenhain Pumped Storage Project that provided the ability to move water between Lake Hodges and Olivenhain Reservoir. OMWD and SDCWA recognized a potential for the Lake Hodges water quality to change the quality of Olivenhain Reservoir making it difficult to treat. OMWD and SDCWA considered adding additional pretreatment capabilities but ultimately worked together to construct the Unit AA Pipeline which provides a dedicated raw water feed from the Second Aqueduct to the DCMWTP to resolve the potential water quality issue.

Should the raw water quality prove to be more than can be managed effectively at the DCMWTP, OMWD has four connections to the SDCWA treated water Second Aqueduct system that can provide 100 percent redundancy of treated water supply for customers. In fact, these connections were used for 100 percent of the supply prior to the construction of the DCMWTP. In addition, OMWD has interconnections with neighboring agencies that can be used to supplement supplies, as described in section 7.4.

OMWD began fluoridating DCMWTP water on July 1, 2013 to comply with California Assembly Bill 733 (1995) which mandated fluoride for public water systems serving 10,000 connections and more. The First 5 Commission and the California Dental Association Foundation provided over \$1 million to construct the fluoridation facilities, minimizing the impact on OMWD ratepayers.

OMWD publishes an annual water quality report, the Consumer Confidence Report (Appendix F is the 2020 Report); the report is made available to all its customers, posted on its web page, and displayed in its lobby. Water quality is a major factor in any OMWD endeavor; however, OMWD does not anticipate any shortage or impact to availability of supply due to water quality issues. **SDCWA's** UWMP Section 7 provides more information on the quality of water provided to OMWD.

7.2.2 Year Type Characterization

7.2.2.1 Types of Years

Historically, the SDCWA supply has been very reliable with only occasional reductions during droughts in California or the Colorado River Watershed. **Table 7-1** shows the basis of water year data and is taken from SDCWA's UWMP. Due to their very high priority water rights, SDCWA's Colorado River supplies of conserved water from its Imperial Irrigation District transfer and the All-American and Coachella Canal Lining projects are considered to be "drought-resilient." For dry-year analysis, SDCWA assumes that the Metropolitan supplies will be allocated according to its preferential right formula. With these supplies, SDCWA projects no shortages to its member agencies during the normal and single and multi (five) dry year scenarios. Any shortages that might occur would be handled through the use of SDCWA's dry-year supplies and carry-over storage

program, described in section 11.4 of the SDCWA 2020 UWMP, which includes both in-region surface water storage and out-of-region groundwater storage in California’s Central Valley. SDCWA’s dry-year supplies are described in Section 4.6 of its 2020 UWMP. The carryover storage capacity is approximately 100,000 AF in the San Vicente Reservoir and 70,000 AF in the Semitropic-Rosamond Water Bank Authority and the Semitropic Water Bank. SDCWA may also consider securing transfer supplies during dry years and in 2009 acquired 20,000 AF from Placer County Water Agency in Northern California.

Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)

Year Type	Base Year	Available Supplies if Year Type Repeats	
			Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP
			Quantification of available supplies is provided in this table as either volume only, or percent only, or both.
		Volume Available	% of Average Supply
Average Year (T 7-2, 2025)	1986 - 2018	17,410	
Single Dry Year (SDY) (T 7-3, 2025)	2015	18,629	
Consecutive Dry Years 1st Year (1)	2011 – 2015	19,046	
Consecutive Dry Years 2nd Year	2011 – 2015	19,046	
Consecutive Dry Years 3rd Year	2011 – 2015	19,046	
Consecutive Dry Years 4th Year	2011 – 2015	19,046	
Consecutive Dry Years 5th Year	2011 – 2015	19,046	
(1) Year 2020			

* NOTES: Potable water only. Volume available is the maximum supply needed between 2025 and 2045, as shown in tables 7-2 through 7-3, below. Table 7-2 includes recycled water; the 2025 volume of potable water is 17,410 AF. The potable water required for consecutive dry years in 2020, is 19,046 AF.

7.2.2.2 Sources for Water Data

SDCWA 2020 UWMP.

7.2.3 Water Service Reliability

SDCWA Demand Forecast

Since the mid-1990s, SDCWA has utilized an econometric model to develop its long-range municipal and industrial (M&I) demand forecasts. This computer model is based on the U.S. Army Corps of Engineers Municipal and Industrial Needs (MAIN) model, which has over a quarter of a century of practical application and is used by many cities and water agencies throughout the United States. SDCWA’s version of the model, known as SDCWA-MAIN, was modified by a consultant to reflect the San Diego region’s unique parameters. The SDCWA-MAIN model relates historic water demand patterns to variables such as household income, consumer response to the price of water, and weather to predict future M&I water demands. These datasets are compiled from various sources, including SANDAG,

SDCWA member agencies, and the National Aeronautics and Space Administration. Under the terms of a 1992 memorandum of agreement between SDCWA and SANDAG, SDCWA utilizes SANDAG's official forecast, which is based on local land use jurisdiction's general plans and policies, to project consumptive water demands for the region. This coordination ensures linkage between local jurisdictions' general plans and SDCWA's projected water demands. In response to Assembly Bill 1086, which requires that population forecasts prepared by councils of governments be within 1.5 percent of the total regional population forecast prepared by the California Department of Finance (DOF), SANDAG adopted a new approach to utilize the DOF population projections for its regional population control totals.

OMWD Demand Forecast

OMWD has prepared its own demand forecast that is somewhat lower than the forecast prepared by SDCWA's for OMWD. SDCWA and OMWD coordinated the demand forecasts and agreed to differ on the results.

Allocation of SDCWA Supplies to OMWD

CWA's WSCP includes an M&I allocation methodology to determine how SDCWA's available supplies will be equitably allocated to its member agencies. The complete allocation methodology can be found in Section 8 of the SDCWA WSCP which is Appendix E in their 2020 UWMP. If in the water reliability assessments and Drought Risk Assessment in this chapter indicated shortages, this methodology would be applied to determine OMWD's supply.

In its 2020 UWMP Section 9, Water Supply Reliability, SDCWA is showing adequate supplies for all member agencies, under all the normal and dry-year conditions analyzed. Therefore, there was no need to utilize SDCWA's water shortage allocation methodology to determine how much supply would be delivered to OMWD. Essentially, SDCWA's allocation model allocates available water supplies to member agencies based on their demand on SDCWA with adjustments for loss of local supply, conservation, growth, and development of highly reliable local supplies. Instead, OMWD's supplies were estimated by multiplying SDCWA supplies by the ratio of OMWD demands to total SDCWA demands, which may be a more conservative approach by not making adjustments that may provide OMWD with additional supplies. As expected, in all normal and dry-year cases analyzed, there is more than adequate supply to meet OMWD's demands. Practically, OMWD would not order more water from SDCWA than needed and so supplies were set exactly equal to estimated demands.

7.2.3.1 Water Service Reliability - Normal Year

SDCWA's normal and dry year assessments of supplies and demands are based upon its QSA supplies and seawater desalination supplies totaling 328,700 AFY, and also SDCWA's Preferential Right to Metropolitan supplies, under Section 135 of the Metropolitan Act, which vary by normal or dry-year condition. If Metropolitan, SDCWA, and OMWD supplies are developed as planned, along with achievement of the Water Conservation Bill of 2009 retail conservation target, no shortages are anticipated within SDCWA's or OMWD's service area in a normal year through 2045. As part of preparation of its UWMP, SDCWA identified OMWD's demands and in turn, Metropolitan identified SDCWA's demands in Metropolitan's UWMP, which are shown to be adequate to cover the demands for the entire San Diego region, including OMWD. If the supplies do not develop as

planned, SDCWA's UWMP Chapter 10 provides scenario planning to address any shortages and is summarized in section 7.5.

Table 7-2 provides the normal water year supply and demand assessment. To adapt the SDCWA assessment to OMWD, the following procedure was utilized.

1. Estimated a ratio of OMWD's demand projection to SDCWA's.
2. Multiplied the SDCWA supply, not including member agency supplies, by the ratio to estimate OMWD's supply.
3. Compared the OMWD supply and demand projection.

Table 7-2 Retail: Normal Year Supply and Demand Comparison

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison				
	2025	2030	2035	2040
Supply totals (from Table 6-9)	20,103	19,799	19,474	19,165
Demand totals (from Table 4-3)	20,103	19,799	19,474	19,165
Difference	0	0	0	0

Potable and non-potable (recycled) water.

7.2.3.2 Water Service Reliability – Single Dry Year

CWA prepared a single dry-year assessment with projected demands that reflect long-term water use efficiency, but do not incorporate potential savings due to extraordinary conservation occurring during droughts. Projected local groundwater and surface water yields were based on 2015 dry-year supplies. SDCWA member agency projected verifiable supplies for recycling, potable reuse, seawater desalination, groundwater recovery, and water transfers were assumed to experience little, if any reduction in a dry year. SDCWA QSA supplies and Carlsbad Desalination supplies are also considered drought-resilient. SDCWA assumed Metropolitan supplies were limited to a historically low 1.4 MAF due to dry conditions and additional reductions in Metropolitan's deliveries from the State Water Project (i.e., no Delta improvements) and Colorado River, and that SDCWA received its Preferential Right based on Metropolitan's current method of calculating such rights.

To estimate single dry-year demand projections, SDCWA developed a demand response index formula to identify the historical high temperature and low rainfall weather patterns that resulted in the maximum impact. Using this index, a representative dry year of 2015 was selected. The monthly weather patterns associated with 2015 were then substituted into the SDCWA-MAIN model to generate dry-year demand projections. The dry-year demands were 7.1 to 7.5 percent higher than normal demands. For the 5-year drought demands, the first-year demand was increased by seven percent while the second year, and subsequent years were not increased because OMWD's demand forecast is declining. This approach to multiple dry-year scenario development was used to account for the assumed SDCWA and member agencies' demand management measures, implemented

during the drought conditions, that would result in lower demand increases than those normally associated with hot/dry weather.

With a conservative assumption regarding limited Metropolitan supplies during a single dry-year, SDCWA and member agency supplies maintained and developed as planned, and the achievement of the additional conservation target, no shortages are anticipated in the SDCWA service area, including OMWD, under a projected single dry-year.

Table 7-3 provides the single dry-year assessment in five-year increments. To adapt the SDCWA analysis to OMWD, the same procedure described for the normal year assessment was utilized. The OMWD normal demand projection was increased by seven percent for the first dry year, and not increased for each subsequent dry year. This is similar to the approach taken by SDCWA.

Table 7-3 Retail: Single Dry Year Supply and Demand Comparison

Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison				
	2025	2030	2035	2040
Supply totals	18,629	18,147	17,805	17,452
Demand totals	18,629	18,147	17,805	17,452
Difference	0	0	0	0
NOTES: Potable water only.				

7.2.3.3 Water Service Reliability – Five Consecutive Dry Years

Table 7-4 provides the supply and demand assessment for five projected consecutive dry years for 2025 through 2045. SDCWA assumed QSA and Carlsbad Desalination supplies based on contractual levels; recycled, brackish groundwater, and potable reuse supplies based on member agency projected growth in these verifiable supplies; and surface and groundwater yields based on 2011-2015 water use levels. A historically conservative analysis methodology was used by SDCWA for Metropolitan’s future available supplies and storage. The analysis assumes total Metropolitan supplies available for allocation to be 1.4 and 1.3 MAF for the first and second years, and 1.2 MAF for the remaining three years. With these assumptions, no shortages are anticipated in the SDCWA service area, including OMWD, under multiple projected dry-years.

Table 7-4 Retail: Multiple Dry Years Potable Supply and Demand Comparison

		2025	2030	2035	2040
First Year	Supply totals	18,532	18,079	17,734	17,396
	Demand totals	18,532	18,079	17,734	17,396
	Deficit	0	0	0	0
Second Year	Supply totals	18,532	18,079	17,734	17,396
	Demand totals	18,532	18,079	17,734	17,396
	Deficit	0	0	0	0
Third Year	Supply totals	18,532	18,079	17,734	17,396
	Demand totals	18,532	18,079	17,734	17,396
	Deficit	0	0	0	0
Fourth Year	Supply totals	18,532	18,079	17,734	17,396
	Demand totals	18,532	18,079	17,734	17,396
	Deficit	0	0	0	0
Fifth Year	Supply totals	18,532	18,079	17,734	17,396
	Demand totals	18,532	18,079	17,734	17,396
	Deficit	0	0	0	0
NOTES: Potable water only.					

7.2.4 Non-Potable Water Supply Reliability

7.2.4.1 7.2.4.1 Introduction

OMWD's non-potable water use consists of two separate recycled water systems known as the Northwest and Southeast Quadrants. The systems are described in section 6.2.5.3 and supply recycled water for the irrigation of landscaping, common areas, recreational facilities, and golf courses. Each system has multiple independent supplies that are locally controlled and highly reliable, in both normal and drought conditions. This section describes the reliability of the supplies to those systems.

7.2.4.2 7.2.4.2 Northwest Quadrant

7.2.4.2.1 Vallecitos Water District (VWD) Supply

The Northwest Quadrant (NWQ) is supplied by two sources, Vallecitos Water District and San Elijo Joint Powers Authority. OMWD's agreement with VWD provides for a supply of up to 1.5 MGD (1,507 AFY) and recently, OMWD has been using approximately 480 AFY. VWD has total wastewater treatment capacity of 5 MGD (5,600 AFY) to meet the requirements of the OMWD agreement and another agreement with the City of Carlsbad. Currently, when OMWD does not use all of the supply allowed by the agreement, the remaining supply is purchased by the City of Carlsbad. Should OMWD increase its supply from VWD above current levels, the City of Carlsbad has the ability to produce additional supply at its water reclamation facilities and reduce deliveries from VWD. VWD owns and operates the 166 acre-foot (54 MG) Mahr Reservoir which provides seasonal storage of recycled water for the NWQ.

7.2.4.2.2 San Elijo Joint Powers Authority (SEJPA) Supply

OMWD's agreement with SEJPA specifies annual minimum deliveries of 185 AFY in 2021 and 225 AFY in 2025. OMWD has been using approximately 230 AFY. SEJPA has wastewater supply and treatment capacity of 3 MGD (3,360 AFY) to meet the requirements of the OMWD agreement and other agreements with San Dieguito Water District and Santa Fe Irrigation District. If additional supply is needed, SEJPA can divert wastewater from the City of Escondido, through the SEJPA Ocean Outfall, and treat it at its San Elijo WRF. SEJPA maintains several storage tanks and ponds within its system for operational storage and is considering the addition of the 3 million gallon Wanket Reservoir. SEJPA also has the ability to store wastewater at its WRF.

7.2.4.2.3 NWQ Water Service Reliability Assessment

Currently, VWD supplies the higher elevations in the NWQ while SEJPA supplies the lower elevations. However, the entire service area can be supplied by VWD, by gravity. OMWD is studying distribution system improvements that would allow SEJPA to supply a larger portion of the service area providing distribution redundancy. **Table 7-A** below presents the additional recycled water supply that is potentially available to OMWD in the NWQ. OMWD concludes that it has adequate recycled water supply capacity to meet demands under normal and drought scenarios.

Table 7-A: Northwest Quadrant Recycled Water Supply Availability

Supply Source	Agreement Maximum	FY 2021 Supply	Additional Supply Availability
Vallecitos WD	1,507	480	1,027
San Elijo JPA	300	230	70
Total	1,807	710	1,097
Availability % of 2021 Supply			155%

7.2.4.3 7.2.4.3 Southeast Quadrant

7.2.4.3.1 4S Ranch WRF and Santa Fe Valley WRFs Supplies

The Southeast Quadrant (SEQ) is supplied from three sources, OMWD's 4S WRF, the Rancho Santa Fe Community Services District's Santa Fe Valley WRF, and the City of San Diego. All of the discharge from the 4S Ranch WRF (approximately 1,150 AFY in 2020) is delivered to the SEQ system. OMWD owns and operates a 410 acre-foot reservoir that provides seasonal storage for recycled water in the SEQ. In addition, all of the discharge from the Santa Fe Valley WRF (approximately 180 AFY in 2020) is delivered to the SEQ system.

7.2.4.3.2 City of San Diego Recycled Water Connection 1

OMWD purchases additional recycled water, as needed, from the City of San Diego through two connections known as numbers 1 and 2. OMWD's agreement with the City of San Diego for Connection No. 1 provides for a take or pay supply of 100 AFY and a maximum capacity of 400 AFY. The agreement states the City will provide additional supply, on an as-available basis, with an additional capacity reservation charge. OMWD has been using this supply and meeting the take or pay requirement. Upon expiration in 2024, OMWD intends to negotiate a new supply agreement with the City of San Diego.

7.2.4.3.3 City of San Diego Recycled Water Connection 2

Connection No. 2 is a typical 4-inch retail meter with supply limited by the size of the meter to approximately 1,000 gpm or 270 AFY, assuming 4 hours of use each day of the year (Typically, recycled water irrigation is allowed from 10 PM to 6 AM, or 8 hours a day). The meter is located on an 8-inch supply line.

7.2.4.3.4 SEQ Water Service Reliability Assessment

Table 7-B, below presents the additional recycled water supply that is potentially available to OMWD in the SEQ, not including expanded capacity at the San Diego Connection 1 and 2. For the SEQ, OMWD concludes that it has adequate recycled water supply capacity to meet demands under normal and drought scenarios.

Table 7-B: Southeast Quadrant Recycled Water Supply Availability

Supply Source	Facility/ Agreement Maximum Capacity	FY 2021 Supply	Additional Supply Availability
OMWD 4S WRF	1,150	1,150	0
RSFCSD Santa Fe Valley WRF	182	182	0
San Diego Connection 1	400	374	26
San Diego Connection 2	270	6	264
Total	1,732	1,712	290
	Availability % of 2021 Supply		17%

7.2.4.3.5 Potential Reduction of Wastewater Flows in the SEQ

The SEQ includes recently developed, master-planned communities of Rancho Cielo, 4S Ranch, and Santa Fe Valley, with water efficient appliances. Installation of water saving devices are not likely to significantly reduce indoor water use. In recent droughts, OMWD has experienced very little reduction in wastewater flows to the 4S Ranch WRF.

7.2.4.3.6 OMWD Demand Management Measures

Some of OMWD's demand management measures, including free water use evaluations and incentives for installing more efficient irrigation systems, are available to recycled water customers. In recent droughts, OMWD has noticed that conservation messaging, intended for potable water users, has resulted in reduced recycled water use.

7.2.5 Description of Management Tools and Options

The optional planning tool and a monthly breakdown of supplies, water use, and WSCP actions was not utilized. OMWD receives 100 percent of its potable water supply from SDCWA. SDCWA has planned its storage and conveyance facilities to take into account the variation in monthly demand from its member agencies and therefore can supply the demand when needed. OMWD and its recycled water suppliers have also planned their storage and conveyance facilities to take into account the variation in monthly demand and therefore can supply the demand when needed. For this reason, demands and supplies are analyzed on an annual basis.

7.3 Drought Risk Assessment

The 2020 UWMP is required to include a Drought Risk Assessment (DRA) with a description of the data, methodology, and basis for shortage conditions that are necessary to conduct a DRA for a period that lasts five consecutive years. The DRA must include a determination of the reliability of each supply source and a comparison of available water supplies and projected demands. Water suppliers may consider impacts from climate change, regulations, and other locally available criteria.

7.3.1 Data, Methods, and Basis for Water Shortage Condition

As OMWD currently relies on SDCWA for 100 percent of its potable water supply, the OMWD DRA is based on the SDCWA DRA, which assesses a projected drought over the next five-year period from 2021 through 2025. The historical period used in the analysis to represent the driest consecutive period in the SDCWA service area is 2014 - 2018. Those years represent the five-year period with the lowest local water supply production from surface and groundwater, the two local water supplies that are most susceptible to variation due to weather. Over that period, the combined annual production from those two sources ranged from a low of 21,245 AF to a high of 67,374 AF.

The data used to calculate the SDCWA's supply capabilities under the scenario of five consecutive dry years is shown in Table 9-8 of the SDCWA UWMP. For each year, a comparison was made between available water supplies and water demands. For the SDCWA supplies which consist of QSA supplies and Carlsbad Desalination, no reduction in the availability over the five-year period is assumed due to the drought resilience of these supplies. More information on these supplies is provided in Section 4 of the SDCWA 2020 UWMP. For the SDCWA member agency supplies, only surface water and groundwater are considered to be susceptible to variations in weather. The volume of those supplies varies over the five-year period based on actual production from 2014 – 2018. Additional information on SDCWA member agency supplies can be found in the SDCWA 2020 UWMP Section 5. For Metropolitan supplies, the volume of water for each year is based on the SDCWA preferential right to Metropolitan purchases. Information on Metropolitan's water supplies can be found in SDCWA 2020 UWMP Section 6.

The available water supplies were calculated for each year of the DRA and compared to the projected demands for each year. The demands for 2021-2025 were projected by multiplying the average demand of 2016 through 2020, 17,800 AF, by the percentages shown in **Table 7-C**. These multipliers were developed by SDCWA based on a weather index developed to assess the impact of hot/dry weather on water demands.

Table 7-C. 2021 – 2025 Demand Projection Multipliers

	2021	2022	2023	2024	2025
Multiplier	108%	112%	116%	120%	125%

The SDCWA analysis showed that there were adequate water supplies for its member agencies in all five years and therefore, actions under the WSCP are not required. For this reason, the OMWD supply was calculated by multiplying the SDCWA supply by the ratio of OMWD demands to total SDCWA demands.

7.3.2 DRA Water Source Reliability

Based on the analysis shown in Table 7-5, OMWD has adequate water supplies in all five years and therefore, actions under the WSCP are not required.

7.3.3 Total Water Supply and Use Comparison

Table 7-5. Five-Year Drought Risk Assessment Tables to Address Water Code Section 10635 (b)

2021	Total
Total Water Use	19,224
Total Supplies	19,224
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP – Supply Augmentation benefit	0
WSCP – use reduction savings benefit	0
Revised Surplus/ (shortfall)	0
Resulting % Use Reduction from WSCP Action	0

2022	Total
Total Water Use	19,936
Total Supplies	19,936
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP – Supply Augmentation benefit	0
WSCP – use reduction savings benefit	0
Revised Surplus/ (shortfall)	0
Resulting % Use Reduction from WSCP Action	0

2023	Total
Total Water Use	20,648
Total Supplies	20,648
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP – Supply Augmentation benefit	0
WSCP – use reduction savings benefit	0
Revised Surplus/ (shortfall)	0
Resulting % Use Reduction from WSCP Action	0

2024	Total
Total Water Use	21,360
Total Supplies	21,360
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	

WSCP – Supply Augmentation benefit	0
WSCP – use reduction savings benefit	0
Revised Surplus/ (shortfall)	0
Resulting % Use Reduction from WSCP Action	0

2025	Total
Total Water Use	22,250
Total Supplies	22,250
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP – Supply Augmentation benefit	0
WSCP – use reduction savings benefit	0
Revised Surplus/ (shortfall)	0
Resulting % Use Reduction from WSCP Action	0
NOTES: Potable water only.	

7.3.4 Optional Planning Tool Workbook

OMWD did not use the optional planning tool workbook or a monthly breakdown as 100 percent of its potable supply is provided by SDCWA who had prepared a DRA and had demonstrated adequate supplies for the next five-year period. SDCWA has planned its storage and conveyance facilities to take into account the variation in monthly demand from its member agencies and therefore can supply the demand when needed. For this reason, the supply and demand assessment was completed on an annual basis. OMWD and its recycled water suppliers have also planned their storage and conveyance facilities to take into account the variation in monthly demand and therefore can supply the demand when needed. For this reason, demands and supplies are analyzed on an annual basis.

7.4 Emergency Interties

OMWD maintains emergency system interconnections with its neighboring retail water agencies. These interconnections allow for the transfer of limited amounts of water between agencies during emergencies and other short-term supply outages. The interconnections are listed in Table 7-D.

Table 7-D: OMWD Emergency Interconnections

Location	Agency	Elevation (ft)	US Press (psi)	DS Press (psi)	US HGL (ft)	DS Zone HGL (ft)
Encinitas Blvd	SDWD	254	110-115	97	520	482
Polo Club	SFID	50	113	75	310	400
San Elijo	SFID	245	88-120	43	520	458
Target	SDWD	128	118 SDWD	N/A	520	437
Via Valle Verde	SFID	37	N/A	70	N/A	200
Wanket R/S	SDWD	397	53	35	520	437

N/A = No pressure gauge in the interconnection vault.

7.5 SDCWA Scenario Planning - Managing an Uncertain Future

7.5.1 Scenario Planning

The SDCWA 2020 UWMP Section 10 describes their planning for five scenarios as a way to address managing an uncertain future:

1. Drought
2. Drought with Further Limitations on Metropolitan Supplies
3. Drought with Limited Metropolitan Supplies and Member Agency Local Supplies
4. Demographic Shift
5. Climate Change

For scenarios one through three, SDCWA concluded that they had surplus supplies to meet demands as long as the supplies are developed as planned. Relative to Scenario 4, to deal with uncertainties associated with land use approvals occurring during the 2020 UWMP planning horizon, an additional demand increment (i.e., accelerated forecasted growth) has been included in the regional total demand forecast. With respect to potential shifts in housing types, and the associated water use, SDCWA concluded that this was difficult to quantify but would occur gradually, and would be captured in each five-year update to the UWMP. SDCWA concluded that climate change could result in a long-term decrease in the availability of imported and local supplies, causing a potential gap between supply and demand. In addition, supply and demand impacts from climate change will start to be experienced within the 2020 UWMP 25-year planning horizon.

7.5.2 Strategies to Strengthen Implementation of Resource Mix and Manage Uncertainty

Listed in **Table 7-E** are the strategies SDCWA can use to implement supplies identified in the projected resource mix and manage uncertainty in planning scenarios.

Table 7-E: Potential Common Strategies to Strengthen Implementation of Projected Resource Mix and Manage Uncertainty Scenarios

Potential SDCWA Policies/Programs
Foundational Strategy Reduce reliance on Metropolitan supply sources to ensure the existing and projected water resource mix is reliable and drought resilient.
Member Agency Local Projects Provide technical assistance to member agencies in the planning, design, and construction of local projects. Advocate at local, state, and federal levels for minimizing regulatory constraints and enacting acceptable and practicable regulatory standards that allow member agencies to maximize local supply development. Advocate for state and federal funding for local projects and work with agencies to ensure projects qualify for funding.
Water Conservation

Offer programs that encourage long-term behavioral change toward measurable reductions in outdoor water use.

Climate Change

Encourage focused scientific research on the effects of climate changes to identify the impacts on the San Diego's region's imported and local supplies.

7.5.3 Key Tracking Metrics; Track Progress on Implementation of Projected Resource Mix and Need for Adaptive Strategies.

As shown in **Table 7-F**, a complete evaluation of the resource mix will occur every five years with the UWMP update. In addition, Water Code Section 10632.1 requires water suppliers to prepare an annual water supply and demand assessment.

Table 7-F: Resource Mix Review Schedule

Time Interval	Deliverable	Purpose
Annually	Water Supply and Demand Assessment	Using key indicators, perform annual water supply and demand assessment to evaluate the Water Authority's supplies and demands.
At least every five years	UWMP Update	Evaluate supply and demand conditions, and update projected resource mix.
As needed	Report to Board of Directors	Update the Board on issues impacting resource mix implementation.

Chapter 8. Water Shortage Contingency Plan

8.1 Water Supply Reliability Analysis

This chapter examines the findings related to water supply reliability and the key issues that may create a shortage condition when considering OMWD's water asset portfolio. It summarizes the water supply analysis in Chapter 6, and the water reliability findings in Chapter 7, to develop a water supply contingency plan (WSCP) that is a stand-alone document. Tables with a numerical designation, such as 8-1, are required tables. Tables with an alphanumeric designation, such as 8-A, are tables added by OMWD.

OMWD has prepared for periods of water supply shortage by replacing in 2021 its Water Supply Shortage Ordinance (No. 427) with a Water Shortage Contingency Plan (Ordinance No. 489), so that it is consistent with the new drought planning requirements for water suppliers. The WSCP provides for progressively severe stages of water use restrictions as necessary to accomplish service area-wide water use reductions of up to and over 50 percent. The WSCP is summarized below and a copy of the ordinance can be found in **Appendix G**. The ordinance describes the effects that a drought or water supply shortage may have on OMWD's water supply, its water conservation stages, and the implementation, prohibited water uses, and penalties of the stages.

OMWD participated in the cooperative effort between the San Diego County water agencies general managers and SDCWA in the creation of the Regional Drought Response Plan and then incorporated it in developing its own plan. Additional discussion regarding SDCWA's Drought Response Plan can be found in Section 11 of its 2020 UWMP.

8.2 Annual Water Supply and Demand Assessment Procedures

Currently, OMWD receives 100 percent of its potable supply from SDCWA. OMWD assumes that each spring, SDCWA and Metropolitan will provide an Annual Assessment including a supply forecast for the coming year. Based on this forecast, OMWD will prepare and submit its annual water supply and demand assessment (Annual Assessment), starting July 1, 2022. The Annual Assessment and reporting procedure will be based on the Guidebook, Training Module 8, and the procedures in OMWD's WSCP, including the steps and timing that OMWD will follow. The Annual Assessment includes the following sections, as required by the Water Code.

8.2.1 CWA Annual Water Supply and Demand Assessment

SDCWA first considers its core water supplies as part of the Annual Assessment. These core supplies include the Carlsbad Desalination Plant, QSA supplies, and Metropolitan. Included as part of the consideration are the capabilities and constraints of the infrastructure used to deliver the core supplies.

Next, SDCWA considers member agency projected M&I water demands on SDCWA. To project member agency M&I water demands, SDCWA uses a short-term forecast model that considers multiple variables, including historic water demand patterns, weather, a local economic index, and anticipated conservation levels. Demand on SDCWA is also influenced by member agency local supply levels which may be influenced by weather and other factors.

If a water supply shortfall is identified based on the assessment of core water supplies and projected water demands, the next step is to evaluate the use of stored water reserves from SDCWA's carryover storage reserves or to pursue additional supply augmentation measures, such as dry-year transfers, to reduce or eliminate the shortfall. If a shortage doesn't exist, consistent with Carryover Storage Policy Guidelines, SDCWA will analyze how to most effectively manage storage supplies to avoid potential shortages in the future.

8.2.2 Decision-Making Process

OMWD will begin its decision-making process in FY 2022 (July 1, 2021 to June 30, 2022) and will implement WSCP actions as soon as it is determined that a shortage condition exists. This may occur well before the Annual Assessment report is submitted to DWR on or before July 1, 2022. The process will repeat each fiscal year.

The OMWD assessment team (AT) will be made up of one member from the General Manager (GM), Customer Services (CS), and Engineering Departments (E).

OMWD's decision-making process is presented in **Table 8-A**. Start and end dates are approximate and will be adjusted as necessary.

Table 8-A: Annual Assessment Decision-Making Process

Start Date	End Date	Activities	Whom
Oct	Jun	Monthly - Monitor Metropolitan and SDCWA Annual Assessment of supplies, and local supplies and weather. Update OMWD unconstrained demands as needed.	CS
Oct	Jun	Review SDCWA Annual Assessment as soon as available. Coordinate monthly with SDCWA on planned WSCP actions.	CS
Oct	Jun	Draft OMWD Annual Assessment Report	CS
Oct	Jun	Monthly – Update draft OMWD Annual Assessment and consider a shortage determination.	AT
Oct	Jun	If shortage is determined, use WSCP to determine shortage level, drought response actions, communication, compliance, and enforcement.	CS
Nov	Jun	After shortage determination, prepare shortage documents and present to Board of Directors for approval.	AT
Dec	Jun	Implement the WSCP actions approved by the Board of Directors.	CS
Jun	Jul	Update Annual Assessment Report and send final to DWR by July 1	CS

8.2.3 Data and Methodologies

8.2.3.1 Evaluation Criteria

The evaluation criteria OMWD will use in its Annual Assessment include:

- Supply available from SDCWA and Metropolitan
- Dry-weather storage available from SDCWA and Metropolitan
- Overall Annual Assessments by SDCWA and Metropolitan
- Capabilities and constraints of SDCWA and Metropolitan infrastructure to deliver supplies
- OMWD-specific local conditions and uncertainties
- Projection of short-term unconstrained customer demands
- OMWD infrastructure considerations relative to treating, storing and distributing water

8.2.3.2 Water Supply

Currently, OMWD receives 100 percent of its potable supply as untreated water from SDCWA. Each spring, SDCWA will provide an Annual Assessment supply forecast for the coming year that assesses their supplies including IID conserved water, All-American and Coachella Canal lining supplies, Carlsbad Desalination Plant supplies, and Metropolitan. OMWD will use this assessment as the basis for its supply in the coming fiscal year. The SDCWA and Metropolitan Assessments will evaluate dry-year storage volumes available to their member agencies. They will consider current and dry-year regulatory conditions. They will also evaluate their capital projects and operating plans that could affect deliveries. OMWD will identify uncertainties and anticipated water supply constraints.

8.2.3.3 Unconstrained Customer Demand

OMWD will use its demand forecast model, as described in Chapter 4, to estimate unconstrained customer demand. The summary of the forecast methodology is:

- Existing Baseline Demands
- + New Development (Growth) Demands
- - Net reductions Due to Additional Conservation Efficiencies
- +/- Changes Due to Anticipated Weather or Climate Change
- = Next FY Demands

Net reductions to the baseline will consider:

- Landscape ordinances, irrigation controllers, and turf retirement
- Devices such as washers, toilets, and multi-family residential sub-metering
- Increasing real cost of water and behavioral changes
- Updated information on climate change
- State-mandated water use guidelines

8.2.3.4 Current Year Available Supply

OMWD will rely on the SDCWA Annual Assessment for the current year available supply.

8.2.3.5 Infrastructure Considerations

OMWD will review the condition of its infrastructure, DCMWTP capacity, and capital improvement projects scheduled for the next FY to assess how infrastructure may impact its ability to deliver supplies to its customers. If constraints are identified, OMWD will develop a plan to work around the constraint and deliver full supplies. Plans could include changes to operations, temporary facilities, and assistance from SDCWA and neighboring agencies. In its 60+-year history, OMWD has never had an infrastructure constraint that significantly reduced deliveries.

8.2.3.6 Other Factors

On an annual basis, OMWD will assess and describe any locally applicable factors or considerations that could influence or disrupt supplies including SDCWA and Metropolitan capital projects and operating plans.

8.2.3.7 Methodology

The assessment of supplies and demands will be on an annual time step basis, consistent with the forecasting and reporting of SDCWA and Metropolitan. A spreadsheet will be developed to compare SDCWA supplies with OMWD demands. The assessment of a shortage will consider the evaluation criteria described above. OMWD's demand forecasting model will be used to estimate demands. The assessment will be reviewed for consistency with the 2020 UWMP, including projected water supplies in Table 6-9, and any significant differences will be explained. The methodology will be updated after each report is submitted.

8.2.3.8 2021 Annual Assessment (Optional)

Based on SDCWA's current supply forecast, OMWD does not anticipate a shortage condition or implementation of WSCP actions in FY 2021-2022.

8.3 Six Standard Water Shortage Levels

OMWD's recently updated Water Shortage Contingency Plan (Ordinance 489) contains the six standard water shortage levels (stages) of action as shown in **Table 8-1** below. Level 1 introduces voluntary measures by which customers are asked to reduce water consumption, while Levels 2 through 6 are mandatory and include options for assessing penalties for violations.

As discussed in section 6.3, OMWD receives 100 percent of its potable water supply from SDCWA. SDCWA has planned its storage and conveyance facilities to take into account the variation in monthly demand from its member agencies and therefore can supply the demand needed. During shortages, SDCWA allocates water to its member agencies on an annual basis and then OMWD will have to manage the supplies. Therefore, the shortage evaluation is on an annual basis. OMWD, as a part of its demand forecast, has developed good information on typical monthly demands which is useful in planning and managing supplies during a shortage.

Table 8-1: Water Shortage Contingency Plan Levels

Submittal Table 8-1 Water Shortage Contingency Plan Levels		
Shortage Level	Percent Shortage Range ¹	Shortage Response Actions (Narrative Description)
1	Up to 10% (Voluntary)	When San Diego County Water Authority notifies its member agencies that there is a reasonable probability that there will be supply shortages and that a consumer demand reduction of up to 10 percent is required in order to ensure that sufficient supplies will be available to meet anticipated demands, or when OMWD's General Manager of board of directors deems such action necessary due to drought and/or limited water supply conditions. During Water Shortage Level 1, OMWD will increase its public education and outreach efforts to increase public awareness of the need to conserve through several voluntary conservation practices.
2	10-20% (Mandatory)	When San Diego County Water Authority notifies its member agencies or OMWD's Board of Directors determines that, due to increasing cutbacks caused by drought or other reduction in supplies, consumer demand reduction of up to 20 percent is required in order to have sufficient supplies available to meet demands. During a Water Shortage Level 2 condition, the conservation measures in Level 1 become mandatory and additional mandatory conservation measures are added including implementing irrigation schedules, requiring leaks to be repaired with 72 hours, and stopping operation of ornamental fountains that require potable water.
3	20-30% (Mandatory)	When San Diego County Water Authority notifies its member agencies or OMWD's Board of Directors determines that, due to increasing cutbacks caused by drought or other reduction of supplies, a consumer demand reduction of up to 30 percent is required in order to have sufficient supplies available to meet demands. Water Shortage Level 3 builds upon the conservation measures listed in Levels 1 and 2, and further restricts landscape irrigation, requires leaks to be repaired within 48 hours, and prohibits washing vehicles except at commercial carwashes that recirculate water, or by high pressure/low volume wash systems.
4	30-40% (Mandatory)	When the San Diego County Water Authority notifies its member agencies or OMWD's Board of Directors determines that, due to increasing cutbacks caused by a reduction of supplies, a consumer demand reduction of up to 40 percent is required in order to have sufficient supplies available to meet anticipated demands. Water Shortage Level 4 builds upon the conservation measures listed in Levels 1, 2, and 3, and expands restrictions to include prohibiting filling/re-filling ornamental lakes or ponds with some exceptions for aquatic life.
5	40-50% (Mandatory)	When the San Diego County Water Authority notifies its member agencies or OMWD's Board of Directors determines that, due to increasing cutbacks caused by a reduction of supplies, a consumer demand reduction of up to 50 percent is required in order to have sufficient supplies available to meet anticipated demands. Water Shortage Level 5 builds upon the conservation measures listed in Levels 1, 2, 3, and 4, and prohibits most landscape irrigation with some exceptions and requires leaks to be repaired within 24 hours. At this stage, no new potable water service shall be provided.

6	> 50%	When the San Diego County Water Authority board of directors or OMWD's Board of Directors declares a water shortage emergency pursuant to California Water Code Section 350 and a demand reduction of greater than 50 percent is required in order to have maximum supplies available to meet anticipated demands. Water Shortage Level 6 builds upon the conservation measures listed in Levels 1, 2, 3, 4, and 5, and enacts additional landscape irrigation prohibitions with only essential uses permitted.
<p><u>Note:</u> At least one stage in the Water Shortage Contingency Plan must address a shortage of 50%</p> <p><u>Source:</u> Based on OMWD Water Shortage Contingency Plan Ordinance No. 489 dated June 16, 2021.</p>		

8.4 Shortage Response Actions

8.4.1 Demand Reduction

OMWD's demand reduction methods, along with the Level at which they are implemented, are listed in Table 8-2.

Table 8-2: Demand Reduction Actions

Submittal Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? Include volume units used.	Additional Explanation or Reference (optional)	Penalty, Charge, or Other Enforcement
1	Prohibit washing down paved surfaces	<1%	Including but not limited to sidewalks, driveways, parking lots, tennis courts, or patios, except when it is necessary to alleviate safety or sanitation hazards.	No
1	Stop water waste resulting from inefficient irrigation	0 - 5%	Including runoff, low head drainage, and overspray.	No
1	Irrigate residential and commercial landscapes before 10:00 a.m. or after 6:00 p.m.	0 - 5%	Watering is permitted at any time with a hand-held hose equipped with a positive shut-off nozzle, a bucket/watering can, or when a drip/micro-irrigation system/equipment is used.	No
1	Use a bucket, watering can, hand-held hose with positive shut-off nozzle, or low-volume non-spray irrigation to water landscaped areas	<1%	Including trees and shrubs located on residential and commercial properties that are not irrigated by a landscape irrigation system.	No
1	Irrigate nursery and commercial grower's products before 10 a.m. and after 6 p.m. only.	<1%	Watering is permitted at any time with a hand-held hose equipped with a positive shut-off nozzle, a bucket/watering can, or when a drip/micro-irrigation system/equipment is used. Irrigation of nursery propagation beds is permitted at any time. Watering of livestock is permitted at any time.	No
1	Use recirculated water to operate ornamental fountains.	<1%		No

Submittal Table 8-2: Demand Reduction Actions

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? Include volume units used.	Additional Explanation or Reference (optional)	Penalty, Charge, or Other Enforcement
1	Wash vehicles using a bucket and a hand-held hose with positive shut-off nozzle, mobile high pressure/low volume wash system, or at a commercial site that recirculates (reclaims) water on-site.	<1%		No
1	Serve and refill water in restaurants, bars, and other food service establishments only upon request.	<1%		No
1	Offer guests in hotels, motels, and other commercial lodging establishments the option of not laundering towels and linens daily.	<1%		No
1	Repair all water leaks within five (5) days of notification by OMWD.	<1%	Unless other arrangements are made with the General Manager	No
1	Use recycled or non-potable water for construction purposes when available and feasible.	<1%		No
2	During a Water Shortage Level 2 condition, the conservation measures in Level 1 become mandatory	0 - 10%		Yes
2	Implement or modify demand reduction rate structure or surcharge	0 - 10%	Optional	No
2	Limit residential and commercial landscape irrigation to no more than three (3) assigned days per week	0 - 6%	Watering schedule set forth by general manager. Does not apply to commercial growers or nurseries.	Yes

Submittal Table 8-2: Demand Reduction Actions

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? Include volume units used.	Additional Explanation or Reference (optional)	Penalty, Charge, or Other Enforcement
2	Limit lawn watering and landscape irrigation using sprinklers to no more than 10 minutes per station per assigned day	0 - 2%	Does not apply to irrigation systems using water efficient devices such as weather based irrigation controllers, drip/micro-irrigation, and stream rotor sprinklers.	Yes
2	Water landscape areas not irrigated by landscape irrigation system by using a hand-held hose with positive shut-off nozzle, bucket, watering can, or low-volume non-spray irrigation	<1%	According to schedule set forth in Water Shortage Level 2	Yes
2	Repair all leaks within seventy-two (72) hours of notification by OMWD	<1%	Unless other arrangements are made with general manager	Yes
2	Stop operating ornamental fountains or similar decorative water features that require potable water	<1%		Yes
3	Implement or modify demand reduction rate structure or surcharge	0 - 10%	Optional	No
3	Establish a water allocation for properties served by OMWD.	0 - 5%	Optional	
3	OMWD will suspend consideration of annexations to its service area	None, but prevents increase		No
3	Limit residential and commercial landscape irrigation to no more than two (2) assigned days per week	0 - 8%	Does not apply to commercial growers or nurseries	Yes
3	Water landscape areas not irrigated by landscape irrigation system using a hand-held hose with positive shut-off nozzle, bucket, watering can, or low-volume non-spray irrigation	<1%	According to schedule set forth in Water Shortage Level 3	Yes
3	Stop washing vehicles except at commercial carwashes that recirculate water, or by high pressure/low volume wash systems	<1%		Yes

Submittal Table 8-2: Demand Reduction Actions

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? Include volume units used.	Additional Explanation or Reference (optional)	Penalty, Charge, or Other Enforcement
3	Repair all leaks within forty-eight (48) hours of notification by OMWD	<1%	Unless other arrangements are made with general manager	Yes
4	Implement or modify demand reduction rate structure or surcharge	0 - 10%	Optional	No
4	Establish a water allocation for properties served by OMWD.	0 - 5%	Optional	
4	Stop filling or re-filling ornamental lakes or ponds	<1%	Except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a Water Shortage Level	Yes
5	Implement or modify demand reduction rate structure or surcharge	0 - 10%	Optional	No
5	Establish a water allocation for properties served by OMWD.	0 - 5%	Optional	
5	Stop all landscape irrigation, except crops and landscape products of commercial growers and nurseries	0 - 16%	Exceptions: maintenance of trees and shrubs watered no more than two (2) days per week using bucket, hose with positive shut-off nozzle, or low volume non-spray irrigation; maintenance of existing landscaping for fire protection or erosion control; maintenance of plant materials identified to be rare or essential to well-being of rare animals; maintenance of landscaping within active public parks, playing fields, day cares, schools, cemeteries, and golf course greens not exceeding two (2) days per week; watering of livestock, public works projects and actively irrigated environmental mitigation projects	Yes

Submittal Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? Include volume units used.	Additional Explanation or Reference (optional)	Penalty, Charge, or Other Enforcement
5	Repair all leaks within twenty-four (24) hours of notification by OMWD	<1%	Unless other arrangements are made with general manager	Yes
5	No new potable water service provided, no new temporary meters or new permanent meters shall be provided, and no statements of immediate ability to serve or provide potable water service shall be issued	None, but prevents increase	Exceptions: A valid, unexpired building permit has been issued; the project is necessary to protect public health, safety, or welfare; or the applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of OMWD.	No
6	Implement or modify demand reduction rate structure or surcharge	0 - 10%	Optional	No
6	Establish a water allocation for properties served by OMWD.	0 - 5%	Optional	
6	Stop all landscape irrigation, except crops and landscape products of commercial growers and nurseries	0 - 8%	Exceptions: maintenance of existing landscaping for fire protection or erosion control; maintenance of plant materials identified to be rare or essential to well-being of animals; watering of livestock, public works projects and actively irrigated environmental mitigation projects	Yes
NOTES: Percent reductions are estimates. Percent reductions are for individual actions. When taken cumulatively, they will meet the percent shortage ranges in Table 8-1.				

8.4.2 Supply Augmentation

Currently, OMWD does not own or have contracts for potable supplies other than from SDCWA. In addition, OMWD does not have supply agreements with its neighboring agencies, who are also SDCWA member agencies, except on a short-term emergency basis. As OMWD relies on SDCWA for 100 percent of its potable water supplies during normal and shortage conditions, OMWD also relies on SDCWA's supply augmentation actions and therefore **Table 8-3 is left blank**. In its UWMP, specifically in the WSCP, SDCWA identified the following supply augmentation options:

- Carryover Storage Reserves, San Vicente Reservoir – 100,000 AF.
- Carryover Storage Reserves, Central Valley Groundwater Agreements – 70,000 AF. Put capacity is 9,000 AFY while recovery capacity is 14,000 AFY.
- Potential Dry-Year Transfers. For example, in 2009, SDCWA acquired 20,000 AF from Placer County Water Agency through a one-year transfer agreement.

Table 8-3: Supply Augmentation and Other Actions

Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier	How much is this going to reduce the shortage gap? Include volume units used.	Additional Explanation or Reference (optional)
(none)			
NOTES: See discussion above in Section 8.4.1.			

8.4.3 Operational Changes

In addition to the operational changes already described, OMWD is in the process of implementing advanced metering infrastructure (AMI) and has converted approximately 70 percent of its customer meters to this system. OMWD plans to complete implementing AMI throughout 100 percent of its service area by FY 2025. During a shortage, this allows OMWD staff to review customer water usage rates in near real time, from headquarters, and take action.

8.4.4 Additional Mandatory Restrictions

OMWD does not have permanent mandatory water use restrictions. Efficient water use is always promoted, and voluntary water use restrictions are implemented during Water Shortage Level 1. During Water Shortage Levels 2 and higher, water use restrictions become mandatory and administrative fines may be levied by OMWD according to the WSCP Ordinance as follows:

1. A warning will be issued for the first violation.
2. The customer will be fined \$100 for a second violation of any provision of the ordinance within one year of the initial violation.
3. The customer will be fined \$200 for a third violation of any provision of the ordinance within one year of the initial violation.
4. The customer will be fined \$500 for each additional violation of any provision of the ordinance within one year of the initial violation.

Between June and December 2015, while enforcing the state-mandated 32 percent reduction in water use, at Level 2, OMWD received 1,971 reports of violations, issued 1,387 warning letters, and assessed

60 fines. The violations were roughly one-third each inefficient irrigation, two-day watering week, and watering during or immediately after measurable rainfall.

8.4.5 Emergency Response Plan

OMWD produced a Disaster Preparedness Manual that covers various types of disasters and the steps to take in the event one occurs. It addresses types of disasters that might occur, problems that may occur, communication protocols, resource contacts, and an emergency action plan.

OMWD's Emergency Response Plan (ERP) covers the needs and concerns to be handled within OMWD's service area, as well as procedures and agreements in relation to adjacent water districts. This emergency plan is reviewed annually and updated as necessary. Some of the procedures addressed in the plan include:

- Guidelines for assessing the status of water service needs within OMWD's service area and in relation to adjacent water districts.
- Established liaisons with other agencies and contact information.
- Designated positions and typical duties for Emergency Operations Center staff.
- Templates for emergency communication with OMWD customers.
- The process for coordination with other agencies in initiating mutual aid.
- The transfer and tracking of resources, personnel, equipment, or supplies to or from adjacent public works, emergency agencies, or districts.

OMWD is a signator to the Countywide Water Agency Mutual Aid Agreement. In addition, OMWD's safety office maintains several informal agreements for mutual aid and assistance through Water Utility Safety Manager Association (WUSMA) and Water Agency Emergency Collaborative (WAEC) networking groups. Though informal in nature, these agreements have been beneficial during past emergencies.

OMWD completed a comprehensive Vulnerability Assessment and is working with the Department of Homeland Security on a 2016 update. A 2016 update to OMWD's Major Hazard Mitigation Plan is also planned.

8.4.5.1 Supply Interruption

An earthquake, regional power outage, fire, flood, or other emergency situation could result in an emergency interruption of OMWD's water supply from SDCWA. OMWD has recently assessed the various interruptions and the supplies available, and the actions that would be taken in response.

DCMWTP Outage – OMWD would take treated water from the SDCWA treated water aqueducts through one or more of four existing connections; #1 Gaty, #2 520 Vault, #3 Peay, and #4 4S Ranch. OMWD can also take treated water from the SDCWA Tri-Agencies Pipeline and deliver it to Denk Reservoir through the 18-inch Unit M Pipeline.

Emergency Interruption of Imported Water Supplies – OMWD will rely on the SDCWA Emergency Storage Project (ESP), a series of storage reservoirs, pump stations, and interconnecting pipelines design to withstand two- and six-month emergency scenarios. During such an emergency, OMWD

will be supplied water from Olivenhain Reservoir or other SDCWA reservoirs. The ESP provides 75 percent of full supplies to member agencies, and OMWD customers may have to reduce demands depending on the severity of the situation. In addition, OMWD's rights to 3,443 AF of operational capacity in SDCWA's system provide OMWD with the ability to serve its customers for 73 average days or 98 days at 75 percent of average day demands, based on 2020 demands. More on SDCWA's Emergency Storage Project can be found in the SDCWA UWMP Section 11.2.2.

In the event of a supply interruption, OMWD would manage the situation utilizing National Incident Management System (NIMS) procedures as called out in its ERP. The projected duration and severity of the outage would be assessed and an appropriate response developed and communicated to the public and governmental agencies as called out in the ERP.

OMWD maintains several back-up generators at critical areas of the water system to maintain water delivery capability.

OMWD's distribution system storage facilities would provide some level of emergency supply. The duration of supply available from storage would depend upon the elapsed time between the emergency and the full implementation of the rationing, the availability of water transfers from adjacent districts, and the percent of reduction in water use by OMWD customers. OMWD's current total tank usable storage capacity is over 209 acre-feet (68 million gallons). This total does not include tanks that are out of service or are planned to be taken out of service. Typically, system operators keep the tanks full in the summer high demand months but may keep them less than full during lower demand periods. In 2020, the average daily demand in OMWD was approximately 47 acre-feet per day (15.3 MGD).

OMWD has established cooperative agreements with its adjacent water agencies for the emergency exchange and transportation of water. OMWD borders six other water agencies: City of San Diego, San Dieguito WD, Santa Fe ID, Carlsbad MWD, VWD, and Rincon Del Diablo MWD. Of these six, OMWD has emergency connections and agreements with four: San Dieguito WD, Santa Fe ID, Carlsbad MWD, and VWD. The agreements describe the number, location, type of connection, and the agreed rate of flow.

During periods of emergency outage of OMWD's water supply from SDCWA, such as in a major earthquake, OMWD can draw on water available via interconnections with its neighboring retail water agencies, and reductions in demand via its WSCP Ordinance to attempt to manage water supply and demand conditions.

8.4.6 Seismic Risk Assessment and Mitigation Plan

8.4.6.1 Introduction

This section describes the seismic risk assessment and mitigation plans of both SDCWA and OMWD. Currently, OMWD purchases 100 percent of its potable water supply from SDCWA. The SDCWA plan addresses water supply and the associated infrastructure. The OMWD plan addresses OMWD's capability to assess seismic risks and develop mitigation plans, associated with water treatment and distribution infrastructure. OMWD has a multi-hazard mitigation plan that was updated in 2017 and

OMWD conducted a risk and resiliency assessment of facilities in 2020. In this section, we update the seismic risk assessment and mitigation plan.

8.4.6.2 San Diego County Water Authority Emergency Storage Project

SDCWA assessed the seismic risk to its, and OMWD's water supplies. To mitigate these risks, SDCWA constructed \$1.5 billion in dam/reservoir, pump station, and pipeline improvements, completed in 2014, and known as the Emergency Storage Project (ESP). Specifically, the Project was based on an earthquake severing the aqueducts that supply SDCWA for periods of two- and six-months. A complete description of ESP can be found in Section 11 of the SDCWA 2020 UWMP. SDCWA is conducting a new vulnerability assessment that will be included in its 2025 UWMP.

8.4.6.3 Olivenhain Municipal Water District

8.4.6.3.1 General Description of Seismic Risk

OMWD reviewed the 2018 San Diego County Office of Emergency Services Multi-Jurisdictional Hazard Mitigation Plan (SD-HMP). One of the participants in the SD-HMP was the City of Encinitas. OMWD serves a portion of the City and much of the OMWD service area is immediately adjacent to the City. Therefore, OMWD will experience seismic impacts in the same way the City will and as has been explained in its portion of the SD-HMP. Seismic Hazards that could affect OMWD infrastructure include earthquakes and seismic shaking, liquefaction, lurching and bluff erosion, earthquake-induced dam failure, and earthquake-induced landslides and tsunamis. OMWD infrastructure lies on elevated sedimentary bedrock in the west and low lying mountainous igneous rock in the east. These are cut by active streams (San Dieguito Creek, Escondido Creek, and San Marcos Creek) that contain shallow loose sediments and terminate in modern tidally influenced estuaries underlain by relatively thick sedimentary deposits (San Dieguito, San Elijo, and Batiquitos Lagoons).

The OMWD geology is bounded by two major fault zones. The Rose Canyon fault zone is a vertical fault that bears offshore north of Soledad Mountain and strikes northwest about two miles offshore of Solana Beach, Cardiff-by-the-Sea, and Encinitas and ultimately becomes known as the Newport-Inglewood fault zone. The fault is active, has been the source of large earthquakes in the past, and is likely to produce up to a magnitude 6.9 earthquake. The resulting seismic shaking and potential tsunami could have a possible impact on OMWD facilities and the Encinitas area. East of OMWD near Palomar Mountain is the Elsinore fault which is also known to be an active fault but with one recorded recent major earthquake. It is predicted to be capable of a magnitude 7.5 earthquake which also could impact OMWD infrastructure. OMWD lies in an area that is predicted to experience no more than one event that will cause shaking accelerations to be more than 20 percent of the acceleration of gravity in 100 years. This is the acceleration at which significant damage to older buildings is expected (Southern California Earthquake Data Center; <https://scedc.caltech.edu/earthquake/elsinore.html>).

8.4.6.3.2 OMWD Capability for Implementing Seismic Hazard Mitigation Activities

OMWD completed an administrative, technical, legal, and fiscal capability assessment for implementing hazard mitigation activities. This includes a summary of departments and their responsibilities associated with hazard mitigation planning as well as codes, ordinances, and plans already in place associated with hazard mitigation planning. The assessment also provides OMWD's

fiscal capabilities that may be applicable to providing financial resources to implement identified mitigation action items.

Tables 8-B, 8-C, and 8-D summarize OMWD’s administrative and technical, legal and regulatory, and fiscal capabilities for implementing seismic hazard mitigation activities.

Table 8-B: Administrative and Technical Capability

Staff/Personnel Resources	Department
Planner(s) or Engineer(s) with knowledge of land development and land management practices.	Engineering
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure.	Engineering
Planners or Engineer(s) with an understanding of natural and/or manmade hazards.	Engineering
Staff with education or expertise to assess the vulnerability to hazards.	Engineering
Personnel skilled in Geographic Information Systems.	Engineering
Emergency manager.	General Manager and Human Resources
Grant writers.	Customer Services

Table 8-C: Legal and Regulatory Capability

Regulatory Tools (ordinances, codes, plans)
Facility design and site plan review requirements.
Standard Drawings and Specifications
Water and Recycled Water Master Plan.
Pipeline and Tank Condition Assessment Program.
10- and 20-Year Capital Spending Plan.
Emergency Response Plan.
Strategic Plan.

Table 8-D: Fiscal Capability

Financial Resources
Community Development Block Grants (CDBG).
Federal, state, Metropolitan, and SDCWA grants.
10-Year Capital Spending Plan.

Limited Improvement Obligation Bonds.
Water, Wastewater, and Recycled Water Rates and Charges.
Developer impact fees for homebuyers or developers for new developments/homes.
Issuance of general obligation bonds.
Issuance of revenue bonds.

8.4.6.3.3 OMWD Water Facilities, Vulnerabilities, and Mitigation Plan

OMWD was formed in 1959 and its oldest infrastructure was constructed in the 1960s. Much of the infrastructure is more recent and was designed to updated codes. The DCMWTP and the Jacob J. Krauss the Operations and Maintenance Building have been constructed since 2000. OMWD's headquarters remodel and expansion was completed in late 2020. With respect to OMWD's facilities, **Table 8-E** lists the facility, general seismic vulnerability, and general mitigation plan. OMWD maintains and uses its Supervisory Control and Data Acquisition (SCADA) system to monitor all its water system components and has staff on duty 24 hours a day, 365 days a year to respond to alarms or unusual reports.

Table 8-E: Facility Specific Seismic Vulnerability and Mitigation Plan

Facility/ Date Built	Seismic Vulnerability	General Mitigation Plan
DCMWTP/ 2000 4S Ranch WRF/ 1990s and 2003	Damage to Facilities Including Hazardous Materials	<ul style="list-style-type: none"> • Design to current building codes, update facilities as codes change. • Replacement and upgrade of system components. • Hazardous Materials Risk Assessment and Mitigation Plan • A comprehensive assessment of the entire DCMWTP is planned to be completed within the next 10 years.
Pipelines/ 1960 - 2020	Damage, Leak or Break	<ul style="list-style-type: none"> • Design to American Water Works Association standards. • Condition assessment program that results in repair or replacement projects. Recently OMWD has been focused on its most critical pipelines, and those constructed in the 1960s. • Maintain OMWD construction crews for emergency repairs. Maintain on-call emergency agreements with local contractors. • Stockpile pipeline components in its warehouse for rapid repair. • Strategically placed shut-off valves.
Pump Stations/ 1980s to 2020	Damage	<ul style="list-style-type: none"> • Design to current building codes, update facilities as codes change. • Regular maintenance and replacement. • Maintain emergency generators on-site.
Storage Tanks/ 1960s to 2010	Damage, Leakage	<ul style="list-style-type: none"> • Annual contract with a vendor to maintain the steel water storage tanks in “like new” condition, including compliance with the latest AWWA standards for seismic resistance. • Capital Improvement Program includes an inspection, assessment, seismic evaluation, and rehabilitation/replacement plan for its concrete storage tanks over the next nine years.

8.4.7 Shortage Response Action Effectiveness

All OMWD customers are metered and staff uses meter records to determine actual savings made from implementing the levels of the WSCP Ordinance. OMWD has converted approximately 70 percent of its customer meters to AMI. During a shortage, this allows OMWD staff to review customer water usage rates in near real time, from headquarters, and take action.

Table 8-2 lists the demand reduction actions for each Water Shortage Level in OMWD’s WSCP and the estimated amount by which each action should reduce the shortage gap. The estimates are based on OMWD experience during the 2012 to 2016 drought, and readily available references. The mix of shortage response actions in any given level is designed to produce an additional 10 percent of demand reductions above the previous level’s reduction.

8.5 Communication Protocols

This section lists a number of strategies OMWD has used to guide successful drought response campaigns in the past and should be considered during future water shortage conditions.

Level 1:

- Send clear, consistent, and understandable messages encouraging increased voluntary conservation.
- Develop and maintain a steady stream of media relations activities and social media communications that explain the need to conserve and how to conserve, promote water-use efficiency programs and incentives, and/or give general support for water conservation. Schedule these efforts to provide timely support for water-use efficiency events, strategies, and other programs.
- Enhance the level of conservation-oriented community outreach through greater frequency of outreach at community events and speaker's bureau presentations.
- Develop specific outreach efforts that target key industries or groups (hospitality, HOAs, building managers, etc.) to raise awareness of, and participation in, drought response actions and water-use efficiency programs.
- Keep www.olivenhain.com updated with information on current status of regional WSCP, statewide weather and drought conditions, and recommended water conservation practices
- Regularly communicate with local, state, and other elected officials in the region about the importance of achieving voluntary water conservation and encourage them to publicly promote such efforts to their constituents.
- Targeted outreach to high-water-use customers and industries
- Modify school assembly program content to include messages about need for increased voluntary conservation.
- Provide conservation information and other support as necessary to government officials for their own media events, hearings, community meetings, etc.
- Provide educational/promotional items that encourage conservation (dye tablets, hose nozzles, etc.)

Level 2:

- Continue to deploy or enhance Level 1 strategies and tactics as needed, and consider supplemental strategies and tactics listed below.
- Develop a more serious campaign message that reflects the need for compliance with mandatory water-use restrictions.
- Send clear, consistent, and understandable messages regarding mandatory water-use restrictions in effect.
- Enhance media relations activities and social media communications related to water-use restrictions, conservation programs, and drought conditions. Schedule these efforts to provide timely support for new campaign initiatives, conservation events, and other programs.
- Leverage stakeholder groups' communication channels to help distribute updated information about restrictions and conservation as soon as possible; groups to include business

organizations, civic organizations, service clubs, religious leaders, elected officials, along with key associations governing HOAs, building managers, landscape companies, etc.

- Consider adjustments to water conservation resources and programs in ways that make finding and participating in key programs easier, or to facilitate short-term water savings. Support these efforts with events to provide information and resources to consumers or other stakeholders.
- Add “pop-ups” with outreach campaign messages to www.olivenhain.com.
- Enhance efforts to encourage customers to report incidents of water waste directly to OMWD.

Levels 3-4:

In the event of a more severe supply shortage or demand management period that requires entering Level 3 or 4 of the WSCP (up to 30% or 40% mandatory conservation, respectively), OMWD will continue to deploy or enhance Level 2 strategies and tactics as needed, and will consider supplemental strategies and tactics listed below.

- Develop a more serious campaign message that reflects the need for higher level of extraordinary conservation.
- Send clear, consistent, and understandable messages regarding mandatory water use restrictions in effect and escalating challenges affecting water supplies.
- Conduct specialized outreach to landscape industry and water users with large ornamental landscapes to achieve significant reductions in discretionary outdoor water use while minimizing long-term property damage.
- Initiate targeted outreach to major CII water users to help them identify, prepare for and, as much as possible, avoid negative impacts from extreme water conservation requirements.
- Evaluate the appropriateness of continuing to promote long-term water-use efficiency programs and tools amid worsening supply conditions/increasing restrictions.
- Provide instructions for triaging landscape resources during extreme shortage conditions (saving trees, etc.).
- Reinforce business groups, service clubs, religious leaders, elected officials to spread awareness of need for significant, collective water-saving actions to preserve our economy and quality of life.
- Provide specialized technical assistance sessions or resources to help homeowners achieve immediate reductions in water use while minimizing landscape damage.
- Consider providing specialized technical assistance to large landscape customers (HOAs, cities, schools, etc.) to help achieve large-scale reductions in discretionary outdoor water use.
- Conduct specialized outreach to industries (hospitality, car washes, restaurants, etc.) or other large-scale water users that will likely experience impacts from emergency conservation to determine solutions for minimizing economic or quality of life impacts.

Levels 5-6:

In the event of a more severe supply shortage or demand management period that requires entering Level 5 or 6 of the WSCP (up to or greater than 50 percent mandatory conservation, respectively), OMWD will continue to deploy or enhance Level 3-4 strategies and tactics as needed, and will consider supplemental strategies and tactics listed below to reflect increased shortage conditions.

- Develop campaign messages and tactics that raise awareness of the extreme shortage conditions facing the region and the likely need to focus water use on essential public health and safety needs.
- Send clear, consistent, and understandable messages regarding what uses of water or levels of water use remain acceptable for residential, commercial and public water users.
- Emphasize the need for all residents and businesses to work together to help the region successfully weather the situation.
- Raise awareness of any urgent actions being taken by OMWD or its wholesalers to improve water supply conditions; provide regular updates on those efforts.
- Suspend promotion of ongoing water-use efficiency programs to focus resources on promoting extreme/emergency conservation measures.
- Coordinate with regional emergency response agencies/services on messaging/additional outreach tactics if needed.
- Provide updates to media and other stakeholders on water supply conditions as often as possible (daily or as needed).
- Evaluate need for “phone bank” or additional staff resources to handle public inquiries.
- Provide updated communications materials to business groups, service clubs, religious leaders, elected officials to raise immediate awareness for increased water-savings actions and available assistance resources.

Catastrophic Shortage Communications:

In the event of a natural disaster, infrastructure failure, or other situation that requires regional water use to be quickly prioritized for or limited to essential public health and safety needs, OMWD will immediately deploy or enhance appropriate communication strategies and tactics from WSCP Levels 1-6 as needed, and will consider strategies and tactics listed below to reflect the need for urgent, emergency-driven water conservation.

- Develop campaign messages and tactics that raise awareness of the emergency conditions and the need to focus water use on essential public health and safety needs.
- Send clear, consistent, and understandable messages regarding what uses of water or levels of water use remain acceptable for residential, commercial, and public water users, and the expected duration of this restricted level of water use.
- Emphasize the need for all residents and businesses to work together to help the region successfully weather the situation.
- Raise awareness of any urgent actions being taken by OMWD and/or its wholesalers to improve water supply conditions; provide regular updates on those efforts.
- Suspend promotion of ongoing, long-term water-use efficiency programs and tools to focus resources on communicating need for immediate water conservation actions.
- Coordinate with local emergency response agencies/services on messaging and outreach tactics where possible.
- Provide updated communications materials to business groups, service clubs, religious leaders, elected officials to raise immediate awareness for emergency-level water-savings actions and available assistance resources.

- Conduct specialized outreach to landscape and related industries with significant outdoor water use to urge immediate end to landscape water use (if required).
- Coordinate dissemination of information regarding water-use restrictions to local law enforcement or other public agencies to help maximize widespread compliance with emergency mandates.

8.6 Compliance and Enforcement

Level 1 Water Supply Shortage water use restrictions are voluntary and will be reinforced through local and regional public education and awareness measures that may be funded in part by OMWD. During Water Supply Shortage Levels 2 through 6, all water use efficiency measures and water use restrictions are mandatory and become increasingly restrictive in order to attain escalating conservation goals.

During a Level 2 Water Supply Shortage or higher, the water use efficiency measures and water use restrictions established are mandatory and violations are subject to criminal, civil, and administrative penalties.

8.7 Legal Authorities

OMWD has the legal authority under the Water Code to implement shortage response actions and enforce them.

OMWD is a member agency of SDCWA and as such is subject to its Water Shortage Contingency Plan dated August 2017. This plan is used by SDCWA to compute the supply to OMWD during a shortage considering demands, local agency supplies, and the SDCWA available supply.

In accordance with Water Code Chapter 3 (commencing with Section 350) of Division 1 general provision regarding water shortage emergencies, OMWD's WSCP includes a specific statement that it shall declare a water shortage emergency.

OMWD will coordinate with the cities of San Diego, Solana Beach, Encinitas, Carlsbad, and San Marcos, and the County of San Diego for the possible proclamation of a local emergency. The contacts are listed in **Table 8-F**. Communication protocols are described in section 8.5.

Table 8-F: Contacts for the Possible Proclamation of a Local Emergency

City or County	Contact
San Diego	Todd Gloria, Mayor
Solana Beach	Greg Wade, City Manager
Encinitas	Pamela Antil, City Manager
Carlsbad	Scott Chadwick, City Manager
San Marcos	Jack Griffin, City Manager
County of San Diego	San Diego County Office of Emergency Services

8.8 Financial Consequences of WSCP

This section discusses OMWD's preparedness to manage its finances during periods when water sales to customers are reduced by a water supply shortage and increased conservation measures. OMWD's water supply shortage rate structure is designed to be revenue-neutral to dampen OMWD's financial impact when sales are declining due to conservation.

OMWD's financial goal as a public agency is to be revenue-neutral; that is, to maintain revenues equal to costs and budgeted expenses, and maintain adequate reserves for economic uncertainties of changes in water sales and costs. OMWD's base (normal) and water supply shortage rates are developed based on the historical financial trend and average water demands.

Revenues generated from water sales and charges account for 91 percent of OMWD's revenue requirements. OMWD also receives its allocation from property tax revenues from the County of San Diego and that accounts for the remaining approximately 9 percent. 75 percent of OMWD's revenue requirements from water sales and charges are collected from commodity revenue. Because of this, fluctuations in demand could dramatically impact OMWD's financial stability if not properly planned for.

OMWD's annual revenue requirement to be collected from rates and charges was developed based on historical average of water sales with staff-projected growth. If water supply shortage conditions occur, OMWD's ability to recover its costs of service, including fixed wholesale costs, from water sales will be impacted depending upon the severity of water reductions. In order to mitigate this risk, the District collects approximately 50% of its revenue from fixed charges and indoor water use. The District can also utilize OMWD's rate stabilization fund to cover costs when water sales are lower than expected due to drought and revenues are not sufficient to pay for expenditures.

8.8.1 Rates and Charges

OMWD rates and charges are established using generally accepted cost recovery methodologies that reflect cost of service rate setting principles and California law. OMWD uses a tiered rate structure (also known as increasing or inclining block rates). Under the tiered rate or inclining block structure, customers are charged at a higher rate as consumption increases. For its residential rate structure, the lowest tier is a lifeline rate, typically for basic human consumption and is set at a much lower rate than the next tiers. The highest tier for residential customers is typically for outdoor water use and or irrigation.

OMWD's residential rate uses a tiered water rate structure based on volume use. Meter sizes are assigned in terms of equivalent dwelling units (EDU), where one EDU represents a single-family residence with a typical 3/4-inch meter and a maximum flow capacity of 27 gallons per minute. Water revenues are collected from commodity rates and monthly system access fees. About 75 percent of OMWD's water sales are collected from commodity revenue. OMWD adopted a tiered rate structure for collecting water user fees based on monthly consumption and to promote water conservation.

OMWD's rate structure was also designed to ensure users pay a proportionate share of costs. Residential/domestic users have a rate structure based on volume use in blocks that are priced at a rate ranging from \$3.39 to \$6.74 per 748 gallons (Non-Shortage April 1, 2021). For irrigation customers, OMWD implemented a tiered rate structure based on meter capacity, adjusted seasonally to promote

conservation. Tier break points for irrigation customers were established based on meter size and set in both winter and summer seasons, based on water use during each season, because irrigation customers are on a seasonal schedule. It is anticipated that greater conservation efforts will also enhance revenue stability.

A system access charge is calculated on the basis of recovering certain OMWD fixed operating and maintenance costs, such as purchased wholesale water fixed charges, billing, collections, meter reading, and debt service. It is an OMWD goal to not exceed 30 percent of its revenue requirement in collecting revenues from monthly fixed charges in order to sustain operations. OMWD has three outstanding bonds paid by water system revenues, the 2013 State Revolving Fund Load, the 2015 Water System Refunding Revenue Bonds, and the 2016 Water System Refunding Revenue Bonds. The bonds were issued to finance water infrastructure and improvements. OMWD's net water system revenues are pledged to the annual debt service payments. The current OMWD Rates and Rules Brochure which includes the rate structure as of April 2021 is included as Appendix H.

8.8.2 Demand Reduction Rate

OMWD has the ability to authorize increases in the potable commodity charge (Demand Reduction Rate Adjustments) that would take effect only during declared water shortage stages or state-mandated reductions in the level of potable water usage under the terms of the OMWD WSCP.

The OMWD cost of service study considered the effects of the reduction in water use on projected revenues and developed rates and charges that may be implemented so that OMWD could still collect sufficient revenues to pay for OMWD's financial obligations, in the event OMWD has to implement a mandatory water conservation program between January 1, 2020 through December 3, 2024.

The demand reduction rate adjustments could be implemented during locally declared water shortages, state-mandated reductions in the level of potable water usage, or other natural disasters or events that require reduction in water usage. The Board of Directors may implement demand reduction rate adjustments as necessary, depending on the level of water use cutbacks required, to ensure that OMWD is able to provide safe, reliable drinking water to its customers while exceeding regulatory requirements and recovering sufficient revenue to meet its expenses, including financial obligations.

Under the demand reduction rate adjustments, the rates for the potable commodity charge then in effect would be adjusted as necessary to achieve full cost recovery of the OMWD revenue requirement due to the implementation of any applicable water use reduction level.

8.8.3 Use of Financial Reserves

When water sales are lower than expected due to prolonged dry weather conditions or a wet winter and revenues are not sufficient to pay for the expenditures, the operating fund and rate stabilization fund reserve is used to cover temporary revenue shortfalls. OMWD's Board of Directors Designated Fund Balances Policy set the minimum and maximum levels for the reserves. OMWD's Financial Policy, including the reserve funds policy, can be found in the introduction section of OMWD's Operating and Capital Budget document on its website.

8.8.4 Other Measures

During periods of reduced water sales, OMWD staff and Board of Directors review the schedules for all budgeted expenditures that are funded by water rates and consider postponement of expenditures or capital projects to avoid or mitigate rate increases.

8.9 Monitoring and Reporting

For real-time feedback on the implementation of its WSCP, OMWD will utilize AMI which has been implemented for 70 percent of its meters and is estimated to be complete by FY 2025. Currently, the remainder of the meter readings are collected using automated meter reading (AMR) and total water use is available within days of the end of each month. By setting alarm levels, OMWD will also be able to review individual customer use, identify excessive use, and implement enforcement warnings and actions. In summary, OMWD will:

- Estimate target water use by month using typical monthly use patterns and the target percentage of normal water use.
- On a monthly basis, summarize water use and compare to the target.
- Implement alarm settings on AMI meters as a percentage of normal water use. Implement warnings and enforcement actions where the deviation is significantly above target.

8.10 WSCP Refinement Procedures

OMWD will use the results of its monitoring and reporting program as discussed in the previous section to evaluate the Plan's performance. Each time the Plan is implemented, OMWD staff will use the evaluation to determine the need and approach to revising its Plan. The goal will be for effective shortage response actions producing the desired reductions. Staff will review proposed refinements and any new actions to evaluate their effectiveness prior to incorporating them into the Plan. Minor revisions will be implemented quickly while major revisions will require board review and approval. Staff will prepare for the board a report on the Plan's effectiveness and proposed changes, each time the Plan is implemented.

8.11 Special Water Feature Distinction

Water features that are not pools or spas are analyzed and defined separately from pools and spas in the WSCP. To distinguish between the two, with respect to response actions, enforcement actions, and monitoring programs for each, OMWD's WSCP uses the terminology "decorative water features."

8.12 Plan Adoption, Submittal, and Availability

8.12.1 Background, Existing Ordinance

OMWD has a Water Supply Shortage Ordinance No. 427 that was passed, adopted, and approved by the Board of Directors on May 27, 2015. The ordinance established regulations to be implemented during

times of declared water shortages or declared water shortage emergencies. It establishes four levels of water supply shortage response actions to be implemented in times of shortage, with increasing restrictions on water use in response to worsening water supply shortage conditions and decreasing available supplies.

8.12.2 Updated Ordinance, Water Supply Contingency Plan

OMWD staff replaced Ordinance 427 with the Water Shortage Contingency Plan to comply with the Water Code and as defined in Chapter 8 of the Guidebook. Among other updates, the Plan now has six standard water shortage stages. Table 8-1 describes supply reductions from less than or equal to 10 percent, to more than 50 percent and the water supply condition associated with Levels 1 through 6, respectively. Restrictions on water use associated with Level 1 are voluntary while Levels 2 through 6 are mandatory and carry penalties. Table 8-2 describes consumer reduction methods associated with each level while Table 8-2 describes the restrictions and prohibitions on end use. The ordinance generally corresponds with SDCWA's Shortage and Drought Response Plan. The ordinance also allows the Board of Directors to implement demand reduction rates. A copy of the ordinance is included in Appendix G.

8.12.3 Plan Availability, Public Review, and Adoption

The draft WSCP was released to the public May 5, 2021 in the board packet for the May 19, 2021 board meeting. The board meeting was noticed to the public on May 5, 2021. The board received no public comments on the Plan. The board considered, discussed, and adopted the Plan, as Ordinance 489 on June 16, 2021. The Plan was discussed in the UWMP as Chapter 8 and the Ordinance was included as Appendix G. As such, the Plan went through the public review process as described in Chapter 10. The Plan was submitted to DWR as a part of the UWMP prior to the July 1, 2021 deadline.

Chapter 9. Demand Management Measures

9.1 Demand Management Measures for Wholesale Agencies

OMWD is a retail agency and this section describes the Demand Management Measures (DMM) implemented by wholesalers that benefit retail agencies. Details of San Diego water wholesaler conservation efforts are further detailed in the 2020 Urban Water Management Plan updates of MWD and SDCWA.

Metropolitan Water District of Southern California passes its cost savings on to its member agencies through financial assistance to its members. MWD provides rebate, incentive, and grant programs as well as educational materials, resources, and agency networking. SDCWA works closely with its member agencies to utilize MWD funds as efficiently as possible. The following websites provide details on MWD's regional programs:

- <http://socalwatersmart.com/>
- <http://bewaterwise.com/water-savings-incentive-program.html>
- <http://bewaterwise.com/landscape-irrigation-survey.html>
- <http://www.mwdh2o.com/inthecommunity/education-programs/Pages/World-Water-Forum.aspx>
- <http://bewaterwise.com/innovative-conservation-program.html>
- <http://www.mwdh2o.com/inthecommunity/community-outreach>
- <http://www.mwdh2o.com/inthecommunity/education-programs/Pages/default.aspx>
- <http://www.bewaterwise.com/toolkit.html>
- <http://www.bewaterwise.com/calculator.html>

SDCWA assists member agencies by providing for joint participation in the following conservation programs: landscape audits; public information and education; school education; and residential, commercial, industrial, and institutional water saving-devices. The following websites provide details on SDCWA's regional programs:

- <http://www.sdcwa.org/education>
- <https://landscapemakeover.watersmartsd.org/>
- <https://landscapemakeover.watersmartsd.org/events/https://www.watersmartsd.org/landscape-makeover-program/landscape-makeover-videos-on-demand/>
- <https://www.watersmartsd.org/landscape-makeover-program/https://www.watersmartsd.org/residential/education/>
- <http://www.watersmartsdlandscaping.org/>
- <http://www.sdcwa.org/whenindrought>
- <https://sustainablelandscapessd.org/>

Additionally, OMWD has been a consistent supporter of the efforts of Mission Resource Conservation District (MRCD) to provide water management assistance to growers in its service area. MRCD has been under contract to SDCWA to operate regional agricultural water management services since 1990 as part of SDCWA's Agricultural Water Management Plan. The goal of the program is to provide technical assistance to growers to enable them to irrigate crops as efficiently as possible in order to obtain the maximum economic benefit from limited water resources. The water usage effectiveness programs have included direct assistance to retail water users, implementation of University of California Cooperative Extension BMPs, funding information assistance, and water purveyor efficiency practices.

9.2 Demand Management Measures for Retail Suppliers

9.2.1 Water Waste Prevention Ordinances

OMWD's water waste prevention ordinance is contained in the Water Shortage Contingency Plan (WSCP), and described in section 8.6.

9.2.2 Metering

OMWD is fully metered and requires separate meters for large irrigation customers. The records from these large meters have been especially useful in planning expansions to OMWD's recycled water distribution system. They also help OMWD identify large water users to work with on water use reduction planning.

OMWD is in the process of converting its meters from automated meter reading (AMR) to advanced metering infrastructure (AMI). Currently, 70 percent of OMWD's meters are being read with AMI. In its Capital Improvement Program (CIP), OMWD has \$2,664,000 budgeted for converting the remaining service area to AMI over the next 4 years.

In general, OMWD replaces an average of 40 meters per month based on usage history. Several years ago OMWD retained a consultant to develop a meter testing and replacement program. Based on this work, in 2014, OMWD replaced all of its 1.5-inch residential meters, nearly 100. In 2018, OMWD tested all of its 2-inch and larger residential meters. Overall, approximately 50 percent of OMWD's meters are greater than 10 years old and are the focus of the future testing and replacement efforts. OMWD budgets for meter replacements as a recurring annual expense including \$270,000 budgeted for FY 2021.

9.2.3 Conservation Pricing and Fixed Charges

Conservation-oriented water rates are aimed at stimulating water use efficiency and water conservation through economic incentives, specifically through water price signals. Conservation pricing is based on the idea that customer water use decreases as the price paid for water increases, which is the typical price-quantity relationship for almost any good or service. It is OMWD's goal to collect no more than 50 percent of its revenues from fixed charges and indoor water use, in order to promote conservation.

OMWD utilizes a four-tiered rate structure for domestic customers that features increasing rates for higher water usage that reflect the proportionate cost of providing service in each tier. OMWD can also implement demand reduction rate adjustments during water shortage conditions as described in Section 8.8.2. The current OMWD Rates and Rules Brochure as of April 1, 2021 is included as **Appendix H**.

9.2.4 Public Education and Outreach

OMWD actively participates in public education and outreach through regional, local, and individual efforts. The majority of rebates and conservation incentives are made available to customers through its wholesaler partnership, and are accessible through www.socalwatersmart.com. Marketing campaigns on these incentives are overseen by SoCalWatersmart and SDCWA, and promoted at regional and local public events as well as in flyers, handouts, and other giveaways. OMWD also markets the programs at the retail level through its newsletters, website, and social media.

OMWD maintains an active school education program utilizing regional programs as well as custom programs that use materials and curriculum developed by the Water Education Foundation's Project Wet.

OMWD annually budgets for school programs including:

- <http://www.sdcoe.net/student-services/outdoored/Pages/splash-science-mobile-lab.aspx>
- <http://thegarden.org/learn/ms-smarty-plants/>
- <http://www.swpppinternship.com/about-us.html>

Locally, OMWD is an active member of the North County Water Agencies, which consists of twelve water agencies located in northern San Diego County. Each year NCWA promotes water conservation through a locally-developed classroom presentation and annual poster contest targeting fourth-grade students. Since 1993, the resulting artwork is incorporated into a calendar which highlights the students' awareness of water as Earth's most precious resource while exemplifying a sound water conservation ethic.

OMWD includes an active public information program in its annual budget and strategic plan to promote and educate customers about water use efficiency. Strategic plan performance indicators for FY 2020 included 32 educational/community outreach events and facility tours. The number of tours and events was temporarily reduced from prior years as a result of the COVID-19 pandemic. OMWD maintains contact with the news media a minimum of 24 times per year, and has an actively maintained website that is updated weekly.

OMWD occasionally uses consultants to assist in public outreach efforts such as educating customers about water supply and shortages, and redesigning its website. Through its active speaker's bureau, OMWD delivers presentations, facilitates discussions, and provides general information about water issues for groups, civic organizations, and associations.

Every year, OMWD participates in the WaterSmart Landscape Contest with several other retail water agencies in San Diego County. The contest promotes climate-appropriate landscaping and provides photos of attractive landscapes to advertise for landscape transformation rebates and workshops.

OMWD also provides water supply and conservation information through its Facebook page, Twitter feed, YouTube channel, bill messages, bill inserts, e-newsletters, and seasonal displays in its lobby and at the Elfin Forest Interpretive Center Honoring Susan J. Varty.

Recently, OMWD launched its customer engagement portal called My Water Use. My Water Use provides customers with detailed history of their own water use as well as near real-time usage data for AMI customers. The platform allows customers to better understand and manage their water use through identifying water use trends and setting usage alerts.

9.2.5 Programs to Assess and Manage Distribution System Real Loss

OMWD currently uses acoustic leak detection devices to identify possible leaks. The devices are placed at locations having the potential for pipeline damage or corrosion, including stream crossings.

OMWD implemented a comprehensive cathodic protection system for its steel pipelines in the 1970s and shortly thereafter replaced all steel pipelines that were known to be leaking. Since that time, OMWD has experienced almost no mainline pipeline leaks. The majority of system leaks in OMWD are related to pipe fittings. OMWD completed a statistical analysis of valve failures and valve life. Based on this analysis, OMWD has implemented a valve replacement program and currently replaces approximately 80 valves per year, prioritizing based on age, non-operation, areas of known problems, and other criteria. For the near future, this replacement rate is expected to be sufficient to avoid valve failures. In the future, OMWD may need to increase the replacement rate somewhat. The FY 2021 CIP budget includes an average of \$900,000 per year for valve replacements.

OMWD's 2015 Potable Water and Recycled Water Master Plan set priorities for pipeline replacements. Since 2015, OMWD has prioritized its top 30 potable pipelines for internal inspection and has conducted inspections of two critical pipelines and one pipeline constructed in the 1960s. Based on this work, OMWD prepared a 10-year capital spending plan for potable pipelines which includes the following projects and budgets:

• Specific Pipeline Projects	\$16.0 million
• General Pipeline Replacements	\$ 8.2 million
• Condition Assessments	\$ 3.1 million
• Cathodic Protection	<u>\$ 3.1 million</u>
• Total	\$30.4 million

Since 2016, OMWD has been reporting its water loss to DWR through an annual validated water loss audit. The four-year baseline average of all of OMWD's potable meters that has been established is 36.2 gallons per connection per day. Using default values in DWR's draft economic model, the state's proposed target for OMWD is to remain at its current level of water loss.

Additional information about OMWD's distribution system water loss can be found in section 4.3.4.

9.2.6 Water Conservation Program Coordination and Staffing Support

Recently, OMWD expanded its water conservation and public outreach programs staffing support by adding a third full-time staff member. The conservation and outreach programs are now administered

by three full-time Administrative Analysts. In addition, OMWD has included time for conservation and outreach in four positions: Customer Service and Public Affairs Supervisor, Customer Services Manager, Assistant General Manager, and General Manager. The Administrative Analysts' activities and responsibilities include coordinating a successful conservation, education, and public outreach program by:

- Staying abreast of new trends and innovations in the fields of public education and conservation.
- Representing and speaking publicly on behalf of OMWD.
- Acting as a liaison to schools about water conservation issues.
- Researching and analytical duties for completing the UWMP and other regulatory requirements such as the Annual Water Loss Audit.
- Understanding and interpreting federal, state, and local laws, codes, and regulations.
- Developing various promotional, educational, and conservation press releases and brochures.
- Developing, researching, coordinating, and updating a variety of public information materials.
- Effectively budgeting for conservation and outreach programs.
- Coordinating District tours and events.
- Assisting customer service with conservation and landscape inquiries, and
- Assisting on OMWD's social media and web page development and maintenance.

During times of water supply shortage, OMWD has hired contractors, temporary employees, and interns to assist with enforcement of water use restrictions.

9.2.7 Other Demand Management Measures

Water use evaluations are a service OMWD's offers to its customers at no charge. The service provides site-specific water-saving recommendations from certified irrigation professionals. Homeowners and property managers can use the no-obligation assessment to decide if and when to make changes. Evaluations are available to owners and managers of commercial, multi-family, industrial, public or single-family properties. Participants can sign up at www.olivenhain.com/evaluation.

9.3 Reporting Implementation

9.3.1 Implementation Over the Past Five Years

Between July 1, 2015 and June 30, 2020, OMWD customers replaced the following water-saving devices through MWD's SoCalwatersmart program:

- Installed 637 weather-based irrigation controllers
- Replaced 3,373 sprinkler heads with rotating nozzles
- Removed 3,577,246 square feet of turf
- Installed 603 rain barrels
- Installed 198 high-efficiency toilets
- Installed 538 high-efficiency clothes washers
- Installed 14 soil moisture sensor systems

- OMWD performed 876 water use evaluations to identify ways customers can improve water use efficiency.

During the drought emergency from 2014 to 2017, OMWD increased its outreach and implemented the SWRCB Emergency Regulation restrictions. The restrictions included:

- Using potable water to irrigate ornamental turf on public street medians
- Using potable water to irrigate landscapes of new homes & buildings inconsistent with state building requirements
- Using outdoor irrigation during & 48 hours following measurable precipitation
- Using potable water in decorative water features that do not recirculate the water
- Using hoses without a shut-off nozzles to wash cars
- Runoff when irrigating with potable water
- Using potable water to wash sidewalks & driveways
- Water waste resulting from inefficient landscape irrigation, such as runoff, low head drainage, or overspray, etc.
- Water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, hardscapes, roadways, or structures
- Irrigation between 8:00 a.m. and 6:00 p.m. unless a hand-held hose equipped with a shut-off nozzle is used
- Irrigation of landscaping not irrigated by a landscape irrigation system using a hand-held hose that is not equipped with a shut-off nozzle
- Irrigation of nursery and commercial grower's products between 10:00 a.m. and 6:00 p.m. unless a hand-held hose equipped with a shut-off nozzle is used
- Not repairing a leak within seventy-two (72) hours
- Irrigation that exceeds a total of 10 minutes per station per day
(This provision does not apply to landscape irrigation systems using water efficient devices, including but not limited to: weather-based controllers, drip/micro-irrigation systems and stream rotor sprinklers.)
Irrigation outside of the two assigned days per week. The following irrigation schedule is in effect:
 - Odd numbered houses may irrigate on Monday and Thursday
 - Even numbered houses may irrigate on Tuesday and Friday
 - Multi-family and non-residential accounts may water on Monday and Thursday
- (This provision shall not apply to commercial growers or nurseries or to the use of a handheld hose equipped with a shut-off nozzle to water landscaped areas. This provision does not apply to landscape irrigation systems using water efficient devices, including but not limited to: weather-based controllers, drip/micro-irrigation systems and stream rotor sprinklers.)
- Hotels and motels must provide guests with the option of not having towels & linens laundered daily
- Restaurants and other food service establishments can only serve water to customers on request
- Commercial, industrial, and institutional users must implement water efficiency measures
- Any commercial, industrial or institutional property that uses a water supply other than OMWD, must either reduce its use by 25% or restrict its irrigation of ornamental landscapes or turf with potable water to two days per week

In the summer of 2016, OMWD was able to certify to SWRCB that its water supplies would meet demands even if the drought persisted for three more years. After certifying its water supply, OMWD discontinued mandatory water use restrictions and requested its ratepayers to voluntarily conserve water through measures including:

- Irrigate residential and commercial landscape before 8 a.m. and after 6 p.m. This section shall not apply to the use of a hand-held hose equipped with a shut-off nozzle to water landscaped areas.
- Use a hand-held hose equipped with a shut-off nozzle to water landscaped areas, including trees and shrubs located on residential and commercial properties that are not irrigated by a landscape irrigation system.
- Irrigate nursery and commercial grower's products before 10 a.m. and after 6 p.m. Watering is permitted at any time with a hand-held hose equipped with a shut-off nozzle, or when a drip/micro-irrigation system/equipment is used. Irrigation of nursery propagation beds is permitted at any time. Watering of livestock is permitted at any time.
- Repair all water leaks within five (5) days of notification by Olivenhain Municipal Water District unless other arrangements are made with the General Manager.

9.3.2 Implementation to Achieve Water Use Targets

OMWD utilized the DMMs described in section 9.2 to achieve the water use targets described in Chapter 5.

9.3.3 Water and Energy Programs

OMWD looks to manage all resources more efficiently. OMWD's electrical accounts now receive 100 percent renewable energy via direct access with 3 Phases Renewables. Its power is generated through wind, solar, and biomass technology and fed into the grid for OMWD rather than through more traditional sources with San Diego Gas and Electric.

9.3.4 Wastewater and Energy Cost Savings

Utilities other than OMWD may also benefit from cost-effective water conservation measures. Local wastewater districts may benefit from reduced hydraulic loading on their facilities, and the local electric and gas utilities may benefit from reduced energy demand for water heating and less pumping of water to the region. Because these potential cost savings do not accrue directly to OMWD, cooperative arrangements are necessary in order to allow these benefits to be factored into the economic evaluation of conservation programs.

A water conservation-induced reduction in hydraulic loading could benefit local wastewater plants by relieving stress on existing hydraulically overloaded outfalls and treatment plants, or by allowing for the deferment of capacity expansion projects. Wastewater plants should benefit from reduced operating costs and energy savings from smaller volumes of wastewater requiring treatment. The value of these potential benefits is currently unknown, although they do figure into OMWD planning efforts described in the Recycled Water section of this UWMP.

9.3.5 Cost Savings by Wholesale Water Suppliers

OMWD purchases imported water from SDCWA, which in turn purchases a portion of its water from Metropolitan. Both SDCWA and Metropolitan also benefit from water conservation in OMWD. SDCWA benefits from water conservation by being able to delay or reduce the size of large new water delivery facilities necessary to meet the needs of the county's growing population. MWD likewise benefits by not having to develop as much new water supply, and by being able to delay or reduce the size of large new water delivery facilities.

9.4 Planned Implementation to Achieve Water Use Targets

Although water use targets for water suppliers will not have been calculated by the time the 2020 UWMP is completed, OMWD plans to continue implementing the DMMs listed in section 9.2:

- Converting all meters to AMI
- Meter testing and replacement program
- Conservation-based pricing
- Promoting rebates for water-savings devices and landscape transformations
- School education programs and annual poster contest
- Outreach events and facility tours
- Communicating with customers through its speaker's bureau, social media platforms, OMWD's website, bill messages, newsletters, and more
- My Water Use customer engagement portal
- Water conservation program coordination and staffing support
- Water use evaluation program

In addition, it is prepared to adjust rates, water use restrictions, and outreach efforts accordingly depending on the level of reduction required to meet its water use target.

To facilitate compliance with its water use target, OMWD has subscribed to Eagle Aerial's WaterView conservation and data management portal which was designed to help water suppliers meet their water use targets. Among other benefits, the portal analyzes water use allocation at the parcel level and identifies parcels that are exceeding the water use efficiency standard to target water use efficiency campaigns to those customers.

9.5 Water Use Objectives (Future Requirements)

OMWD is prepared to make adjustments to its conservation program if necessary, to meet a reduced water use objective. Some DMMs OMWD can take if a reduction in water use is required in order to comply with the objectives that will be established in 2023 include:

- Increasing public education and outreach efforts
- Increasing water rates according to the corresponding level of reduction as described in the WSCP

- Implementing water use restrictions according to the corresponding level of reduction as described in the WSCP
- Targeting messaging and water conservation programs to high water users and users identified as exceeding the water use efficiency standard

Chapter 10. Plan Adoption, Submittal, Implementation

10.1 Inclusion of All 2020 Data

OMWD's UWMP includes water use and planning data for FY 2020.

10.2 Notice of Public Hearing

10.2.1 Notice to Cities and Counties

OMWD's service area covers portions of the County of San Diego and the Cities of Encinitas, Carlsbad, San Diego, San Marcos, and Solana Beach and all were notified 60 days in advance of the public hearing that the UWMP was being updated. In addition, OMWD also notified the cities of Del Mar, Escondido, and Poway.

The same notification provided the date, time, and place of the public hearing as May 19, 2021, 5:30 PM, at OMWD Headquarters. A complete list of all of the agencies receiving notification is located in Table 2-A in Chapter 2. Notification to cities and counties is summarized in **Table 10-1**.

Table 10-1 Retail: Notification to Cities and Counties

City Name	60 Day Notice	Notice of Public Hearing
Del Mar	X	X
Encinitas	X	X
Escondido	X	X
Poway	X	X
San Diego	X	X
San Marcos	X	X
Solana Beach	X	X
County Name	60 Day Notice	Notice of Public Hearing
San Diego	X	X

10.2.2 Notice to the Public

The public hearing was noticed in the San Diego Union-Tribune for two successive weeks (14 calendar days), at least two times, with at least five days between publication dates. The notice included the time and place of the hearing as well as the location where the plan is available for public inspection. A copy of the notice to the public can be found in Appendix I.

10.3 Public Hearing and Adoption

10.3.1 Public Hearing

The public hearing was held on May 19, 2021, at 5:30 PM at OMWD headquarters.

10.3.2 Adoption

OMWD's Board of Directors adopted the 2020 UWMP at their meeting of June 16, 2021. A copy of the adoption resolution may be found at the following link. <http://olivenhain.com/UWMP>

10.4 Plan Submittal

10.4.1 Submitting a UWMP and Water Shortage Contingency Plan to DWR

OMWD's 2020 UWMP was submitted to DWR within 30 days of adoption by the OMWD Board of Directors and before July 1, 2021.

10.4.2 Electronic Data Submittal

OMWD's 2020 UWMP and tabular data was submitted online with the DWR WUE data online submittal tool.

10.4.3 Submitting a UWMP to the California State Library

A CD of the adopted OMWD 2020 UWMP was submitted to the California State Library at the address listed below within 30 days after adoption.

California State Library
Government Publications Section
P.O. Box 942837
Sacramento, CA 94237-0001
Attention: Coordinator, Urban Water Management Plans

10.4.4 Submitting a UWMP to Cities and Counties

A copy of the adopted OMWD 2020 UWMP was submitted to the Cities of Encinitas, Carlsbad, San Diego, San Marcos, and Solana Beach, to which OMWD supplies a portion of the water, within 30 days after adoption. The Water Shortage Contingency Plan Ordinance No. 489 (Water Shortage Contingency Plan) was attached as Appendix G.

10.5 Public Availability

The adopted OMWD 2020 UWMP, Water Shortage Contingency Plan, and 2015 UWMP Addendum 1 are available to the public at OMWD's website no later than July 1, 2021.

10.6 Notification to Public Utilities Commission

OMWD is not regulated by the California Public Utilities Commission and has not submitted its 2020 UWMP or Water Supply Contingency Plan to them.

10.7 Amending an Adopted UWMP or Water Shortage Contingency Plan

OMWD is amending its 2015 UWMP to address reduced reliance on the Delta, as required by DWR. The text of the amendment is provided in Appendix K and was approved by the OMWD Board of Directors on June 16, 2021. This addendum also addresses the requirements for the 2020 UWMP as DWR allows one document to cover both the 2015 and 2020 UWMPs.

Appendix A

DWR Checklist of Compliance with Guidebook

Olivenhain Municipal Water District, Appendix A: UWMP Checklist. UWMP (Chapter and Subheading Numbering is Generally Consistent with the Guidebook.)

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Chapter 1	10615	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and Overview	Chapters 4, 6, and 9
x	x	Chapter 1	10630.5	Each plan shall include a simple description of the supplier's plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a supplier may also choose to include a simple description at the beginning of each chapter.	Summary	Executive Summary.
x	x	Section 2.2	10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	2.2

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 2.6	10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	2.6.2
x	x	Section 2.6.2	10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.	Plan Preparation	2.6.2, 3.4.2
x		Section 2.6, Section 6.1	10631(h)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.	System Supplies	2.6.1

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
	x	Section 2.6	10631(h)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	N/A
x	x	Section 3.1	10631(a)	Describe the water supplier service area.	System Description	Chapter 3
x	x	Section 3.3	10631(a)	Describe the climate of the service area of the supplier.	System Description	3.3
x	x	Section 3.4	10631(a)	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	3.4
x	x	Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the supplier's water management planning.	System Description	3.4.2
x	x	Sections 3.4 and 5.4	10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	3.4.2, 5.4
x	x	Section 3.5	10631(a)	Describe the land uses within the service area.	System Description	3.5

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 4.2	10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	4.2, 4.3
x	x	Section 4.2.4	10631(d)(3)(C)	Retail suppliers shall provide data to show the distribution loss standards were met.	System Water Use	4.3.4, 9.2.5 The draft standards indicate that OMWD should maintain its current level of loss.
x	x	Section 4.2.6	10631(d)(4)(A)	In projected water use, include estimates of water savings from adopted codes, plans, and other policies or laws.	System Water Use	4.2
x	x	Section 4.2.6	10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System Water Use	Table 4-A
x	optional	Section 4.3.2.4	10631(d)(3)(A)	Report the distribution system water loss for each of the 5 years preceding the plan update.	System Water Use	4.2
x	optional	Section 4.4	10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	4.4
x	x	Section 4.5	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System Water Use	4.2, 4.5

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x		Chapter 5	10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Chapter 5
x		Chapter 5	10608.24(a)	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	Chapter 5
	x	Section 5.1	10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	N/A
x		Section 5.2	10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	N/A

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x		Section 5.5	10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5-year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Chapter 5
x		Section 5.5 and Appendix E	10608.4	Retail suppliers shall report on their compliance in meeting their water use targets. The data shall be reported using a standardized form in the SBX7-7 2020 Compliance Form.	Baselines and Targets	Chapter 5 and Tables
x	x	Sections 6.1 and 6.2	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought.	System Supplies	7.2
x	x	Sections 6.1	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, <i>including changes in supply due to climate change.</i>	System Supplies	7.2

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 6.1	10631(b)(2)	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System Supplies	6.1
x	x	Section 6.1.1	10631(b)(3)	Describe measures taken to acquire and develop planned sources of water.	System Supplies	6.1
x	x	Section 6.2.8	10631(b)	Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030, 2035, 2040 and optionally 2045.	System Supplies	6.2.8, 6.2.9
x	x	Section 6.2	10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	6.2
x	x	Section 6.2.2	10631(b)(4)(A)	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	N/A
x	x	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System Supplies	6.2.2

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 6.2.2	10631(b)(4)(B)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	6.2.2
x	x	Section 6.2.2.1	10631(b)(4)(B)	For unadjudicated basins, indicate whether or not the department has identified the basin as a high or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	System Supplies	6.2.2
x	x	Section 6.2.2.4	10631(b)(4)(C)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	System Supplies	N/A
x	x	Section 6.2.2	10631(b)(4)(D)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	6.2.2
x	x	Section 6.2.7	10631(c)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	6.2.7

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 6.2.5	10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	6.2.5.2
x	x	Section 6.2.5	10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	6.2.5.3
x	x	Section 6.2.5	10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	6.2.5.4
x	x	Section 6.2.5	10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	6.2.5.5
x	x	Section 6.2.5	10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	6.2.5.5

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 6.2.5	10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	6.2.5.5
x	x	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System Supplies	6.2.6
x	x	Section 6.2.5	10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area with quantified amount of collection and treatment and the disposal methods.	System Supplies (Recycled Water)	6.2.5.2
x	x	Section 6.2.8, Section 6.3.7	10631(f)	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and for a period of drought lasting 5 consecutive water years.	System Supplies	6.2.8, 6.2.9, Chapter 7
x	x	Section 6.4 and Appendix O	10631.2(a)	The UWMP must include energy information, as stated in the code, that a supplier can readily obtain.	System Suppliers, Energy Intensity	6.4

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 7.2	10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	7.2.1
x	x	Section 7.2.4	10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	7.2.4
x	x	Section 7.3	10635(a)	Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	7.2.3
x	x	Section 7.3	10635(b)	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.	Water Supply Reliability Assessment	7.3

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 7.3	10635(b)(1)	Include a description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts 5 consecutive years.	Water Supply Reliability Assessment	7.2.2
x	x	Section 7.3	10635(b)(2)	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water Supply Reliability Assessment	7.2.2
x	x	Section 7.3	10635(b)(3)	Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.	Water Supply Reliability Assessment	7.2.2
x	x	Section 7.3	10635(b)(4)	Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.	Water Supply Reliability Assessment	7.2.2
x	x	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	Chapter 8

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Chapter 8	10632(a)(1)	Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP	Water Shortage Contingency Planning	The OMWD WSCP provides a summary of the water supply reliability assessment.
x	x	Section 8.10	10632(a)(10)	Describe reevaluation and improvement procedures for monitoring and evaluation the water shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water Shortage Contingency Planning	8.9, 8.10
x	x	Section 8.2	10632(a)(2)(A)	Provide the written decision-making process and other methods that the supplier will use each year to determine its water reliability.	Water Shortage Contingency Planning	8.2.1
x	x	Section 8.2	10632(a)(2)(B)	Provide data and methodology to evaluate the supplier's water reliability for the current year and one dry year pursuant to factors in the code.	Water Shortage Contingency Planning	8.2.2

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 8.3	10632(a)(3)(A)	Define six standard water shortage levels of 10, 20, 30, 40, 50 percent shortage and greater than 50 percent shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.	Water Shortage Contingency Planning	8.3, Table 8-1
x	x	Section 8.3	10632(a)(3)(B)	Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.	Water Shortage Contingency Planning	N/A
x	x	Section 8.4	10632(a)(4)(A)	Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water Shortage Contingency Planning	8.4, Table 8-3
x	x	Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water Shortage Contingency Planning	8.4, Table 8-2

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	8.4.3
x	x	Section 8.4	10632(a)(4)(D)	Specify additional mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions are appropriate to local conditions.	Water Shortage Contingency Planning	8.4, OMWD does not have any permanent water use restrictions, but efficient water use is always promoted.
x	x	Section 8.4	10632(a)(4)(E)	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.	Water Shortage Contingency Planning	8.4, Table 8-3
x	x	Section 8.4.6	10632.5	The plan shall include a seismic risk assessment and mitigation plan.	Water Shortage Contingency Plan	8.4.6
x	x	Section 8.5	10632(a)(5)(A)	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water Shortage Contingency Planning	8.5
x	x	Section 8.5 and 8.6	10632(a)(5)(B) 10632(a)(5)(C)	Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.	Water Shortage Contingency Planning	8.5, 8.6

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x		Section 8.6	10632(a)(6)	Retail supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water Shortage Contingency Planning	8.6
x	x	Section 8.7	10632(a)(7)(A)	Describe the legal authority that empowers the supplier to enforce shortage response actions.	Water Shortage Contingency Planning	8.7
x	x	Section 8.7	10632(a)(7)(B)	Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.	Water Shortage Contingency Planning	8.7
x	x	Section 8.7	10632(a)(7)(C)	Provide a statement that the supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.	Water Shortage Contingency Planning	8.7, Table 8-F
x	x	Section 8.8	10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	8.8
x	x	Section 8.8	10632(a)(8)(B)	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	8.8

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x		Section 8.8	10632(a)(8)(C)	Retail suppliers must describe the cost of compliance with Water Code Chapter 3.3: Excessive Residential Water Use During Drought	Water Shortage Contingency Planning	8.8
x		Section 8.9	10632(a)(9)	Retail suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water Shortage Contingency Planning	8.9
x		Section 8.11	10632(b)	Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.	Water Shortage Contingency Planning	8.11
x	x	Sections 8.12 and 10.4	10635(c)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 30 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	8.12, 10.3

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 8.14	10632(c)	Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 after adopted the plan.	Water Shortage Contingency Planning	8.12.3, 10.5
	x	Sections 9.1 and 9.3	10631(e)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	N/A
x		Sections 9.2 and 9.3	10631(e)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	9.2, 9.3
x		Chapter 10	10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).	Plan Adoption, Submittal, and Implementation	10.2

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 10.2.1	10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Reported in Table 10-1.	Plan Adoption, Submittal, and Implementation	10.2.1
x	x	Section 10.4	10621(f)	Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.	Plan Adoption, Submittal, and Implementation	10.4
x	x	Sections 10.2.2, 10.3, and 10.5	10642	Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.	Plan Adoption, Submittal, and Implementation	Appendix L
x	x	Section 10.2.2	10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	10.2.1
x	x	Section 10.3.2	10642	Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	10.3.2

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 10.4	10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	10.4.3
x	x	Section 10.4	10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	10.4.3
x	x	Sections 10.4.1 and 10.4.2	10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	10.4.2
x	x	Section 10.5	10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	10.5
x	x	Section 10.5	10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	10.5

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 10.6	10621(c)	If supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.	Plan Adoption, Submittal, and Implementation	N/A
x	x	Section 10.7.2	10644(b)	If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.	Plan Adoption, Submittal, and Implementation	N/A

Appendix B

American Water Works Association Water Loss Worksheet



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0

American Water Works Association.
Copyright © 2014, All Rights Reserved.

? Click to access definition
+ Click to add a comment

Water Audit Report for: **Olivenhain Municipal Water District (3710029)**
Reporting Year: **2019** **1/2019 - 12/2019**

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

WATER SUPPLIED

Volume from own sources: n/a 0 acre-ft/yr
Water imported: 7 19763.6 acre-ft/yr
Water exported: 7 3348.1 acre-ft/yr

Master Meter and Supply Error Adjustments

Pcnt: 8 0.14% 9 -0.48%
Value: 8.186 acre-ft/yr
Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: **16,371.721** acre-ft/yr

AUTHORIZED CONSUMPTION

Billed metered: 9 15,044.000 acre-ft/yr
Billed unmetered: n/a 192.210 acre-ft/yr
Unbilled metered: 10 8.186 acre-ft/yr
Unbilled unmetered: 7 8.186 acre-ft/yr

AUTHORIZED CONSUMPTION: **15,244.396** acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption)

1,127.325 acre-ft/yr

Apparent Losses

Unauthorized consumption: 40.929 acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies: 7 269.805 acre-ft/yr
Systematic data handling errors: 37.610 acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: **348.344** acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: **778.981** acre-ft/yr

WATER LOSSES: **1,127.325** acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: **1,327.721** acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains: 10 466.2 miles
Number of active AND inactive service connections: 10 22,890
Service connection density: 49 conn./mile main

Are customer meters typically located at the curbside or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 9 115.0 psi

COST DATA

Total annual cost of operating water system: 10 44,418,770.00 \$/Year
Customer retail unit cost (applied to Apparent Losses): 9 \$4.55 \$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses): 10 \$1,219.86 \$/acre-ft ☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 80 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Water imported

2: Unauthorized consumption

3: Systematic data handling errors

Appendix C

Affordable Sewer Service Resolution (No. 2016-5)

RESOLUTION NO. 2016-05

RESOLUTION OF THE OLIVENHAIN MUNICIPAL WATER DISTRICT
BOARD OF DIRECTORS GOVERNING WATER AND SEWER SERVICE
TO HOUSING UNITS AFFORDABLE TO LOWER INCOME
HOUSEHOLDS AND RESCINDING RESOLUTION NO. 2011-10

WHEREAS, the state legislature amended in 2005 Government Code §65589.7, requiring public agencies that provide water or sewer services to grant a priority for these services to proposed developments that include housing units affordable to lower income households; and

WHEREAS, Government Code §65589.7(b) required public agencies providing water or sewer services to adopt written policies and procedures by not later than July 1, 2006, and at least once every five years thereafter, containing standards for the provision of water and sewer services to proposed developments that include housing units affordable to lower income households; and

WHEREAS, the Olivenhain Municipal Water District Board of Directors originally adopted policies and procedures via Resolution 2006-27 on June 21, 2006 addressing the requirements of Government Code §65589.7; and

WHEREAS, the Olivenhain Municipal Water District Board of Directors adopted policies and procedures via Resolution 2011-10 on April 11, 2011 addressing the requirements of Government Code §65589.7 and rescinding Resolution 2006-27; and

WHEREAS, Olivenhain Municipal Water District now desires to adopt this resolution as its written policies and procedures for service to proposed developments that include housing units affordable to lower income households in compliance with Government Code §65587.7.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of Olivenhain Municipal Water District as follows:

1. Water and Sewer Service to Affordable Housing Units. The Olivenhain Municipal Water District (OMWD) shall not deny or condition the approval of an application for water or sewer services to, or reduce the amount of services applied for by, a proposed development that includes housing units affordable to lower income households unless OMWD makes specific written findings that the denial, condition, or reduction is necessary due to the existence of one or more of the following:

- (a) OMWD does not have a sufficient water supply as defined in paragraph (2) of subdivision (a) of Government Code §66473.7 or is operating under a water shortage emergency as defined in California Water Code §350, or does not have sufficient water treatment or distribution capacity to serve the needs of the proposed affordable housing development as demonstrated by a written engineering analysis and report; or

(b) OMWD is subject to a compliance order issued by the Department of Public Health that prohibits new water connections; or

(c) OMWD has declared a Level 2, Level 3, or Level 4 Water Supply Shortage as defined by Ordinance 427 restricting the provision of new potable water service; or

(d) OMWD does not have sufficient sewer treatment or collection capacity to serve the needs of the proposed affordable housing development as demonstrated by a written engineering analysis and report; or

(e) OMWD is under an order issued by the Regional Water Quality Control Board that prohibits new sewer connections; or

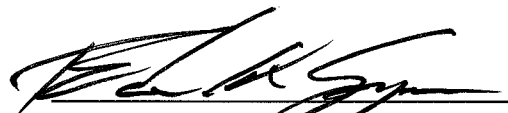
(f) The applicant fails to agree to reasonable terms and conditions for water or sewer service from OMWD which is generally applicable to other development projects seeking water or sewer service from OMWD including, but not limited to, payment of any fee or charge authorized by Government Code §66013.

2. Effective Date. This resolution shall be effective as of April 27, 2016.

3. Review of Service Policies. At least once every five years after passage of this resolution, the policies contained in this resolution shall be presented to the Board of Directors for a review and evaluation of the written policies governing water and sewer services to proposed developments that include housing units affordable to lower-income households.

BE IT FURTHER RESOLVED that adoption of this resolution rescinds Resolution 2011-10 which is superseded by the provisions of this resolution.

PASSED, ADOPTED AND APPROVED at a regular meeting of the Board of Directors of Olivenhain Municipal Water District held on Wednesday, April 27, 2016.



Edmund K. Sprague, President
Board of Directors
Olivenhain Municipal Water District

RESOLUTION NO. 2016-05 *continued*

ATTEST:

A handwritten signature in black ink, reading "Christy Guerin". The signature is written in a cursive style with a large, stylized "C" and "G". A horizontal line is drawn across the signature.

Christy Guerin, Secretary
Board of Directors
Olivenhain Municipal Water District

Appendix D

SB X7-7 Calculations

SB X7-7 2020 Compliance Form

The SB X7-7 2020 Compliance Form is for the calculation of 2020 compliance only. All retail suppliers must complete the SB X7-7 Compliance Form. Baseline and target calculations are done in the SB X 7-7 Verification Form.

The SB X7-7 Verification Form is for the calculation of baselines and targets and is a separate workbook from the SB X7-7 2020 Compliance Form. Most Suppliers will have completed the SB X7-7 Verification Form with their 2015 UWMP and do not need to complete this form again in 2020. See Chapter 5 Section 5.3 of the UWMP Guidebook for more information regarding which Suppliers must, or may, complete the SB X7-7 Verification Form for their 2020 UWMP. 2020 compliance calculations are done in the SB X7-7 2020 Compliance Form.

WUE Data Portal Entry Exceptions

The data from the tables below will not be entered into WUE Data Portal tables. These tables will be submitted as separate uploads, in Excel, to WUE Data Portal.

Process Water Deduction

SB X7-7 tables 4-C, 4-C.1, 4-C.2, 4-C.3, 4-C.4 and 4-D

A supplier that will use the process water deduction will complete the appropriate tables in Excel, submit them as a separate upload to the WUE Data Portal, and include them in its UWMP.

SB X7-7 Table 0: Units of Measure Used in 2020 UWMP**(select one from the drop down list)*

Acre Feet

**The unit of measure must be consistent throughout the UWMP, as reported in Submittal Table 2-3.*

NOTES:

SB X7-7 Table 1 pertains to baselines and targets and is not used in the SB X7-7 2020 Compliance Form.

SB X7-7 Table 2: Method for 2020 Population Estimate**Method Used to Determine 2020 Population**
(may check more than one)☐**1. Department of Finance (DOF) or
American Community Survey (ACS)**☐**2. Persons-per-Connection Method**☐**3. DWR Population Tool**☒**4. Other**

DWR recommends pre-review

NOTES: SANDAG Series 14 Regional Growth Forecast

SB X7-7 Table 3: 2020 Service Area Population**2020 Compliance Year Population****2020**

72,179

NOTES: per SANDAG Series 14 (Version 17) custom data
sort for District service area

SB X7-7 Table 4: 2020 Gross Water Use

Compliance Year 2020	2020 Volume Into Distribution System <i>This column will remain blank until SB X7-7 Table 4-A is completed.</i>	2020 Deductions					2020 Gross Water Use
		Exported Water *	Change in Dist. System Storage* (+/-)	Indirect Recycled Water <i>This column will remain blank until SB X7-7 Table 4-B is completed.</i>	Water Delivered for Agricultural Use*	Process Water <i>This column will remain blank until SB X7-7 Table 4-D is completed.</i>	
	17,100	-	-	-	434	-	16,666

* **Units of measure (AF, MG , or CCF)** must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.

NOTES: FY 2019-20

SB X7-7 Table 4-B: 2020 Indirect Recycled Water Use Deduction *(For use only by agencies that are deducting indirect recycled water)*

2020 Compliance Year	2020 Surface Reservoir Augmentation					2020 Groundwater Recharge			Total Deductible Volume of Indirect Recycled Water Entering the Distribution System
	Volume Discharged from Reservoir for Distribution System Delivery ¹	Percent Recycled Water	Recycled Water Delivered to Treatment Plant	Transmission/Treatment Loss ¹	Recycled Volume Entering Distribution System from Surface Reservoir Augmentation	Recycled Water Pumped by Utility ^{1,2}	Transmission/Treatment Losses ¹	Recycled Volume Entering Distribution System from Groundwater Recharge	
	-	0%	-	-	-	-	-	-	-

¹ **Units of measure (AF, MG, or CCF)** must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3. ² Suppliers will provide supplemental sheets to document the calculation for their input into "Recycled Water Pumped by Utility". The volume reported in this cell must be less than total groundwater pumped - See Methodology 1, Step 8, section 2.c.

--

Data from this table will not be entered into WUEdata.
Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C: 2020 Process Water Deduction Eligibility

(For use only by agencies that are deducting process water) Choose Only One

<input type="checkbox"/>	Criteria 1- Industrial water use is equal to or greater than 12% of gross water use. Complete SB X7-7 Table 4-C.1
<input type="checkbox"/>	Criteria 2 - Industrial water use is equal to or greater than 15 GPCD. Complete SB X7-7 Table 4-C.2
<input type="checkbox"/>	Criteria 3 - Non-industrial use is equal to or less than 120 GPCD. Complete SB X7-7 Table 4-C.3
<input type="checkbox"/>	Criteria 4 - Disadvantaged Community. Complete SB x7-7 Table 4-C.4

NOTES: none of the above

Data from this table will not be entered into WUEdata.
Instead, the entire table will be uploaded to WUEdata as a separate upload in
Excel format.

SB X7-7 Table 4-C.1: 2020 Process Water Deduction Eligibility (For use only by agencies that are deducting process water using Criteria 1)				
Criteria 1				
Industrial water use is equal to or greater than 12% of gross water use				
2020 Compliance Year	2020 Gross Water Use Without Process Water Deduction	2020 Industrial Water Use	Percent Industrial Water	Eligible for Exclusion Y/N
	16,666		0%	NO
NOTES:				

Data from this table will not be entered into WUEdata.
Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel
format.

SB X7-7 Table 4-C.2: 2020 Process Water Deduction Eligibility (For use only by agencies that are deducting process water using Criteria 2)				
Criteria 2				
Industrial water use is equal to or greater than 15 GPCD				
2020 Compliance Year	2020 Industrial Water Use	2020 Population	2020 Industrial GPCD	Eligible for Exclusion Y/N
		72,179	-	NO
NOTES:				

Data from this table will not be entered into WUEdata.

Instead,

the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C.3: 2020 Process Water Deduction Eligibility

(For use only

by agencies that are deducting process water using Criteria 3)

Criteria 3

Non-industrial use is equal to or less than 120 GPCD

2020 Compliance Year	2020 Gross Water Use Without Process Water Deduction <i>Fm SB X7-7 Table 4</i>	2020 Industrial Water Use	2020 Non-industrial Water Use	2020 Population <i>Fm SB X7-7 Table 3</i>	Non-Industrial GPCD	Eligible for Exclusion Y/N
	16,666		16,666	72,179	206	NO

NOTES:

Data from this table will not be entered into WUEdata.
Instead, the entire table will be uploaded to WUEdata as a separate upload in Excel format.

SB X7-7 Table 4-C.4: 2020 Process Water Deduction Eligibility *(For use only by agencies that are deducting process water using Criteria 4)*

Criteria 4

Disadvantaged Community. A "Disadvantaged Community" (DAC) is a community with a median household income less than 80 percent of the statewide average.

SELECT ONE

"Disadvantaged Community" status was determined using one of the methods listed below:

1. IRWM DAC Mapping tool <https://gis.water.ca.gov/app/dacs/>

☐

If using the IRWM DAC Mapping Tool, include a screen shot from the tool showing that the service area is considered a DAC.

2. 2020 Median Income

	California Median Household Income*		Service Area Median Household Income	Percentage of Statewide Average	Eligible for Exclusion? Y/N
<input type="checkbox"/>	2020	\$75,235		0%	YES
*California median household income 2015 -2019 as reported in US Census Bureau QuickFacts.					

NOTES

NOTES:

SB X7-7 Table 5: 2020 Gallons Per Capita Per Day (GPCD)		
2020 Gross Water <i>Fm SB X7-7 Table 4</i>	2020 Population <i>Fm SB X7-7 Table 3</i>	2020 GPCD
16,666	72,179	206
NOTES:		

SB X 7-7 Table 6 pertains to baselines and targets and is not used in the SB X7-7 2020 Compliance Form.

SB X7-7 Table 7 applies to baseline and target calculations and is not included in the SB X7-7 2020 Compliance Form.

SB X7-7 Table 8 was used for the 2015 Interim Target and is not used in the 2020 UWMP.

SB X7-7 Table 9: 2020 Compliance

Actual 2020 GPCD ¹	Optional Adjustments to 2020 GPCD					2020 Confirmed Target GPCD ^{1, 2}	Did Supplier Achieve Targeted Reduction for 2020?
	Enter "0" if Adjustment Not Used			TOTAL Adjustments ¹	Adjusted 2020 GPCD ¹ <i>(Adjusted if applicable)</i>		
	Extraordinary Events ¹	Weather Normalization ¹	Economic Adjustment ¹				
206	-	-	-	-	206	282	YES

¹ All values are reported in GPCD

² **2020 Confirmed Target GPCD** is taken from the Supplier's SB X7-7 Verification Form Table SB X7-7, 7-F.

NOTES:

Appendix E

Recycled Water Mandate Ordinance (No. 173)

ORDINANCE NO. 173

AN ORDINANCE OF THE BOARD OF DIRECTORS
OF THE OLIVENHAIN MUNICIPAL WATER DISTRICT
MANDATING USE OF RECLAIMED AND NON-POTABLE WATER

IT IS HEREBY ORDAINED by the Board of Directors of the Olivenhain Municipal Water District as follows:

SECTION 1: Article 25 is hereby added to the District's Administrative Code to read as follows:

ARTICLE 25 USE OF RECLAIMED AND NON-POTABLE WATER

Sec. 25.1. Declaration of Policy. Water Code Section 13500, et seq., establishes a State policy to encourage the use of reclaimed water. Water Code Section 13500 provides that the use of potable domestic water for the irrigation of green belt areas, cemeteries, golf courses, park, and highway landscaped areas constitutes an unreasonable use of water where reclaimed water is available for such uses. Water Code Sections 71610 and 71611 authorize the District to provide and sell reclaimed and non-potable water within the water service jurisdiction of the District. It is the policy of the Board of Directors of the District to encourage and mandate the development of reclaimed water and non-potable water within the District to meet the growing demand for water within the District's service jurisdiction.

Sec. 25.2. Legislative Findings. The Board of Directors finds and determines that the implementation of reclaimed water and non-potable water within the service jurisdiction of the District is necessary to meet the growing demand for water service within the District, to reduce the demand for imported water to serve the District's customers, and to properly utilize local sources of usable water.

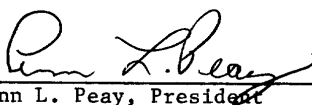
Sec. 25.3. Mandatory Use of Reclaimed and Non-Potable Water. All persons, customers, and property served by the District seeking water service from the District after the effective date of Ordinance No. 173 shall be required to utilize reclaimed water or non-potable water where reclaimed or non-potable water is determined to be available by the District and suitable for the uses being proposed. Customers of the District subject to this Ordinance shall comply with all terms and conditions of reclaimed or non-potable water service as prescribed by the District.

SECTION 2: The District finds that this Ordinance and actions taken hereafter pursuant to this Ordinance are exempt from the California Environmental Quality Act as actions taken to assure the preservation and enhancement of water resources in accordance with CEQA Guidelines Sections 15307 and 15308. The General Manager of the District is authorized and directed to file a Notice of Exemption as soon as possible following adoption of this Ordinance.

SECTION 3: This Ordinance shall become effective upon adoption. It shall be published one time in a newspaper of general circulation within the District within ten (10) days of its adoption. This Ordinance shall remain effective until repeal by Board of Directors of the District.

PASSED, ADOPTED, AND APPROVED by the Board of Directors of the Olivenhain Municipal Water District at a Regular Board Meeting held this 15th day of September, 1988, by the following roll call vote:


AYES: Directors Miller, Golem, Peay, Denk, Gano
NOES: None
ABSTAIN: None
ABSENT: None



Ann L. Peay, President

Board of Directors
Olivenhain Municipal Water District

ATTEST:



Harley L. Denk, Secretary
Board of Directors
Olivenhain Municipal Water District

Appendix F

2019 Consumer Confidence Report

Consumer Confidence Report

Data for January 1, 2019
through December 31, 2019

An Annual Drinking Water Quality Report

Published June 2020



Municipal Water District

A Public Agency Providing
Water

Wastewater Services

Recycled Water

Hydroelectricity

Elfin Forest Recreational Reserve

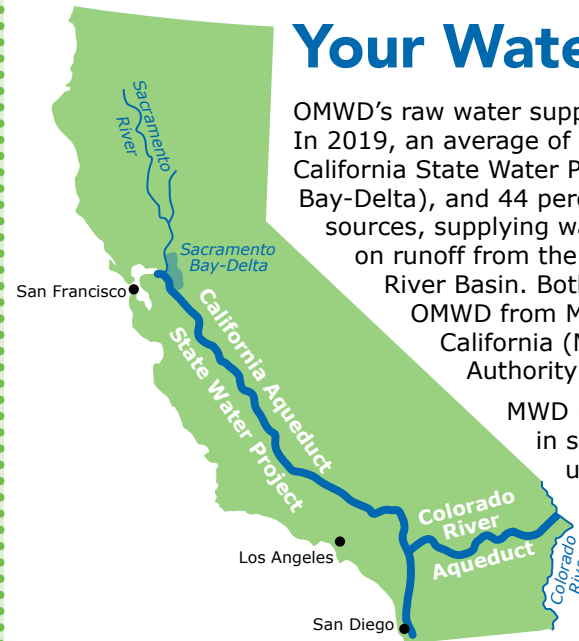
Olivenhain Municipal Water District is required by law to distribute a Consumer Confidence Report each year.

This report explains how drinking water provided by OMWD meets or exceeds all state and federal water quality standards for your drinking water. Included within are results of water quality tests, tips on how to interpret the data, and an explanation of where your water comes from. The data presented is for January 1 through December 31, 2019, and may include earlier monitoring data. We are proud to share our results with you.



Your Water Sources

OMWD's raw water supply in 2019 was 100 percent imported. In 2019, an average of 56 percent was received from the California State Water Project (Sacramento-San Joaquin Bay-Delta), and 44 percent from the Colorado River. These sources, supplying water to all of Southern California, rely on runoff from the Sierra snowpack and the Colorado River Basin. Both of these supplies are provided to OMWD from Metropolitan Water District of Southern California (MWD) and the San Diego County Water Authority (SDCWA).



MWD maintains Lake Skinner, located in southwest Riverside County, as the untreated raw water source for San Diego County. Before water from the Lake Skinner source is delivered to you, it must be treated to remove pollutants and bacteria. OMWD delivers water to your home or business that has been treated at its David C. McCollom Water Treatment Plant (DCMWTP).

David C. McCollom Water Treatment Plant

In 2019, approximately 98.14 percent of the water delivered to OMWD customers was treated locally at DCMWTP. The raw water received at DCMWTP is a blend of water from the Colorado River and the State Water Project. This raw water is obtained from SDCWA, which purchases it from MWD. The remaining percentage of treated water delivered to OMWD customers was purchased from SDCWA and treated at either the Twin Oaks Valley Water Treatment Plant or the Claude "Bud" Lewis Carlsbad Desalination Plant.

DCMWTP is located within the northeastern portion of OMWD's service area and uses membrane technology to produce superior quality finished water. Fewer chemicals are used in this treatment process than in conventional treatment, and the membrane process offers improved barriers against pathogens, such as *Cryptosporidium*, viruses, and bacteria, such as coliform. OMWD provides tours of DCMWTP throughout the year; visit www.olivenhain.com/events for details.



What is In My Water?

The tables on the following pages show how the raw water quality from the Lake Skinner water source met health-related standards in 2019. The tables also show data specific to the treated water that flows through OMWD's distribution system. For information on the Lake Skinner source water and a source water assessment, please contact Mic Stewart with MWD at **213-217-5696** or mstewart@mwdh2o.com. For information on other local water treatment plants including the Twin Oaks Valley Water Treatment Plant or the Claude "Bud" Lewis Carlsbad Desalination Plant, please contact Chris Castaing with SDCWA at **760-233-3279** or ccastaing@sdcw.org, or visit SDCWA's website at www.sdcwa.org/water-quality. For more information on OMWD's DCMWTP or distribution system, please contact OMWD's Operations Manager at **760-753-6466** or waterquality@olivenhain.com.

How Do Contaminants Get in the Water?

The sources of drinking water (both tap and bottled water alike) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife
- **Inorganic contaminants**, such as salts and metals, that can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities

In order to ensure that tap water is safe to drink, the US Environmental Protection Agency (USEPA) and the California State Water Resources Control Board (SWRCB) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. California's SWRCB regulations also establish limits for contaminants in bottled water that provide similar protection for public health.

What About Lead and Copper?

OMWD is required to test every three years for lead and copper. OMWD tested for lead and copper in 2019; 31 locations were sampled, the results, which were well below regulatory action levels, are provided in the table on page 6. Additional information about lead and copper is available at www.olivenhain.com/leadandcopper and from the USEPA Safe Drinking Water Hotline, **800-426-4791**.

In compliance with the SWRCB Drinking Water Permit Amendment 2017PA-SCHOOLS and Assembly Bill 746 (2017), lead testing was performed at 7 school locations in 2017, 6 in 2018, and 1 school in 2019. The action level of 15 ppb was not exceeded at any location. Customers can request school lead testing results by contacting the Division of Drinking Water at DDW-PLU@waterboards.ca.gov or **916-322-9602**.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. OMWD is responsible for providing high-quality drinking water, but cannot control the variety of materials used in home plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the USEPA Safe Drinking Water Hotline, **800-426-4791**, or at www.epa.gov/safewater/lead.

Important Health Information

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline, **800-426-4791**.

The trace contaminants found in OMWD's water sources, along with their standards, are listed in the tables found in this report. It is important to note that drinking water standards are based on research to protect the general public and may not be sufficient to protect certain persons, as noted below.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, as well as some elderly and infants can be particularly at risk for infections. These people should seek advice about drinking water from their health care providers. USEPA/Center for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline, **800-426-4791**.

Source Water Data

					Percent of Total Supply from State Project Water Lake Skinner		
					Range = 10%–79%	Average = 56%	
Parameter	Units	State or Federal MCL	PHG (MCLG)	State DLR	Lake Skinner Range	Lake Skinner Average	Major Sources in Drinking Water
SOURCE WATER DATA COMPLIANCE MONITORING ^(a)							
INORGANIC CHEMICALS							
Fluoride (naturally occurring)	ppm	2.0	1	0.1	0.1–0.2	0.2	Erosion of natural deposits; discharge from fertilizer and aluminum factories
RADIOLOGICALS ^(b)							
Gross Alpha Particle Activity	pCi/L	15	(0)	3	ND–3.7	ND	Erosion of natural deposits
Uranium	pCi/L	20	0.43	1	ND–1.3	ND	Erosion of natural deposits
SECONDARY STANDARDS – Aesthetic Standards ^(c)							
Color	Color Units	15	NA	NA	5-10	8	Naturally occurring organic materials
Odor Threshold	TON	3	NA	1	7	NA	Naturally occurring organic materials
Chloride	ppm	500	NA	NA	64–82	73	Runoff/leaching from natural deposits; seawater influence
Specific Conductance	µS/cm	1,600	NA	NA	543–686	614	Substances that form ions in water; seawater influence
Sulfate	ppm	500	NA	0.5	76–113	94	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS)	ppm	1,000	NA	NA	312–394	353	Runoff/leaching from natural deposits
Turbidity	NTU	5	NA	0.1	0.8-1.2	1	Soil runoff
OTHER PARAMETERS							
MICROBIOLOGICAL ^(d)							
Total Coliform Bacteria	CFU/100 mL	NA	NA	NA	10–9,800	340	Naturally present in the environment
<i>E. coli</i>	CFU/100 mL	NA	NA	NA	ND–2	1	Human and animal fecal waste
CHEMICAL							
Alkalinity (as CaCO ₃)	ppm	NA	NA	NA	88–99	94	Runoff/leaching from natural deposits; carbonate, bicarbonate, hydroxide, and occasionally borate, silicate, and phosphate
Boron	ppb	NL = 1,000	NA	100	130	NA	Runoff/leaching from natural deposits; industrial wastes
Calcium	ppm	NA	NA	NA	33–39	36	Runoff/leaching from natural deposits
Hardness (as CaCO ₃)	ppm	NA	NA	NA	137–170	154	Runoff/leaching from natural deposits; sum of polyvalent cations, generally magnesium and calcium present in the water
Magnesium	ppm	NA	NA	NA	14–17	16	Runoff/leaching from natural deposits
pH	pH Units	NA	NA	NA	8.0–8.4	8.20	Naturally occurring
Potassium	ppm	NA	NA	NA	3.2–3.7	3.4	Salt present in the water, naturally occurring
Sodium	ppm	NA	NA	NA	55–69	62	Salt present in the water, naturally occurring
Total Organic Carbon (TOC)	ppm	TT	NA	0.30	3.2–3.7	3.4	Various natural and man-made sources
Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) ^(e)							
Perfluorohexanoic Acid (PFHxA)	ppt	NA	NA	NA	2.2–2.6	2.4	Industrial chemical factory discharges; runoff/leaching from landfills; used in fire-retarding foams and various industrial processes

Footnotes

- (a)** Data from samples collected during January-December 2019. OMWD has been granted the use of MWD source water data from Lake Skinner for compliance and reporting purposes by the SWRCB.

(b) Data from samples collected in 2019. MWD’s required triennial monitoring (2020-2022) will be performed in 2020.

(c) State Secondary Standards apply to water supplied to the public by community water systems; annual monitoring is required for approved surface water sources or distribution system entry points of the effluent of source water treatment.

(d) Monthly median per state guidelines and recommendations. Reporting level is 1 CFU/100 mL for total coliform and E. coli.

(e) Data from two analytical methods, the USEPA’s Method 537.1 and a research method for 18 different PFAS.

(f) Turbidity, a measure of the cloudiness of the water, is an indicator of treatment performance. As a Treatment Technique Standard, for OMWD the turbidity levels from the Combined Filter Effluent of the membranes were less than or equal to 0.1 NTU in 95% of the measurements taken each month and did not exceed
- 1.0 NTU at any time. Distribution samples (342) at OMWD were collected; the system was in compliance with the Secondary Standard.

(g) Total Coliform and E. coli analysis at DCMWTP. For each day of operation the plant effluent must be analyzed for Total Coliform and E. coli. There were no positive results.

(h) State Total Coliform Rule (TCR) - No more than 5.0% total coliform-positive samples in a month: For OMWD, 1,275 samples were analyzed. One sample was positive for total coliform. Repeat samples were negative. The MCL was not violated. Federal Revised Total Coliform Rule (rTCR) - More than 5.0% total coliform-positive samples in a month triggers Level 1 assessments. No Level 1 assessments or violations occurred.

(i) State Acute TCR (E. coli) MCL - E. coli-positive sample triggers MCL violation. Federal rTCR E. coli MCL violation triggers Level 2 TT assessments. No samples were E. coli-positive and no Level 2 assessments were required.

(j) In 2019, all OMWD distribution system samples collected had detectable total chlorine residuals and no Heterotrophic Plate Count was required. OMWD volun-
- tarily tested for HPC in its distribution system 364 times; the range and average is provided.

(k) TTHM & HAA5 results for OMWD’s distribution system are provided. OMWD was in compliance with all provisions of the Stage 2 Disinfectants/Disinfection By-Products Rule based on the Highest LRAA.

(l) Lead and copper are regulated as a Treatment Technique under the Lead and Copper Rule, which requires water samples to be collected at the consumers’ tap. OMWD is required to test every three years for lead and copper. If action levels are exceeded in more than 10% of the consumer tap samples, water systems must take steps to reduce these contaminants. OMWD collected samples at 31 locations in 2019; results are provided.

(m) In compliance with the SWRCB Permit Amendment 2017PA-SCHOOLS and Assembly Bill 746 (2017), lead testing was performed at 7 school locations in 2017, 6 in 2018, and 1 school in 2019. The action level of 15 ppb was not exceeded at any location.

Abbreviations & Definitions

- AL**– Action Level
- Average** – Result based on arithmetic mean
- CaCO3** – Calcium Carbonate
- CFU** – Colony-Forming Units
- DLR** – Detection Limits (for purposes of) Reporting
- HAA5** – Haloacetic Acids (five)
- LRAA** – Locational Running Annual Average; high-est LRAA is the highest of all Locational Running Annual Averages calculated as average of all sam-ples collected within a 12-month period
- MCL** – Maximum Contaminant Level - The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close as the PHGs as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.
- MCLG** – Maximum Contaminant Level Goal - The level of a contaminant in drinking water below which there is no known or risk to health. MCLGs are set by the US Environmental Protection Agency.
- mL** – Milliliter
- MPN** – Most Probable Number
- MRDL** – Maximum Residual Disinfectant Level
- MRDLG** – Maximum Residual Disinfectant Level Goal
- NA** – Not Applicable
- ND** – Not Detected
- NL** – Notification Level to the SWRCB
- NTU** – Nephelometric Turbidity Units
- pCi/L** – Picocuries per Liter
- PFAS** – Per- and Polyfluoroalkyl Substances
- PHG** – Public Health Goal - The level of a contam-inant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.
- ppb** – Parts per billion or micrograms per liter (µg/L)
- ppm** – Parts per million or milligrams per liter (mg/L)
- ppt** – Parts per trillion or nanograms per liter (ng/L)
- RAA** – Running Annual Average; highest RAA is the highest of all Running Annual Averages calcu-lated as average of all the samples collected within a 12-month period
- Range** – Results based on minimum and maxi-mum values
- SWRCB** – State Water Resources Control Board
- TCR** – Total Coliform Rule
- TTHM** – Total Trihalomethanes
- TON** – Threshold Odor Number
- TT** – Treatment Technique is a required process intended to reduce the level of a contaminant in drinking water and does not refer to any range of values
- µS/cm** – Microsiemens per centimeter; or mi-cromhos per centimeter (µmho/cm)

Treated Water Data

Treated Water Data					OMWD's DCMWTP		
Parameter	Units	State or Federal MCL	PHG (MCLG)	State DLR	Range	Average	Major Sources in Drinking Water
PRIMARY STANDARDS – Mandatory Health-Related Standards							
CLARITY							
Combined Filter Effluent Turbidity ⁽¹⁾	NTU %	TT = 1 NTU	NA	NA	Highest 0.093	% ≤ 0.3 100%	Soil runoff
MICROBIOLOGICAL							
Total Coliform Bacteria ⁽²⁾	MPN/ 100 mL	NA	(0)	NA	ND	ND	Naturally present in the environment
<i>E. coli</i> ⁽²⁾	MPN/ 100 mL	NA	(0)	NA	ND	ND	Human and animal fecal waste
<i>Cryptosporidium</i>	oocysts/ 200 L	NA	(0)	NA	TT	TT	Human and animal fecal waste
<i>Giardia</i>	cysts/ 200 L	NA	(0)	NA	TT	TT	Human and animal fecal waste
INORGANIC CHEMICALS							
Fluoride Treatment-related	ppm	2.0	1	0.1	0.61–0.98	0.78	Water additive that promotes strong teeth

					Distribution System		
Parameter	Units	State or Federal MCL [MRDL]	PHG (MCLG) [MRDLG]	State DLR	Range	Average	Major Sources in Drinking Water
PRIMARY STANDARDS – Mandatory Health-Related Standards							
MICROBIOLOGICAL							
Total Coliform Bacteria ^(h)	%	5.0	(0)	NA	ND–1.09%	ND	Naturally present in the environment
<i>E. coli</i> (Acute Total Coliform)	⁽ⁱ⁾	⁽ⁱ⁾	(0)	NA	ND	ND	Human and animal fecal waste
Heterotrophic Plate Count (HPC) ^(j)	CFU/mL	TT	NA	NA	ND–11	0.69	Naturally present in the environment
DISINFECTION BY-PRODUCTS AND DISINFECTANT RESIDUALS							
Total Trihalomethanes (TTHM) ^(k)	ppb	80	NA	1	18.0–59.0	Highest LRAA 46	By-product of drinking water chlorination
Haloacetic Acids (five) (HAA5) ^(k)	ppb	60	NA	1	7.7–24.0	Highest LRAA 17	By-product of drinking water chlorination
Total Chlorine Residual	ppm	[4.0]	[4.0]	NA	2.08–2.54	Highest RAA 2.48	Drinking water disinfectant added for treatment
INORGANIC CHEMICALS							
Copper ^(l) 2019	ppm	AL = 1.3	0.3	0.05	0.022–0.425	90th Percentile 0.284	Internal corrosion of household pipes; erosion of natural deposits
Lead ^(l) 2019	ppb	AL = 15	0.2	5	ND–0.023	90th Percentile 0	Internal corrosion of household pipes; erosion of natural deposits
School Lead Testing ^(m)	ppb	AL = 15	0.2	5	ND	NA	Internal corrosion of household pipes; erosion of natural deposits
SECONDARY STANDARDS – Aesthetic Standards							
Color	Units	15	NA	NA	ND–2.0	0.537	Naturally occurring organic materials
Odor Threshold	TON	3	NA	1	ND	ND	Naturally occurring organic materials
Turbidity ⁽ⁿ⁾	NTU	5	NA	NA	0.05–0.32	0.06	Soil runoff

See page 4 for Footnotes; see page 5 for Abbreviations and Definitions

About OMWD



OMWD is a municipal water district organized and operating pursuant to Water Code Sections 71000 et seq., and was incorporated on April 9, 1959, to develop an adequate water supply for landowners and residents. On June 14, 1960, residents of OMWD voted to become a member of SDCWA, thus becoming eligible to purchase water transported into San Diego County via the aqueduct systems of SDCWA and MWD. At over 48 square miles, OMWD serves approximately 86,000 customers in Encinitas, Carlsbad, San Diego, San Marcos, Solana Beach, and neighboring communities.

For Additional Information

For more information on this report, contact OMWD’s Operations Manager, at **760-753-6466** or **waterquality@olivenhain.com**.
Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien. Si tiene preguntas, llame al **760-753-6466**.

We Encourage You to Get Involved

OMWD is governed by a five-member Board of Directors elected for staggered four-year terms, with each director being elected from a specific geographic area of OMWD’s service area. Board members encourage public participation in decisions affecting our community’s drinking water and any other water related issues. OMWD’s board holds up to two public meetings each month. Dates and times of these meetings vary, so please check www.olivenhain.com/meetings for current information. The public is welcome to attend these meetings.



1966 Olivenhain Road
Encinitas, CA 92024
760-753-6466
www.olivenhain.com



Published by Olivenhain Municipal Water District in the interest of an informed public.

BOARD OF DIRECTORS

Edmund K. Sprague, President
Robert F. Topolovac, Vice President
Lawrence A. Watt, Treasurer
Robert M. Kephart, Secretary
Christy Guerin, Director

GENERAL MANAGER

Kimberly A. Thorner, Esq.

GENERAL COUNSEL

Alfred Smith, Esq.

BOARD MEETING DATES

Please visit our website at www.olivenhain.com for dates.

MISSION STATEMENT

Olivenhain Municipal Water District is a multi-functioning public agency that is dedicated and committed to serving present and future customers in a service-oriented manner by:

Water

Providing safe, reliable, high-quality drinking water while exceeding all regulatory requirements in a cost-effective and environmentally responsive manner.

Recycled Water

Providing recycled water and wastewater treatment in the most cost-effective and environmentally responsive method.

Parks

Safely operating Elfin Forest Recreational Reserve and providing all users with a unique recreational, educational, and environmental experience.

Emergency Management

Complying with policies and procedures that adhere to local, state, and federal guidelines for national security and disaster preparedness.

Sustainable Operations

Pursuing alternative and/or renewable resources with the most sustainable, efficient, and cost-effective approach.



Municipal Water District
A Public Agency



1966 Olivenhain Road
Encinitas, CA 92024
760-753-6466
www.olivenhain.com

A Public Agency Providing

Water • Wastewater Services • Recycled Water • Hydroelectricity • Elfin Forest Recreational Reserve

Appendix G

Water Supply Shortage Ordinance (No. 489)

ORDINANCE NO. 489

AN ORDINANCE OF OLIVENHAIN MUNICIPAL WATER DISTRICT'S
BOARD OF DIRECTORS REGARDING ADOPTING A WATER
SHORTAGE CONTINGENCY PLAN

WHEREAS, article 10, section 2 of the California Constitution declares that waters of the state are to be put to beneficial use, that waste, unreasonable use, or unreasonable method of use of water be prevented, and that water be conserved for the public welfare; and

WHEREAS, conservation of current water supplies and minimization of the effects of water supply shortages that are the result of drought are essential to the public health, safety, and welfare; and

WHEREAS, regulation of the time of certain water use, manner of certain water use, design of rates, method of application of water for certain uses, installation and use of water-saving devices, provide an effective and immediately available means of conserving water; and

WHEREAS, California Water Code sections 375 et seq. authorize water suppliers to adopt and enforce a comprehensive water conservation program; and

WHEREAS, adoption and enforcement of a comprehensive water conservation program will allow Olivenhain Municipal Water District to delay or avoid implementing measures such as water rationing or more restrictive water use regulations pursuant to a declared water shortage emergency as authorized by California Water Code sections 350 et seq.; and

WHEREAS, in 2018, two long-term conservation bills, Senate Bill 606 and Assembly Bill 1668, were signed into law by Governor Jerry Brown. The two bills amend portions of the California Water Code including section 10632, which is related to water shortage contingency planning. Among other changes, the amendments require agencies to incorporate an annual water supply and demand assessment under its Urban Water Management Plan. It also specifies the adoption of six standard water shortage levels; and

WHEREAS, the San Diego County Water Authority has adopted an Urban Water Management Plan that includes water conservation as a necessary and effective component of the Water Authority's programs to provide a reliable supply of water to meet the needs of the Water Authority's 24 member public agencies, including Olivenhain Municipal Water District. The Water Authority's Urban Water Management Plan also includes a contingency analysis of actions to be taken in response to water supply shortages. This ordinance is consistent with the Water Authority's Urban Water Management Plan; and

WHEREAS, as anticipated by its Urban Water Management Plan, the San Diego County Water Authority, in cooperation and consultation with its member public agencies, has adopted a Water Shortage Contingency Plan, which establishes a progressive program for responding to water supply limitations resulting from drought conditions. This ordinance is intended to be consistent with and to implement the Water Authority's Water Shortage Contingency Plan; and

WHEREAS, the Water Authority's Water Shortage Contingency Plan contains six regional water shortage levels containing regional actions to be taken to lessen or avoid supply shortages. This ordinance contains Water Shortage Levels that correspond with the Water Shortage Contingency Plan levels; and

WHEREAS, Olivenhain Municipal Water District, due to the geographic and climatic conditions within its territory and availability of water provided by the San Diego County Water Authority, may experience shortages due to drought conditions, regulatory restrictions enacted upon imported supplies, and other factors. Olivenhain Municipal Water District has adopted an Urban Water Management Plan that includes water conservation as a necessary and effective component of its programs to provide a reliable supply of water to meet the needs of the public within its service territory. Olivenhain Municipal Water District's Urban Water Management Plan also includes a contingency analysis of actions to be taken in response to water supply shortages. This ordinance is consistent with the Urban Water Management Plan adopted by Olivenhain Municipal Water District; and

WHEREAS, the water conservation measures and progressive restrictions on water use and method of use identified by this ordinance provide certainty to water users and enable Olivenhain Municipal Water District to control water use, provide water supplies, and plan and implement water management measures in a fair and orderly manner for the benefit of the public; and

WHEREAS, this ordinance rescinds and replaces Ordinance 427, and is intended to serve as Olivenhain Municipal Water District's Water Shortage Contingency Plan so that it is consistent with the new drought planning requirements for water suppliers.

NOW, THEREFORE, the Board of Directors of Olivenhain Municipal Water District does ordain as follows:

SECTION 1.0: DECLARATION OF NECESSITY AND INTENT

- (a) This ordinance establishes water management requirements that are in addition to any permanent water waste prohibitions and are necessary to conserve water, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, prevent unreasonable use of water, prevent unreasonable method of use of water within OMWD in order to assure adequate supplies of water to meet the needs of the public, and further the public health, safety, and welfare, recognizing that water is a scarce natural resource that requires careful management not only in times of drought, but at all times.
- (b) This ordinance establishes regulations to be implemented during times of declared water shortages, or declared water shortage emergencies. It establishes six water shortage level response actions to be implemented in times of shortage, with increasing restrictions on water use in response to worsening drought conditions and decreasing available supplies.
- (c) Water Shortage Level 1 response measures are voluntary and will be reinforced through local

and regional public education and awareness measures that may be funded in part by Olivenhain Municipal Water District. During Water Shortage Levels 2 through 6, all conservation measures and water use restrictions become mandatory and become increasingly restrictive in order to attain escalating conservation goals.

- (d) During a Water Shortage Level 2 condition or higher, the water conservation measures and water use restrictions established by this ordinance are mandatory and violations are subject to criminal, civil, and administrative penalties and remedies specified in this ordinance and as provided in Olivenhain Municipal Water District's Administrative and Ethics Code.

SECTION 2.0: DEFINITIONS

- (a) The following words and phrases whenever used in this chapter shall have the meaning defined in this section:

1. "Grower" refers to those engaged in the growing or raising, in conformity with recognized practices of husbandry, for the purpose of commerce, trade, or industry, or for use by public educational or correctional institutions, of agricultural, horticultural or floricultural products, and produced: (1) for human consumption or for the market, or (2) for the feeding of fowl or livestock produced for human consumption or for the market, or (3) for the feeding of fowl or livestock for the purpose of obtaining their products for human consumption or for the market. "Grower" does not refer to customers who purchase water subject to the Water Authority's Permanent Special Agricultural Water Rate Program.
2. "Water Authority" means the San Diego County Water Authority.
3. "Metropolitan" means the Metropolitan Water District of Southern California.
4. "Person" means any natural person, corporation, public or private entity, public or private association, public or private agency, government agency or institution, school district, college, university, or any other user of water provided by Olivenhain Municipal Water District.
5. "WSCP" means the Water Authority's Water Shortage Contingency Plan or Olivenhain Municipal Water District's Water Shortage Contingency Plan, as specified, in existence on the effective date of this ordinance and as readopted or amended from time to time, or an equivalent plan of the Water Authority to manage or allocate supplies during shortages.

SECTION 3.0: APPLICATION

- (a) The provisions of this ordinance apply to any person in the use of any water provided by Olivenhain Municipal Water District.

- (b) This ordinance is intended solely to further the conservation of water. It is not intended to implement any provision of federal, state, or local statutes, ordinances, or regulations relating to protection of water quality or control of drainage or runoff. Refer to the local jurisdiction or Regional Water Quality Control Board for information on any stormwater ordinances and stormwater management plans.
- (c) Nothing in this ordinance is intended to affect or limit the ability of Olivenhain Municipal Water District to declare and respond to an emergency, including an emergency that affects the ability of Olivenhain Municipal Water District to supply water.
- (d) The provisions of this ordinance do not apply to use of water from private wells, recycled water, or graywater systems.
- (e) Nothing in this ordinance shall apply to use of water that is subject to a special supply program, such as the Water Authority's Permanent Special Agricultural Water Rate Program. Violations of the conditions of special supply programs are subject to the penalties established under the applicable program. A person using water subject to a special supply program and other water provided by Olivenhain Municipal Water District is subject to this ordinance in the use of the other water.

SECTION 4.0: WATER SUPPLY RELIABILITY ANALYSIS

- (a) This Water Shortage Contingency Plan examines the findings related to water supply reliability and the key issues that may create a shortage condition when considering OMWD's water asset portfolio. It summarizes the water supply analysis in Chapter 6 of OMWD's 2020 UWMP, and the water reliability findings in Chapter 7 of OMWD's UWMP, to develop a WSCP that is a stand-alone document.
- (b) OMWD is currently 100 percent reliant on SDCWA for its potable water supply and, therefore, the water supply reliability analysis is based upon the SDCWA assessment from its 2020 UWMP, available at [www://sdcwa.org](http://sdcwa.org). SDCWA has executed contracts for a number of sources of water including the Carlsbad Desalination Plant (50,000 AFY), water conserved from Imperial Irrigation District (IID) (200,000 AFY) and the lining of the All-American and Coachella Canals (78,700 AFY), and other sources as described in its UWMP. The IID and canal lining supplies are referred to as QSA supplies. In addition, SDCWA is a member agency of Metropolitan whose major sources include the Sacramento-San Joaquin Delta and the Colorado River. OMWD is investigating a brackish groundwater desalination project that would reduce dependence on SDCWA, as described in section 6.2.1. of OMWD's 2020 UWMP. This project is in the feasibility stage of analysis and is not yet considered in the reliability assessment. OMWD met approximately 13 percent of its 2020 total demand for water through its existing recycled water supplies.
- (c) Historically, except for dry years, the supply from SDCWA is consistent in quantity and quality. SDCWA's and Metropolitan's main sources of supply are the State Water Project and the Colorado River and both sources face legal, environmental, and climatic

challenges. To address these challenges to the State Water Project supply, the Department of Water Resources is going through a permitting process known as the Delta Conveyance Project and EcoRestore. It has been documented that the Colorado River supply is oversubscribed and, to address this, SDCWA and Metropolitan have implemented a number of conservation, land fallowing, transfer, and storage projects. Both the State Water Project and the Colorado River are described in the SDCWA and Metropolitan 2020 UWMPs, the latter of which is available at <http://mwdh2o.com/aboutyourwater/Planning-Documents>.

- (d) Historically, the SDCWA supply has been very reliable with only occasional reductions during droughts in California or the Colorado River Watershed. Due to their very high priority water rights, SDCWA's Colorado River supplies of conserved water from its Imperial Irrigation District transfer and the All-American and Coachella Canal Lining projects are considered to be "drought-resilient." For dry-year analysis, SDCWA assumes that the Metropolitan supplies will be allocated according to its preferential right formula. With these supplies, SDCWA projects no shortages to its member agencies during the normal and single and multi (five) dry year scenarios through 2045. Any shortages that might occur would be handled through the use of SDCWA's dry-year supplies and carry-over storage program, described in section 11.4 of the SDCWA 2020 UWMP, which includes both in-region surface water storage and out-of-region groundwater storage in California's Central Valley. SDCWA's dry-year supplies are described in Section 4.6 of its 2020 UWMP. The carryover storage capacity is approximately 100,000 AF in the San Vicente Reservoir and 70,000 AF in the Semitropic-Rosamond Water Bank Authority and the Semitropic Water Bank. SDCWA may also consider securing transfer supplies during dry years and in 2009 acquired 20,000 AF from Placer County Water Agency in Northern California.
- (e) In 2020, approximately 99 percent of all potable water delivered to OMWD customers was treated at the David C. McCollom Water Treatment Plant. The remainder of the water was produced by the Carlsbad Desalination Plant, SDCWA's Twin Oaks Valley Water Treatment Plant in San Marcos, or Metropolitan's Skinner Water Treatment Plant in Riverside County.
- (f) The DCMWTP is a robust plant and can handle many types of water quality changes without any impact on the quality of the product water. The primary impact of any such changes is a reduction in overall capacity as well as increased chemical and electrical costs. The plant does not, however, have extensive pre-treatment equipment because source water quality testing during design indicated it was not necessary. With this combination of consistent source water quality, and robust treatment processes, the DCMWTP has never been out of operation because of source water quality.
- (g) Should raw water quality prove to be more than can be managed effectively at the DCMWTP, OMWD has four connections to the SDCWA treated water Second Aqueduct system that can provide 100 percent redundancy of treated water supply for customers. In fact, these connections were used for 100 percent of the supply prior to the

construction of the DCMWTP. In addition, OMWD has interconnections with neighboring agencies that can be used to supplement supplies, as described in section 7.4.1. of OMWD's 2020 UWMP.

- (h) OMWD publishes an annual water quality report, the Consumer Confidence Report. The report is made available to all its customers, posted on its web page, and displayed in its lobby. Water quality is a major factor in any OMWD endeavor; however, OMWD does not anticipate any shortage or impact to availability of supply due to water quality issues. SDCWA's UWMP Section 7 provides more information on the quality of water provided to OMWD.
- (i) As OMWD currently relies on SDCWA for 100 percent of its raw water supply, the OMWD Drought Risk Assessment is based on the SDCWA DRA, which assesses a projected drought over the next five-year period from 2021 through 2025. The SDCWA analysis showed that there were adequate water supplies for its member agencies in all five years and therefore, actions under the WSCP are not required. More detailed information about the DRA can be found in OMWD's UWMP Section 7.3.

SECTION 5.0: ANNUAL WATER SUPPLY AND DEMAND ASSESSEMENT PROCEDURES

- (a) Currently, OMWD receives 100 percent of its raw supply from SDCWA. OMWD assumes that each spring, SDCWA and Metropolitan will provide an Annual Assessment including a supply forecast for the coming year. Based on this forecast, OMWD will prepare and submit its annual water supply and demand assessment (Annual Assessment), starting July 1, 2022. The Annual Assessment and reporting procedure will be based on DWR's Urban Water Management Plan Guidebook 2020, Training Module 8, and the procedures in OMWD's WSCP, including the steps and timing that OMWD will follow. The Annual Assessment includes the following sections, as required by the Water Code.
- (b) SDCWA Annual Water Supply and Demand Assessment
 - 1. SDCWA first considers its core water supplies as part of the Annual Assessment. These core supplies include the Carlsbad Desalination Plant, QSA supplies, and Metropolitan. Included as part of the consideration are the capabilities and constraints of the infrastructure used to deliver the core supplies.
 - 2. Next, SDCWA considers member agency projected municipal and industrial water demands on SDCWA. To project member agency municipal and industrial water demands, SDCWA uses a short-term forecast model that considers multiple variables, including historic water demand patterns, weather, a local economic index, and anticipated conservation levels. Demand on SDCWA is also influenced by member agency local supply levels which may be influenced by weather and other factors.
 - 3. If a water supply shortfall is identified based on the assessment of core water supplies and projected water demands, the next step is to evaluate the use of

stored water reserves from SDCWA’s carryover storage reserves or to pursue additional supply augmentation measures, such as dry-year transfers, to reduce or eliminate the shortfall. If a shortage doesn’t exist, consistent with Carryover Storage Policy Guidelines, SDCWA will analyze how to most effectively manage storage supplies to avoid potential shortages in the future.

(c) Decision-Making Process

1. OMWD will begin its decision-making process in FY 2022 (July 1, 2021 to June 30, 2022) and will implement WSCP actions as soon as it is determined that a shortage condition exists. This may occur well before the Annual Assessment report is submitted to DWR on or before July 1, 2022. The process will repeat each fiscal year.
2. The OMWD assessment team (AT) will be made up of one member from the General Manager (GM), Customer Services (CS), and Engineering Departments (E).
3. OMWD’s decision-making process is presented in Table 4-1. Start and end dates are approximate and will be adjusted as necessary.

Table 4-1: Annual Assessment Decision-Making Process

Start Date	End Date	Activities	Whom
Oct	Jun	Monthly - Monitor Metropolitan and SDCWA Annual Assessment of supplies, and local supplies and weather. Update OMWD unconstrained demands as needed.	CS
Oct	Jun	Review SDCWA Annual Assessment as soon as available. Coordinate monthly with SDCWA on planned WSCP actions.	CS
Oct	Jun	Draft OMWD Annual Assessment Report	CS
Oct	Jun	Monthly – Update draft OMWD Annual Assessment and consider a shortage determination.	AT
Oct	Jun	If shortage is determined, use WSCP to determine shortage level, drought response actions, communication, compliance, and enforcement.	CS
Nov	Jun	After shortage determination, prepare shortage documents and present to Board of Directors for approval.	AT
Dec	Jun	Implement the WSCP actions approved by the Board of Directors.	CS
Jun	Jul	Update Annual Assessment Report and send final to DWR by July 1	CS

(d) Data and Methodologies

1. The evaluation criteria OMWD will use in its Annual Assessment include:
 - A. Supply available from SDCWA and Metropolitan
 - B. Dry-weather storage available from SDCWA and Metropolitan
 - C. Overall Annual Assessments by SDCWA and Metropolitan
 - D. Capabilities and constraints of SDCWA and Metropolitan infrastructure to deliver supplies
 - E. OMWD-specific local conditions and uncertainties
 - F. Projection of short-term unconstrained customer demands
 - G. OMWD infrastructure considerations relative to treating, storing and distributing water
2. Water Supply
 - A. Currently, OMWD receives 100 percent of its potable supply as untreated water from SDCWA. Each spring, SDCWA will provide an Annual Assessment supply forecast for the coming year that assesses their supplies including IID conserved water, All-American and Coachella Canal lining supplies, Carlsbad Desalination Plant supplies, and Metropolitan. OMWD will use this assessment as the basis for its supply in the coming fiscal year. The SDCWA and Metropolitan Assessments will evaluate dry-year storage volumes available to their member agencies. They will consider current and dry-year regulatory conditions. They will also evaluate their capital projects and operating plans that could affect deliveries. OMWD will identify uncertainties and anticipated water supply constraints.
3. Unconstrained Customer Demand
 - A. OMWD will use its demand forecast model, as described in Chapter 4 of OMWD's 2020 Urban Water Management Plan, to estimate unconstrained customer demand. The summary of the forecast methodology is:
 - Existing Baseline Demands
 - + New Development (Growth) Demands
 - - Net reductions Due to Additional Conservation Efficiencies
 - +/- Changes Due to Anticipated Weather or Climate Change
 - = Next FY Demands

B. Net reductions to the baseline will consider:

- Landscape ordinances, irrigation controllers, and turf retirement
- Devices such as washers, toilets, and multi-family residential sub-metering
- Increasing real cost of water and behavioral changes
- Updated information on climate change
- State-mandated water use guidelines

2. Current Year Available Supply

- A. OMWD will rely on the SDCWA Annual Assessment for the current year available supply.

3. Infrastructure Considerations

- A. OMWD will review the condition of its infrastructure, DCMWTP capacity, and capital improvement projects scheduled for the next FY to assess how infrastructure may impact its ability to deliver supplies to its customers. If constraints are identified, OMWD will develop a plan to work around the constraint and deliver full supplies. Plans could include changes to operations, temporary facilities, and assistance from SDCWA and neighboring agencies. In its 60+-year history, OMWD has never had an infrastructure constraint that significantly reduced deliveries.

4. Other Factors

- A. On an annual basis, OMWD will assess and describe any locally applicable factors or considerations that could influence or disrupt supplies including SDCWA and Metropolitan capital projects and operating plans.

5. Methodology

- A. The assessment of supplies and demands will be on an annual time step basis, consistent with the forecasting and reporting of SDCWA and Metropolitan. A spreadsheet will be developed to compare SDCWA supplies with OMWD demands. The assessment of a shortage will consider the evaluation criteria described above. OMWD's demand forecasting model will be used to estimate demands. The assessment will be reviewed for consistency with the 2020 UWMP, including projected water supplies in Table 6-9, and any significant differences will be explained. The methodology will be updated after each report is submitted.

SECTION 6.0: CORRELATION BETWEEN WATER SHORTAGE CONTINGENCY PLAN AND WATER SHORTAGE LEVELS

- (a) Olivenhain Municipal Water District may implement any level of this ordinance at any time, whether independently or in order to comply with emergency regulations imposed by state or federal agencies, upon the appropriate findings and notice required herein. However, a correlation is anticipated between the Water Authority's WSCP shortage levels and Olivenhain Municipal Water District's Water Shortage Levels identified in this ordinance as described herein. Under WSCP Water Shortage Level 1, Olivenhain Municipal Water District would implement Water Shortage Level 1 actions. Under WSCP Shortage Level 2, Olivenhain Municipal Water District would implement Water Shortage Level 1 and Level 2 actions. Under WSCP Shortage Levels 3, Olivenhain Municipal Water District would implement Water Shortage Level 1, Level 2, and Level 3 actions. Under WSCP Level 4, Olivenhain Municipal Water District would implement Water Shortage Level 1, Level 2, Level 3, and Level 4 actions. Under WSCP Level 5, Olivenhain Municipal Water District would implement Water Shortage Level 1, Level 2, Level 3, Level 4, and Level 5 actions. Under WSCP Level 6, Olivenhain Municipal Water District would implement Water Shortage Level 1, Level 2, Level 3, Level 4, Level 5, and Level 6 actions.
- (b) The Water Shortage Levels identified in this ordinance correspond with the Water Authority WSCP as identified in Table 6-1:

Table 6-1: Water Shortage Levels

WSCP Water Shortage Levels	Use Restrictions	Conservation Target
1	Voluntary	Up to 10%
2	Mandatory	Up to 20%
3	Mandatory	Up to 30%
4	Mandatory	Up to 40%
5	Mandatory	Up to 50%
6	Mandatory	Above 50%

SECTION 7.0: WATER SHORTAGE LEVEL 1

- (a) A Water Shortage Level 1 condition applies when the Water Authority notifies its member agencies that due to drought or other supply reductions, there is a reasonable probability there will be supply shortages and that a consumer demand reduction of up to 10% is required in order to ensure that sufficient supplies will be available to meet anticipated demands. A Water Shortage Level 1 condition may also apply when Olivenhain Municipal Water District's General Manager or board of directors deems such action necessary due to drought and/or limited water supply conditions. The General Manager shall declare the existence of a Water Shortage Level 1 and take action to implement the Level 1 conservation practices identified in this ordinance.

(b) During a Water Shortage Level 1 condition, Olivenhain Municipal Water District will increase its public education and outreach efforts to emphasize increased public awareness of the need to implement the following water conservation practices:

1. Stop washing down paved surfaces, including but not limited to sidewalks, driveways, parking lots, tennis courts, or patios, except when it is necessary to alleviate safety or sanitation hazards.
2. Stop water waste resulting from inefficient landscape irrigation, such as runoff, low head drainage, or overspray, etc. Similarly, stop water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, hardscapes, roadways, or structures.
3. Irrigate residential and commercial landscape before 10 a.m. and after 6 p.m. only. Watering is permitted at any time with a hand-held hose equipped with a positive shut-off nozzle, a bucket/watering can, or when a drip/micro-irrigation system/equipment is used.
4. Use a bucket, watering can, hand-held hose with positive shut-off nozzle, or low-volume non-spray irrigation to water landscaped areas, including trees and shrubs located on residential and commercial properties that are not irrigated by a landscape irrigation system.
5. Irrigate nursery and commercial grower's products before 10 a.m. and after 6 p.m. only. Watering is permitted at any time with a hand-held hose equipped with a positive shut-off nozzle, a bucket/watering can, or when a drip/micro-irrigation system/equipment is used. Irrigation of nursery propagation beds is permitted at any time. Watering of livestock is permitted at any time.
6. Use recirculated water to operate ornamental fountains.
7. Wash vehicles using a bucket and a hand-held hose with positive shut-off nozzle, mobile high pressure/low volume wash system, or at a commercial site that recirculates (reclaims) water on-site. Avoid washing during hot conditions when additional water is required due to evaporation.
8. Serve and refill water in restaurants, bars, and other food service establishments only upon request.
9. Offer guests in hotels, motels, and other commercial lodging establishments the option of not laundering towels and linens daily.
10. Repair all water leaks within five (5) days of notification by Olivenhain Municipal Water District unless other arrangements are made with the General Manager.

11. Use recycled or non-potable water for construction purposes when available and feasible.
- (c) During a Water Shortage Level 2 condition or higher, the conservation practices established in a Water Shortage Level 1 condition shall become mandatory and all persons shall be required to implement these practices.

SECTION 8.0: WATER SHORTAGE LEVEL 2

- (a) A Water Shortage Level 2 condition applies when the Water Authority notifies its member agencies that due to cutbacks caused by drought or other reduction in supplies, a consumer demand reduction of up to 20% is required in order to have sufficient supplies available to meet anticipated demands. A Level 2 Water Supply Shortage also applies if required to comply with emergency regulations imposed upon Olivenhain Municipal Water District by state or federal agencies. The Olivenhain Municipal Water District Board of Directors shall declare the existence of a Water Shortage Level 2 condition and implement the mandatory Level 2 conservation measures identified in this ordinance.
- (b) All persons using Olivenhain Municipal Water District water shall comply with Level 1 water conservation practices during a Water Shortage Level 2 condition, and shall also comply with the following additional conservation measures:
 1. Limit residential and commercial landscape irrigation to no more than three (3) assigned days per week on a schedule established by the General Manager and posted by Olivenhain Municipal Water District. This section shall not apply to commercial growers or nurseries.
 2. Limit lawn watering and landscape irrigation using sprinklers to no more than ten (10) minutes per watering station per assigned day. This provision does not apply to landscape irrigation systems using water efficient devices, including but not limited to: weather based controllers, drip/micro-irrigation systems, and stream rotor sprinklers.
 3. Water landscaped areas, including trees and shrubs located on residential and commercial properties, and not irrigated by a landscape irrigation system governed by Section 8(b)(2), on the same schedule set forth in Section 8(b)(1) by using a bucket, watering can, hand-held hose with positive shut-off nozzle, or low- volume non-spray irrigation.
 4. Repair all leaks within seventy-two (72) hours of notification by Olivenhain Municipal Water District unless other arrangements are made with the General Manager.
 5. Stop operating ornamental fountains or similar decorative water features that require potable water.

SECTION 9.0: WATER SHORTAGE LEVEL 3 – DROUGHT CRITICAL CONDITION

- (a) A Water Shortage Level 3 condition applies when the Water Authority notifies its member agencies that due to increasing cutbacks caused by drought or other reduction of supplies, a consumer demand reduction of up to 30% is required in order to have sufficient supplies available to meet anticipated demands. A Level 3 Water Supply Shortage also applies if required to comply with emergency regulations imposed upon Olivenhain Municipal Water District by state or federal agencies. The Olivenhain Municipal Water District Board of Directors shall declare the existence of a Water Shortage Level 3 condition and implement the Level 3 conservation measures identified in this ordinance. Upon declaration of a Level 3 Water Shortage condition, Olivenhain Municipal Water District may also declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code section 350 and may do so whether or not San Diego County Water Authority declares a California Water Code section 350 emergency.
- (b) All persons using Olivenhain Municipal Water District water shall comply with Level 1 and Level 2 water conservation practices during a Water Shortage Level 3 condition and shall also comply with the following additional mandatory conservation measures:
 - 1. Limit residential and commercial landscape irrigation to no more than two (2) assigned days per week on a schedule established by the General Manager and posted by the Olivenhain Municipal Water District. This section shall not apply to commercial growers or nurseries.
 - 2. Water landscaped areas, including trees and shrubs located on residential and commercial properties, and not irrigated by a landscape irrigation system governed by section 8(b)(2), on the same schedule set forth in section 9(b)(1) by using a bucket, hand-held hose with a positive shut-off nozzle, watering can, or low- volume non-spray irrigation.
 - 3. Stop washing vehicles except at commercial carwashes that recirculate water, or by high pressure/low volume wash systems.
 - 4. Repair all leaks within forty-eight (48) hours of notification by Olivenhain Municipal Water District unless other arrangements are made with the General Manager.
- (c) Upon the declaration of a Water Shortage Level 3 condition, Olivenhain Municipal Water District will suspend consideration of annexations to its service area.
- (d) Olivenhain Municipal Water District may establish a water allocation for property served by the Olivenhain Municipal Water District using a method that does not penalize persons for the implementation of conservation methods or the installation of water saving devices. If Olivenhain Municipal Water District establishes a water allocation it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which Olivenhain Municipal Water District customarily mails

the billing statement for fees or charges for ongoing water service. Olivenhain Municipal Water District is not required to comply with Proposition 218 to impose fines on persons using water in violation of its restrictions on water use or in passing through penalties levied upon it by Metropolitan as a result of excessive use by some Olivenhain Municipal Water District customers. Following the effective date of the water allocation as established by Olivenhain Municipal Water District, any person that uses water in excess of the allocation shall be subject to a penalty in the amount of twice the Metropolitan Tier 2 rate if under 115 percent of the allocation and four times the Metropolitan Tier 2 rate if over 115 percent in excess of the allocation. The penalty for excess water usage shall be cumulative to any other remedy or penalty that may be imposed for violation of this ordinance.

SECTION 10.0: WATER SHORTAGE LEVEL 4

- (a) A Water Shortage Level 4 condition applies when the Water Authority notifies its member agencies that due to increasing cutbacks caused by drought or other reduction of supplies, a consumer demand reduction of up to 40% is required in order to have sufficient supplies available to meet anticipated demands. A Level 4 Water Supply Shortage also applies if required to comply with emergency regulations imposed upon Olivenhain Municipal Water District by state or federal agencies. The Olivenhain Municipal Water District Board of Directors shall declare the existence of a Water Shortage Level 4 condition and implement the Level 4 conservation measures identified in this ordinance.
- (b) All persons using Olivenhain Municipal Water District water shall comply with Level 1, Level 2, and Level 3 water conservation practices during a Water Shortage Level 4 condition and shall also comply with the following additional mandatory conservation measures:
 - 1. Stop filling or re-filling ornamental lakes or ponds, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a Water Shortage Level under this ordinance.
- (c) Olivenhain Municipal Water District may establish a water allocation for property served by the Olivenhain Municipal Water District using a method that does not penalize persons for the implementation of conservation methods or the installation of water saving devices. If Olivenhain Municipal Water District establishes a water allocation it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which Olivenhain Municipal Water District customarily mails the billing statement for fees or charges for ongoing water service. Olivenhain Municipal Water District is not required to comply with Proposition 218 to impose fines on persons using water in violation of its restrictions on water use or in passing through penalties levied upon it by Metropolitan as a result of excessive use by some Olivenhain Municipal Water District customers. Following the effective date of the water allocation as established by Olivenhain Municipal Water District, any person that uses water in excess of the allocation shall be subject to a penalty in the amount of twice the Metropolitan Tier 2 rate if under 115 percent of the allocation and four times the Metropolitan Tier 2 rate if over 115 percent in

excess of the allocation. The penalty for excess water usage shall be cumulative to any other remedy or penalty that may be imposed for violation of this ordinance.

SECTION 11.0: WATER SHORTAGE LEVEL 5

- (a) A Water Shortage Level 5 condition applies when the Water Authority notifies its member agencies that due to increasing cutbacks caused by drought or other reduction of supplies, a consumer demand reduction of up to 50% is required in order to have sufficient supplies available to meet anticipated demands. A Level 5 Water Supply Shortage also applies if required to comply with emergency regulations imposed upon Olivenhain Municipal Water District by state or federal agencies. The Olivenhain Municipal Water District Board of Directors shall declare the existence of a Water Shortage Level 5 condition and implement the Level 5 conservation measures identified in this ordinance.
- (b) All persons using Olivenhain Municipal Water District water shall comply with conservation measures required during Level 1, Level 2, Level 3, and Level 4 conditions and shall also comply with the following additional mandatory conservation measures:
 - 1. Stop all landscape irrigation, except crops and landscape products of commercial growers and nurseries. This restriction shall not apply to the following categories of use unless Olivenhain Municipal Water District has determined that recycled water is available and may be lawfully applied to the use.
 - A. Maintenance of trees and shrubs that are watered on the same schedule set forth in section 9(b)(1) by using a bucket, watering can, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation;
 - B. Maintenance of existing landscaping necessary for fire protection as specified by the Fire Marshal of the local fire protection agency having jurisdiction over the property to be irrigated;
 - C. Maintenance of existing landscaping for erosion control;
 - D. Maintenance of plant materials identified to be rare or essential to the well-being of animals;
 - E. Maintenance of landscaping within active public parks and playing fields, day care centers, school grounds, cemeteries, and golf course greens, provided that such irrigation does not exceed two (2) days per week according to the schedule established under section 9(b)(1);
 - F. Watering of livestock; and
 - G. Public works projects and actively irrigated environmental mitigation projects.

2. Repair all water leaks within twenty-four (24) hours of notification by Olivenhain Municipal Water District unless other arrangements are made with the General Manager.
- (c) Olivenhain Municipal Water District may establish a water allocation for property served by Olivenhain Municipal Water District. If Olivenhain Municipal Water District establishes a water allocation it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which Olivenhain Municipal Water District customarily mails the billing statement for fees or charges for ongoing water service. Olivenhain Municipal Water District is not required to comply with Proposition 218 to impose fines on persons using water in violation of its restrictions on water use or in passing through penalties levied upon it by Metropolitan as a result of excessive use by some Olivenhain Municipal Water District customers. Following the effective date of the water allocation as established by Olivenhain Municipal Water District, any person that uses water in excess of the allocation shall be subject to a penalty in the amount of twice the Metropolitan Tier 2 rate if under 115 percent of the allocation and four times the Metropolitan Tier 2 rate if over 115 percent in excess of the allocation. The penalty for excess water usage shall be cumulative to any other remedy or penalty that may be imposed for violation of this ordinance.
- (d) Upon the declaration of a Water Shortage Level 5 condition, no new potable water service shall be provided, no new temporary meters or new permanent meters shall be provided, and no statements of immediate ability to serve or provide potable water service (such as will serve letters, certificates, or letters of availability) shall be issued, except under the following circumstances:
1. A valid, unexpired building permit has been issued for the project; or
 2. The project is necessary to protect the public's health, safety, and welfare; or
 3. The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of Olivenhain Municipal Water District.

This provision shall not be construed to preclude the resetting or activation of meters to provide continuation of water service or to restore service that has been interrupted for a period of one year or less.

SECTION 12.0: WATER SHORTAGE LEVEL 6

- (a) A Water Shortage Level 6 condition applies when the Water Authority Board of Directors declares a water shortage emergency pursuant to California Water Code Section 350 and notifies its member agencies that Level 6 requires a demand reduction of more than 50% in order for Olivenhain Municipal Water District to have maximum supplies available to meet anticipated demands. A Level 6 Water Supply Shortage also applies if required to comply with

emergency regulations imposed upon Olivenhain Municipal Water District by state or federal agencies. Olivenhain Municipal Water District shall declare a Drought Emergency in the manner and on the grounds provided in California Water Code section 350.

(b) All persons using Olivenhain Municipal Water District water shall comply with conservation measures required during Level 1, Level 2, Level 3, Level 4, and Level 5 conditions and shall also comply with the following additional mandatory conservation measures:

1. Stop all landscape irrigation, except crops and landscape products of commercial growers and nurseries. This restriction shall not apply to the following categories of use unless Olivenhain Municipal Water District has determined that recycled water is available and may be lawfully applied to the use.
 - A. Maintenance of existing landscaping necessary for fire protection as specified by the Fire Marshal of the local fire protection agency having jurisdiction over the property to be irrigated;
 - B. Maintenance of existing landscaping for erosion control;
 - C. Maintenance of plant materials identified to be rare or essential to the well-being of animals;
 - D. Watering of livestock; and
 - E. Public works projects and actively irrigated environmental mitigation projects.

Olivenhain Municipal Water District may establish a water allocation for property served by the Olivenhain Municipal Water District using a method that does not penalize persons for the implementation of conservation methods or the installation of water saving devices. If Olivenhain Municipal Water District establishes a water allocation it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which Olivenhain Municipal Water District customarily mails the billing statement for fees or charges for ongoing water service. Olivenhain Municipal Water District is not required to comply with Proposition 218 to impose fines on persons using water in violation of its restrictions on water use or in passing through penalties levied upon it by Metropolitan as a result of excessive use by some Olivenhain Municipal Water District customers. Following the effective date of the water allocation as established by Olivenhain Municipal Water District, any person that uses water in excess of the allocation shall be subject to a penalty in the amount of twice the Metropolitan Tier 2 rate if under 115 percent of the allocation and four times the Metropolitan Tier 2 rate if over 115 percent in excess of the allocation. The penalty for excess water usage shall be cumulative to any other remedy or penalty that may be imposed for violation of this ordinance.

SECTION 13.0: PROCEDURES FOR DETERMINATION AND NOTICATION OF WATER SHORTAGE LEVEL

- (a) The existence of a Water Shortage Level 1 condition may be declared by the General Manager upon a written determination of the existence of the facts and circumstances supporting the determination. A copy of the written determination shall be filed with the Executive Secretary of Olivenhain Municipal Water District and provided to the Olivenhain Municipal Water District Board of Directors. The General Manager may publish a notice of the determination of existence of Water Shortage Level 1 condition in one or more newspapers, including a newspaper of general circulation within Olivenhain Municipal Water District. Olivenhain Municipal Water District may also post notice of the condition on its website. To end a Water Shortage Level 1 condition, the General Manager may issue a written declaration of facts that conditions have been met by which to discontinue the Water Shortage Level 1.
- (b) The existence of Water Shortage Level 2, Level 3, Level 4, or Level 5 conditions, may be declared by resolution of the Olivenhain Municipal Water District Board of Directors adopted at a regular or special public meeting held in accordance with state law. The mandatory conservation measures applicable to Water Shortage Level 2, Level 3, Level 4, or Level 5 conditions, shall take effect on the tenth (10) day after the date the response level is declared. Within five (5) days following the declaration of the response level, Olivenhain Municipal Water District shall publish a copy of the resolution in a newspaper used for publication of official notices. If Olivenhain Municipal Water District establishes a water allocation, it shall provide notice of the allocation by including it in the regular billing statement for fees or charges for ongoing water service, or by any other mailing to the address to which Olivenhain Municipal Water District customarily mails the billing statement for fees or charges for ongoing water service. Water allocation shall be effective on the fifth (5) day following the date of mailing or at such later date as specified in the notice. [To end a Level 2, Level 3, Level 4, or Level 5 Water Shortage, the Board of Directors may adopt by resolution a declaration that conditions necessary to discontinue the Level 2, Level 3, Level 4, or Level 5 Water Shortage have been met.]
- (c) The existence of a Water Shortage Level 6 condition may be declared in accordance with the procedures specified in California Water Code Sections 351 and 352. The mandatory conservation measures applicable to Water Shortage Level 6 conditions shall take effect on the tenth (10) day after the date the response level is declared. Within five (5) days following the declaration of the response level, Olivenhain Municipal Water District shall publish a copy of the resolution in a newspaper used for publication of official notices. [To end a Level 6 Water Shortage, the Board of Directors may adopt by resolution a declaration that conditions necessary to discontinue the Level 6 Water Supply Shortage have been met.]
- (d) The Olivenhain Municipal Water District Board of Directors may declare an end to a Water Shortage Level by the adoption of a resolution at any regular or special meeting held in accordance with state law.

SECTION 14.0: HARDSHIP VARIANCE

- (a) If, due to unique circumstances, a specific requirement of this ordinance would result in undue hardship to a person using agency water or to property upon which agency water is used, that is disproportionate to the impacts to Olivenhain Municipal Water District water users generally or to similar property or classes of water uses, then the person may apply for a variance to the requirements as provided in this section.
- (b) The variance may be granted or conditionally granted, only upon a written finding of the existence of facts demonstrating an undue hardship to a person using agency water or to property upon which agency water is used, that is disproportionate to the impacts to Olivenhain Municipal Water District water users generally or to similar property or classes of water use due to specific and unique circumstances of the user or the user's property.
 - 1. Application. Application for a variance shall be a form prescribed by Olivenhain Municipal Water District and shall be accompanied by a non-refundable processing fee in an amount set by resolution of the Olivenhain Municipal Water District Board of Directors.
 - 2. Supporting Documentation. The application shall be accompanied by photographs, maps, drawings, and other information, including a written statement of the applicant.
 - 3. Required Findings for Variance. An application for a variance shall be denied unless the approving authority finds, based on the information provided in the application, supporting documents, or such additional information as may be requested, and on water use information for the property as shown by the records of Olivenhain Municipal Water District, all of the following:
 - A. That the variance does not constitute a grant of special privilege inconsistent with the limitations upon other Olivenhain Municipal Water District customers.
 - B. That because of special circumstances applicable to the property or its use, the strict application of this ordinance would have a disproportionate impact on the property or use that exceeds the impacts to customers generally.
 - C. That the authorizing of such variance will not be of substantial detriment to adjacent properties, and will not materially affect the ability of Olivenhain Municipal Water District to effectuate the purpose of this chapter and will not be detrimental to the public interest.
 - D. That the condition or situation of the subject property or the intended use of the property for which the variance is sought is not common, recurrent, or general in nature.

4. Approval Authority. The General Manager shall exercise approval authority and act upon any completed application no later than ten (10) days after submittal and may approve, conditionally approve, or deny the variance. The applicant requesting the variance shall be promptly notified in writing of any action taken. Unless specified otherwise at the time a variance is approved, the variance applies to the subject property during the term of the mandatory drought response.
5. Appeals to Olivenhain Municipal Water District's Board of Directors. An applicant may appeal a decision or condition of the General Manager on a variance application to the Olivenhain Municipal Water District Board of Directors within ten (10) days of the decision upon written request for a hearing. The request shall state the grounds for the appeal. At a public meeting, the Olivenhain Municipal Water District Board of Directors shall act as the approval authority and review the appeal de novo by following the regular variance procedure. The decision of the Olivenhain Municipal Water District Board of Directors is final.

SECTION 15.0: COMMUNICATION PROTOCOLS

This section lists a number of strategies OMWD has used to guide successful drought response campaigns in the past and should be considered during future water shortage conditions.

(a) Level 1:

- Send clear, consistent, and understandable messages encouraging increased voluntary conservation.
- Develop and maintain a steady stream of media relations activities and social media communications that explain the need to conserve and how to conserve, promote water-use efficiency programs and incentives, and/or give general support for water conservation. Schedule these efforts to provide timely support for water-use efficiency events, strategies, and other programs.
- Enhance the level of conservation-oriented community outreach through greater frequency of outreach at community events and speaker's bureau presentations.
- Develop specific outreach efforts that target key industries or groups (hospitality, HOAs, building managers, etc.) to raise awareness of, and participation in, drought response actions and water-use efficiency programs.
- Keep www.olivenhain.com updated with information on current status of regional WSCP, statewide weather and drought conditions, and recommended water conservation practices
- Regularly communicate with local, state, and other elected officials in the region about the importance of achieving voluntary water conservation and encourage them to publicly promote such efforts to their constituents.
- Targeted outreach to high-water-use customers and industries
- Modify school assembly program content to include messages about need for increased voluntary conservation.

- Provide conservation information and other support as necessary to government officials for their own media events, hearings, community meetings, etc.
- Provide educational/promotional items that encourage conservation (dye tablets, hose nozzles, etc.)

(b) Level 2:

- Continue to deploy or enhance Level 1 strategies and tactics as needed, and consider supplemental strategies and tactics listed below.
- Develop a more serious campaign message that reflects the need for compliance with mandatory water use restrictions.
- Send clear, consistent, and understandable messages regarding mandatory water use restrictions in effect.
- Enhance media relations activities and social media communications related to water use restrictions, conservation programs, and drought conditions. Schedule these efforts to provide timely support for new campaign initiatives, conservation events, and other programs.
- Leverage stakeholder groups' communication channels to help distribute updated information about restrictions and conservation as soon as possible; groups to include business organizations, civic organizations, service clubs, religious leaders, elected officials, along with key associations governing HOAs, building managers, landscape companies, etc.
- Consider adjustments to water conservation resources and programs in ways that make finding and participating in key programs easier, or to facilitate short-term water savings. Support these efforts with events to provide information and resources to consumers or other stakeholders.
- Add "pop-ups" with outreach campaign messages to www.olivenhain.com.
- Enhance efforts to encourage customers to report incidents of water waste directly to OMWD.

(c) Levels 3-4: In the event of a more severe supply shortage or demand management period that requires entering Level 3 or 4 of the WSCP (up to 30% or 40% mandatory conservation, respectively), OMWD will continue to deploy or enhance Level 2 strategies and tactics as needed, and will consider supplemental strategies and tactics listed below.

- Develop a more serious campaign message that reflects the need for higher level of extraordinary conservation.
- Send clear, consistent, and understandable messages regarding mandatory water use restrictions in effect and escalating challenges affecting water supplies.
- Conduct specialized outreach to landscape industry and water users with large ornamental landscapes to achieve significant reductions in discretionary outdoor water use while minimizing long-term property damage.
- Initiate targeted outreach to major CII water users to help them identify, prepare for and, as much as possible, avoid negative impacts from extreme water conservation

requirements.

- Evaluate the appropriateness of continuing to promote long-term water-use efficiency programs and tools amid worsening supply conditions/increasing restrictions.
- Provide instructions for triaging landscape resources during extreme shortage conditions (saving trees, etc.).
- Reinforce business groups, service clubs, religious leaders, elected officials to spread awareness of need for significant, collective water-saving actions to preserve our economy and quality of life.
- Provide specialized technical assistance sessions or resources to help homeowners achieve immediate reductions in water use while minimizing landscape damage.
- Consider providing specialized technical assistance to large landscape customers (HOAs, cities, schools, etc.) to help achieve large-scale reductions in discretionary outdoor water use.
- Conduct specialized outreach to industries (hospitality, car washes, restaurants, etc.) or other large-scale water users that will likely experience impacts from emergency conservation to determine solutions for minimizing economic or quality of life impacts.

(d) Levels 5-6: In the event of a more severe supply shortage or demand management period that requires entering Level 5 or 6 of the WSCP (up to or greater than 50 percent mandatory conservation mandatory conservation, respectively), OMWD will continue to deploy or enhance Level 3-4 strategies and tactics as needed, and will consider supplemental strategies and tactics listed below to reflect increased shortage conditions.

- Develop campaign messages and tactics that raise awareness of the extreme shortage conditions facing the region and the likely need to focus water use on essential public health and safety needs.
- Send clear, consistent, and understandable messages regarding what uses of water or levels of water use remain acceptable for residential, commercial and public water users.
- Emphasize the need for all residents and businesses to work together to help the region successfully weather the situation.
- Raise awareness of any urgent actions being taken by OMWD or its wholesalers to improve water supply conditions; provide regular updates on those efforts.
- Suspend promotion of ongoing water-use efficiency programs to focus resources on promoting extreme/emergency conservation measures.
- Coordinate with regional emergency response agencies/services on messaging/additional outreach tactics if needed.
- Provide updates to media and other stakeholders on water supply conditions as often as possible (daily or as needed).
- Evaluate need for “phone bank” or additional staff resources to handle public inquiries.
- Provide updated communications materials to business groups, service clubs,

religious leaders, elected officials to raise immediate awareness for increased water-savings actions and available assistance resources.

(e) Catastrophic Shortage Communications: In the event of a natural disaster, infrastructure failure, or other situation that requires regional water use to be quickly prioritized for or limited to essential public health and safety needs, OMWD will immediately deploy or enhance appropriate communication strategies and tactics from WSCP Levels 1-6 as needed, and will consider strategies and tactics listed below to reflect the need for urgent, emergency-driven water conservation.

- Develop campaign messages and tactics that raise awareness of the emergency conditions and the need to focus water use on essential public health and safety needs.
- Send clear, consistent, and understandable messages regarding what uses of water or levels of water use remain acceptable for residential, commercial, and public water users, and the expected duration of this restricted level of water use.
- Emphasize the need for all residents and businesses to work together to help the region successfully weather the situation.
- Raise awareness of any urgent actions being taken by OMWD and/or its wholesalers to improve water supply conditions; provide regular updates on those efforts.
- Suspend promotion of ongoing, long-term water-use efficiency programs and tools to focus resources on communicating need for immediate water conservation actions.
- Coordinate with local emergency response agencies/services on messaging and outreach tactics where possible.
- Provide updated communications materials to business groups, service clubs, religious leaders, elected officials to raise immediate awareness for emergency-level water-savings actions and available assistance resources.
- Conduct specialized outreach to landscape and related industries with significant outdoor water use to urge immediate end to landscape water use (if required).
- Coordinate dissemination of information regarding water use restrictions to local law enforcement or other public agencies to help maximize widespread compliance with emergency mandates.

SECTION 16.0: VIOLATIONS AND PENALTIES

- (a) OMWD has the legal authority under the Water Code to implement shortage response actions and enforce them.
- (b) Any person, who uses, causes to be used, or permits the use of water in violation of this ordinance is guilty of an offense punishable as provided herein.
- (c) Upon the issuance on a warning and/or fine as provided in Section 16.0(d), the customer will be afforded a grace period of 21 days during which no additional warning and/or fines will be issued. Each violation of this ordinance occurring outside of the 21-day grace period is

considered a separate offense.

(d) Administrative fines may be levied for each violation of a provision of this ordinance as follows:

1. A warning will be issued for a first violation.
2. The customer will be fined one hundred dollars for a second violation of any provision of this ordinance within one year of the initial violation.
3. The customer will be fined two hundred dollars for the third violation of this ordinance within one year of the initial violation.
4. The customer will be fined five hundred dollars for each additional violation of this ordinance within one year of the initial violation.

(e) Violation of a provision of this ordinance is subject to enforcement through installation of a flow-restricting device in the meter.

(f) Each violation of this ordinance may be prosecuted as a misdemeanor punishable by imprisonment in the county jail for not more than thirty (30) days or by a fine not exceeding \$1,000, or by both as provided in Water Code Section 377.

(g) Willful violations of the mandatory conservation measures and water use restrictions may be enforced by discontinuing service to the property at which the violation occurs as provided by Water Code Section 356.

(h) All remedies provided for herein shall be cumulative and not exclusive.

SECTION 17.0: FINANCIAL CONSEQUENCES OF WSCP ACTIVATION

OMWD's water supply shortage rate structure is designed to be revenue-neutral to dampen OMWD's financial impact when sales are declining due to conservation. During any stage of implementation of this ordinance, Olivenhain Municipal Water District's Board of Directors may choose, in its sole discretion, to implement the demand reduction rates that are currently adopted and notified to customers under a Proposition 218 process, in order to effectuate an appropriate and desired level of water conservation by Olivenhain Municipal Water District's customers.

SECTION 18.0: DETERMINING WATER SHORTAGE REDUCTIONS

- (a) Monitoring and Reporting: For real-time feedback on the implementation of its WSCP, OMWD will utilize advanced metering infrastructure (AMI) which has been implemented for 70 percent of its meters and is estimated to be complete by FY 2025. Currently, the remainder of the meter readings are collected using automated meter reading (AMR) and total water use is available within days of the end of each month. By setting alarm levels,

OMWD will also be able to review individual customer use, identify excessive use, and implement enforcement warnings and actions. In summary, OMWD will:

- Estimate target water use by month using typical monthly use patterns and the target percentage of normal water use.
- On a monthly basis, summarize water use and compare to the target.
- Implement alarm settings on AMI meters as a percentage of normal water use. Implement warnings and enforcement actions where the deviation is significantly above target.

(b) OMWD will use the results of its monitoring and reporting program as discussed in the previous section to evaluate the WSCP's performance. Each time the WSCP is implemented, OMWD staff will use the evaluation to determine the need and approach to revising its WSCP. The goal will be for effective shortage response actions producing the desired reductions. Staff will review proposed refinements and any new actions to evaluate their effectiveness prior to incorporating them into the WSCP. Minor revisions will be implemented quickly while major revisions will require board review and approval. Staff will prepare for the board a report on the WSCP's effectiveness and proposed changes, each time it is implemented.

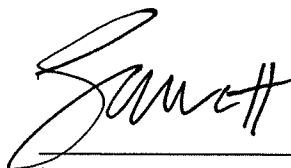
SECTION 19.0: EFFECTIVE DATE

This ordinance is effective immediately upon adoption or as otherwise established by state law for Olivenhain Municipal Water District.

Any part or provision of this Ordinance that is prohibited or that is held to be void or unenforceable shall be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof.

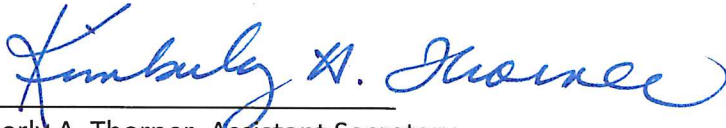
PASSED, APPROVED AND ADOPTED at a regular meeting of the Board of Directors of Olivenhain Municipal Water District held on the 16th day of June, 2021 by the following roll call vote:

AYES:	Directors Bruce-Lane, Guerin, Meyers, Topolovac, Watt
NOES:	None
ABSTAIN:	None
ABSENT:	None



Lawrence A. Watt, President
Board of Directors
Olivenhain Municipal Water District

ATTEST:

A handwritten signature in blue ink, reading "Kimberly A. Thorner", is written over a horizontal line.

Kimberly A. Thorner, Assistant Secretary
General Manager
Olivenhain Municipal Water District

Appendix H

Rates & Rules Brochure

MONTHLY WATER RATES & CHARGES Effective April 2021

WATER RATES PER UNIT (1 unit = 748 gallons)

The rates include costs from San Diego County Water Authority (SDCWA) from which OMWD must purchase 100% of its potable water supply.

WE ARE HERE



CUSTOMER TYPE	COMMODITY CHARGE BASE RATES	10% DEMAND REDUCTION RATES	20% DEMAND REDUCTION RATES	30% DEMAND REDUCTION RATES
Potable: Domestic				
Tier 1: 0 - 6 Units	\$3.39	\$3.62	\$3.89	\$4.24
Tier 2: 7 - 23 Units	\$5.02	\$5.25	\$5.52	\$5.87
Tier 3: 24 - 80 Units	\$5.63	\$5.86	\$6.13	\$6.48
Tier 4: 80+ Units	\$6.74	\$6.97	\$7.24	\$7.59
Agricultural	\$5.55	\$5.78	\$6.05	\$6.40

Combined Agricultural / Domestic

First 23 Units per month: Follow Domestic rate structure.
Over 23 Units per month: Follow Agricultural rate structure.

Commercial	\$4.71	\$4.94	\$5.21	\$5.56
Irrigation				
Tier 1	\$5.33	\$5.56	\$5.83	\$6.18
Tier 2	\$5.71	\$5.94	\$6.21	\$6.56
Construction	\$6.81	\$7.04	\$7.31	\$7.66
Recycled Water	\$3.65	Shortage rates do not apply.		

Irrigation Unit Allotments

Tier 1 Allotment

Based upon water use by meter size.

Meter Size	Winter (Dec-May)	Summer (Jun-Nov)
5/8"	10	15
3/4"	20	30
1"	35	50
1 1/2"	50	110
2"	100	200
3"	200	500
4"	600	3,500
6"	3,100	11,800
8"	5,600	21,300

OMWD System Access Charge

OMWD's System Access Charge is designed to cover a portion of the fixed costs of OMWD's operation. These costs include maintenance of meters and water infrastructure, debt service, depreciation, and customer service costs for meter reading and billing.

Meter Size	Meter Size
5/8" \$30.16	2 1/2" \$296.10
3/4" \$39.44	3" \$323.93
1" \$67.27	4" \$537.30
1 1/2" \$104.37	6" \$1,121.74
2" \$163.13	8" \$2,018.50

SDCWA Infrastructure Access Charge

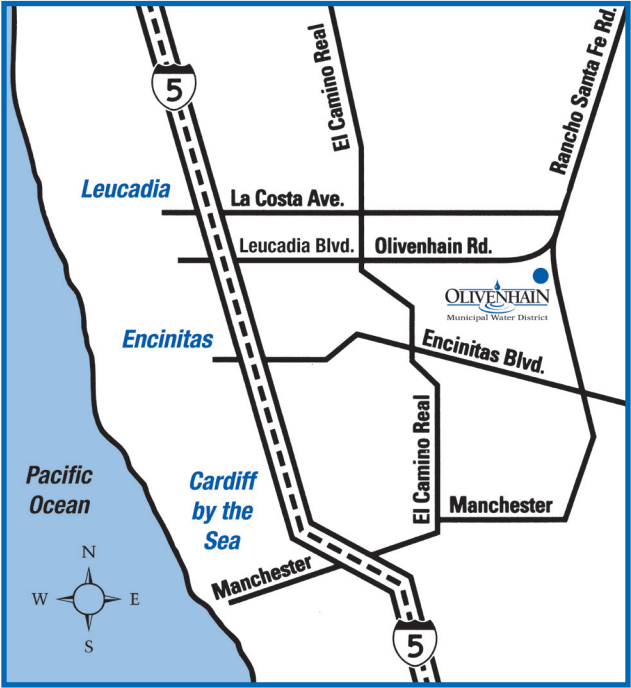
SDCWA infrastructure access charge is a monthly charge assessed by SDCWA on all water meters except construction, fire, and recycled water meters. The purpose of the charge is to cover a portion of the debt service costs associated with the construction of county-wide water infrastructure projects. For more information, call SDCWA at 858-522-6600.

Meter Size	Meter Size
5/8" \$3.98	2 1/2" \$37.10
3/4" \$3.98	3" \$40.70
1" \$7.58	4" \$68.22
1 1/2" \$12.37	6" \$143.61
2" \$19.94	8" \$259.31

Fire Meter Charges

Meters installed for automatic fire sprinkler services will be billed monthly according to the table below.

Meter Size	5/8"	3/4"	1"	1 1/2"	2"	2 1/2"	3"	4"	6"	8"
	\$5.06	\$5.06	\$5.69	\$6.52	\$7.85	\$10.85	\$11.47	\$16.29	\$29.49	\$49.73



The Olivenhain Municipal Water District office is located at the intersection of Rancho Santa Fe Road/ Camino Alvaro and Olivenhain Road.



Municipal Water District

A Public Agency

1966 Olivenhain Road • Encinitas, CA 92024
760-753-6466



@OlivenhainWater



@omwd

YouTube /OMWD

Olivenhain Municipal Water District is a public agency providing water, wastewater services, recycled water, hydroelectricity, and operation of Elfin Forest Recreational Reserve. Organized in 1959, OMWD currently serves approximately 87,000 customers over 48 square miles in northern San Diego County. For more information about OMWD, visit www.olivenhain.com



Municipal Water District

A Public Agency

Rates and Rules April 2021

Our Mission

Procedures for New Service

Shut-Off Valve

Payment of Water Bills

Delinquency Charge
and Notice

Disconnection Notice
and Fee

Monthly Water Rates
and Charges

Our Mission

Olivenhain Municipal Water District is committed to serving present and future customers with a safe, high-quality water supply which meets or exceeds all regulatory requirements in a cost-effective and environmentally responsive manner.

Applying for Water Service

1. All new water service accounts shall be established and held in the legal (record) owner's name as shown on the San Diego County Assessor's Tax Roll.
2. At the time application for water service is requested and submitted to OMWD, and at OMWD's discretion, the applicant shall provide all of the following:
 - a) Proof of ownership of the parcel to be served;
 - b) Assessor's plat map of parcel to be served (including meter location if there is one), or a Plot Plan, or set a stake showing the desired location of the meter (if there is none, the final location of the meter will be determined by the General Manager or his/her representative);
 - c) A completed and signed application for water service by the owner of the property;
 - d) Total payment of all costs for and related to meter service connection;
 - e) If the applicant's property does not adjoin OMWD's right-of-way, proof of easement that may be utilized by the applicant to bring his/her water line to OMWD's right-of-way;
 - f) If a meter is being purchased on behalf of the legal owner by another individual, written authorization to do so shall be provided.
 - g) Two forms of personal identifying information, including, but not limited to, a social security number, date of birth, government issued driver license or identification number, and/or a government passport number.
3. Each applicant may be required to pay a separate "Reimbursement Fee" if service is to be connected to a line financed by a private proponent under the guidelines of Ordinance No. 6, as amended.
4. Application for service will be accepted only where adequate distribution systems have been installed. Cost of service assembly footage in excess of 55 feet from the center of the public roadway must be paid for by the customer.
5. When property upon which service is requested is located in an area where pipelines have not been installed, a meter shall be set at the nearest water main. If the distance from the meter to the service area is in excess of 500 feet, owner/applicant may be required to extend the pipeline or enter

into a separate agreement for participation in a pipeline extension at a later date, at the sole discretion of OMWD.

6. Service to any property will be granted only when all connection fees, meter charges, water bills, and any other applicable charges due are paid by applicant.
7. All properties served by a single meter must be under one ownership.
8. OMWD makes no guarantee as to the amount of time that may elapse between the customer's application for service and the actual installation of the service, except that installation will be placed into OMWD's work schedule at the earliest practical time.
9. OMWD's Board of Directors may regulate the time of use of water in a manner that ensures an equitable supply for all customers.
10. OMWD retains ownership of meters and connecting service pipe assemblies.
11. A fee of \$25.00 shall be charged and collected from each new customer at the time an existing meter account is transferred into a new ownership.
12. Backflow prevention devices are required on potable service connections when danger of contamination of OMWD's water supply exists. Installation shall be at the expense of the customer. As such, each commercial, industrial, and agricultural applicant shall sign a "Cross-Connection Control Questionnaire" before the application is processed. Backflow preventers shall be in compliance with California Administrative Code, Department of Public Health, and OMWD requirements. Customers must have an annual test by a certified tester of their backflow prevention devices to determine their effectiveness. OMWD will notify customers when tests are due. OMWD will charge an administrative fee of \$5.50 per month per device, to cover monitoring of such devices as determined to be necessary by OMWD. Water service may be terminated when required backflow prevention devices have not been installed, have been removed, are inoperative, or have not been tested.
13. OMWD reserves the right to regulate the size, character, and location of each meter and service. Generally, requirements are as follows: 5/8" meter for apartments or attached dwellings (e.g., most condominiums and townhouses), 3/4" meter for single-family detached dwellings, and 1" meter for large residential lots. Other requirements are available through OMWD's Engineering Department.
14. The decision of OMWD to require a new residential water service applicant to deposit a sum of money with OMWD prior to establishing an account and furnishing service shall be based solely upon the credit worthiness of the applicant as determined by OMWD, in accordance with Government Code Section 60375.5.

15. OMWD may require that tenants pay a deposit equal to \$200.00. In lieu of a deposit, OMWD may require that the account be established in the property owner's name. If a deposit is required from the tenant, OMWD will apply the deposit to the tenant's closing bill. Resulting overpayments greater than \$2.00 will be refunded to the tenant.

Shut-Off Valve

OMWD shall provide a shut-off valve on the customer's side of the meter. The shut-off valve is the property of OMWD and shall not be relocated by the customer, but may be operated by the customer.

Payment of Water Bills

1. Water bills are due and payable upon receipt. Bills may be paid at OMWD or by mailing to OMWD's lock box, the address for which is printed on the billing statement.
2. OMWD's office is the only authorized paying station. If paid elsewhere, OMWD is not responsible if receipt of payment is delayed.
3. All meters shall be read and billed monthly.
4. OMWD may, at its discretion, and for the convenience of the customer, accept an advance payment for a period of time.
5. OMWD shall make a \$30 charge to customers' accounts for any rejected payment not caused by OMWD.
6. OMWD accepts Visa, MasterCard, and Discover credit card payments. There is a fee associated with each credit card transaction. No part of this fee is retained by OMWD. To make a payment by credit card or to view current fees, please visit www.olivenhain.com/pay-my-bill.
7. OMWD offers online account access to its customers to check balances, view and pay bills, set up automatic payments, and view payment history. Customers may register for this service by visiting www.olivenhain.com/ebill. On-line payments not made through OMWD's online billing system are subject to delay and are used at the customer's own risk.

These fees are subject to change with board approval. Please contact OMWD's Customer Service Representatives for further information at customerservice@olivenhain.com or 760-753-6466.

Delinquency Charge and Notice

Water bill payments not received before the tenth business day following the payment due date for balances exceeding \$25.00 shall be subject to a 5% delinquent charge. At least 15 days prior

to discontinuance of service due to non-payment of water bills, OMWD will mail delinquent notices to customers with past due balances.

Disconnection and Reconnection

1. At least 48 hours prior to discontinuance of service due to non-payment, OMWD will deliver to the property a disconnection notice.
2. A final attempt to contact the customer by telephone will be made within 24 hours prior to discontinuance of service.
3. Customers will incur a \$25 fee whenever OMWD is required to deliver a disconnection notice to discontinue water service due to non-payment of a water bill.
4. Service will not be terminated if all of the following conditions are met: Customer provides certification of a serious threat to health and safety, demonstrates a financial inability to pay, and enters into a payment arrangement.
5. A customer may have service temporarily discontinued and the meter locked off by notifying OMWD. During the period of temporary discontinuance, a customer will not be charged a monthly service access charge. In the event that a customer should wish to have water service restored, a customer shall pay OMWD's standard fee or cost of restoration, whichever is greater.
6. The following fees shall be charged each time service has to be re-established:

During normal work hours:	\$75.00
Outside normal work hours:	\$120.00
Sunday or holiday:	\$150.00

These fees are required to be paid at the time the water service is re-established. If water service has been disconnected due to non-payment and service is not re-established prior to closure of the account, a \$75.00 fee will be assessed on the final bill. View Article 8 at www.olivenhain.com/code for the fee schedule for customers with household income below 200% of the federal poverty line.

For more details regarding the rules and regulations governing customer accounts, visit: www.olivenhain.com/code.

WARNING: Some areas of OMWD have water pressures higher than desirable for domestic use (e.g., appliances and sprinkler systems); applicants are advised to check with OMWD to see if such a condition exists in their area. OMWD assumes neither liability nor responsibility for excess pressure. San Diego County Building Code requires homeowners to install and maintain a pressure regulator when pressures exceed 80 psi.

Appendix I

Copy of Published Notice of Hearing

NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that OLIVENHAIN MUNICIPAL WATER DISTRICT will hold a Public Hearing on Wednesday, May 19, 2021 at 5:30 P.M. to consider OMWD's 2020 Urban Water Management Plan (UWMP), Water Shortage Contingency Plan (WSCP), and an amendment to OMWD's 2015 UWMP.

2020 URBAN WATER MANAGEMENT PLAN

Olivenhain Municipal Water District prepared its 2020 Urban Water Management Plan (UWMP) to guide its conservation and water resource management programs for the next 25 years, and to comply with state law. It provides details on the reliability of imported water supplies that serve the San Diego region as well as other water resources utilized by OMWD. The UWMP also considers future programs and facilities planned to ensure a safe and reliable water supply to OMWD customers.

WATER SHORTAGE CONTINGENCY PLAN

OMWD prepared its Water Shortage Contingency Plan (WSCP) to prepare for various levels of water supply shortage. The WSCP includes a structured plan for dealing with water supply shortages, standardized action levels, and implementation actions to be taken in the event of each level of water supply shortage.

AMENDMENT TO OMWD'S 2015 UWMP

As a water supplier that would potentially receive benefits from the proposed Delta Conveyance Project, California Department of Water Resources has requested that OMWD include documentation in its 2015 and 2020 UWMPs as described in the Reduced Reliance Policy. As the 2015 UWMP was adopted five years ago, the reduced delta reliance documentation, known as Appendix K, will need to be added to the 2015 UWMP as an amendment to the 2015 UWMP.

PUBLIC REVIEW

The three documents are available for review online at www.olivenhain.com/uwmp. All comments or inquiries should be directed to OLIVENHAIN MUNICIPAL WATER DISTRICT, 1966 Olivenhain Road, Encinitas, California 92024, (760) 753-6466, Attn: Kimberly A. Thorner, General Manager. Comments may also be sent electronically to watersaver@olivenhain.com.

LOCATION

Anyone interested is invited to attend this hearing or contact OMWD verbally or in writing prior to the hearing date. Pursuant to the State of California Executive Order N-35-20, and in the interest of public health, OMWD is temporarily taking actions to mitigate the COVID-19 pandemic by holding meetings electronically or by teleconference.

To join this meeting via phone, please dial:

669-900-9128 or 346-248-7799

Meeting ID: 833 9123 7389 and Password: 284592

DATED: May 5, 2021 and May 12, 2021

Kimberly A. Thorner, Esq.
General Manager
Olivenhain Municipal Water District

Appendix J

2020 Regional Alliance Report

2020 Regional Alliance Report

Olivenhain Regional Alliance

Introduction

The Water Conservation Bill of 2009 (SB X7-7) requires each urban retail water supplier to develop an urban water use target and an interim urban water use target. The legislation authorizes urban retail water suppliers to determine and report progress toward achieving these targets on an individual agency basis or pursuant to a regional alliance as provided in CWC § 10608.28(a). The DWR Guidebook and the DWR Methodologies provide guidance to urban retail water suppliers for purposes of forming and carrying out a regional alliance in accordance with CWC § 10608.28(a) and related provisions of SB X7-7. The DWR Guidebook and the DWR Methodologies provide that urban retail water suppliers are eligible to form a regional alliance in accordance with CWC § 10608.28(a) if the suppliers meet at least one of several specified criteria, such as (1) the suppliers are recipients of water from a common wholesale water supplier, or (2) the suppliers are located within the same hydrologic region, which for purposes of a regional alliance refers to the 10 hydrologic regions as shown in the California Water Plan.

For the 2010 Urban Water Management Plan, Olivenhain Municipal Water District, along with Vallecitos Water District, San Dieguito Water District, and Rincon del Diablo Municipal Water District formed a regional alliance pursuant to CWC § 10608.28(a), the DWR Guidebook, and the DWR Methodologies to cooperatively determine and report progress toward achieving their water use targets on a regional basis. All of these members are recipients of water from a common wholesale water supplier, in this case San Diego County Water Authority, and all of the members are located within the South Coast Hydrologic Region as shown in the California Water Plan. The alliance members agreed that Olivenhain Municipal Water District would be the lead agency. The agencies are shown in the attached map.

The members have entered a cooperative agreement to establish and carry out a regional alliance and they have jointly notified DWR of the formation of their regional alliance. In accordance with the DWR Guidebook and DWR Methodologies, the members have prepared an urban water use target and an interim urban water use target for the region, which is further set forth herein and within each of the other member's individual UWMPs. Furthermore, each member of the regional alliance has developed its own set of interim and urban water use targets, along with other supporting data and determinations, all of which is included in each member's individual UWMP.

Data Reporting for a Regional Alliance

The attached tables below provide the data required for the Olivenhain Regional Alliance, as described in Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use, Final Draft, February 2016. The Olivenhain Regional Alliance did achieve its targeted reduction for 2020, with a target of 204 GPCD, and a 2020 actual use of 150 GPCD.

Tables

Table SB X7-7 RA1 – Weighted Baseline				
Participating Member Agency Name	10-15 year Baseline GPCD*	Average Population During 10-15 Year Baseline Period	(Baseline GPCD) X (Population)	Regional Alliance Weighted Average 10-15 Year Baseline GPCD
Olivenhain MWD	352	54,418	19,155,136	
Rincon del Diablo MWD	284	26,434	7,507,256	
San Dieguito WD	189	35,385	6,687,765	
Vallecitos WD	199	70,517	14,032,883	
Regional Alliance Total	1,024	186,754	47,383,040	254
*All participating agencies must submit individual SB X7-7 Tables, as applicable, showing the individual agency's calculations. These tables are: SB X7-7 Tables 0 through 6, Table 7, any required supporting tables (as stated in SB X7-7 Table 7), and SB X7-7 Table 9, as applicable. These individual agency tables will be submitted with the individual or Regional Urban Water Management Plan.				
NOTES: MWD = Municipal Water District, WD = Water District				

Table SB X7-7 RA1 – Weighted Target				
Participating Member Agency Name	2020 Target GPCD*	2020 Population	(2020 Target) X (Population)	Regional Alliance Weighted Average 2020 Target
Olivenhain MWD	282	70,522	19,887,204	
Rincon del Diablo MWD	227	27,476	6,237,052	
San Dieguito WD	151	37,200	5,617,200	
Vallecitos WD	159	93,897	14,929,623	
Regional Alliance Total	819	229,095	46,671,079	204
*All participating agencies must submit individual SB X7-7 Tables, as applicable, showing the individual agency's calculations. These tables are: SB X7-7 Tables 0 through 6, Table 7, any required supporting tables (as stated in SB X7-7 Table 7), and SB X7-7 Table 9, as applicable. These individual agency tables will be submitted with the individual or Regional Urban Water Management Plan.				
NOTES: MWD = Municipal Water District, WD = Water District				

Table SB X7-7 Regional Alliance – 2020 GPCD (Actual)				
Participating Member Agency Name	2020 Actual GPCD*	2020 Population	(2020 GPCD) X (2020 Population)	Regional Alliance 2020 GPCD (Actual)
Olivenhain MWD	206	72,179	14,868,874	
Rincon del Diablo MWD	135	32,019	4,322,565	
San Dieguito WD	129	37,856	4,883,424	
Vallecitos WD	125	105,741	13,217,625	
Regional Alliance Total	595	247,795	37,292,488	150
*All participating agencies must submit individual SB X7-7 Tables, as applicable, showing the individual agency's calculations. These tables are: SB X7-7 Tables 0 through 6, Table 7, any required supporting tables (as stated in SB X7-7 Table 7), and SB X7-7 Table 9, as applicable. These individual agency tables will be submitted with the individual or Regional Urban Water Management Plan.				
NOTES: MWD = Municipal Water District, WD = Water District				

Table SB X7-7 Regional Alliance – 2020 Compliance				
2020 Actual GPCD	Optional Adjustment for Economic Growth ¹	Adjusted 2020 Actual GPCD	2020 Target GPCD ²	Did Regional Alliance Achieve Targeted Reduction for 2020?
150	0	150	204	YES
1 Adjustments for economic growth can be applied to either the individual supplier's data or to the aggregate regional alliance data (but not both), depending upon availability of suitable data and methods. 2 GPCD will be taken from the Regional Alliance's SB X7-7 Verification Form, Weighted Target Table.				
NOTES: MWD = Municipal Water District, WD = Water District				

Appendix K

Addendum Number 1 to the Olivenhain Municipal Water District 2015 Urban Water Management Plan

Appendix K: Addendum Number 1 to the Olivenhain Municipal Water District 2015 Urban Water Management Plan

K.1 Introduction

Olivenhain Municipal Water District (OMWD) prepared a 2015 Urban Water Management Plan (UWMP) as required by The Urban Water Management Planning Act enacted by the California Legislature in 1983. The law required an urban water supplier, providing water for municipal purposes to more than 3,000 customers or serving more than 3,000 acre-feet annually, to adopt an UWMP every five years demonstrating water supply reliability in normal, single dry, and multiple dry years. The 2015 UWMP was adopted by the OMWD Board of Directors on June 15, 2016 and submitted to the State of California, Department of Water Resources (DWR) on June 22, 2016. OMWD received a letter from DWR dated August 18, 2017 stating that the 2015 OMWD UWMP addressed the requirements of the California Water Code.

Addendum Number 1 to the 2015 UWMP

OMWD receives 100 percent of its potable water supply from the San Diego County Water Authority (SDCWA). SDCWA in turn receives a portion of its water supply from the Metropolitan Water District of Southern California, a State Water Project Contractor. Therefore, DWR has identified OMWD as a water supplier that would potentially receive water supply benefits from the proposed Delta Conveyance Project. In a letter dated December 18, 2020, DWR requested that OMWD's 2015 and 2020 UWMPs include documentation to support compliance with the Reduced Reliance Policy. As the OMWD 2015 UWMP has been prepared, adopted, submitted, and approved, this Addendum Number 1 provides the requested documentation.

Delta Stewardship Council, Delta Plan

The Sacramento – San Joaquin (Delta) Delta Reform Act of 2009 established the Delta Stewardship Council (Council) to create a comprehensive, long-term, legally enforceable plan (Delta Plan) to guide how multiple federal, state, and local agencies manage the Delta's water and environmental resources. The Council is charged with achieving the State mandated coequal goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. Delta Plan Policy WR P1 is, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance.

Delta Conveyance Project

DWR has proposed the Delta Conveyance Project to develop new diversion and conveyance facilities in the Delta necessary to restore and protect the reliability of State Water Project deliveries. As a part of assessing whether to approve the Delta Conveyance Project, DWR is preparing an environmental impact report pursuant to the requirements of the California Environmental Quality Act. In addition, as the

proposed project would be a “covered action” within the scope of the Delta Reform Act, DWR is preparing a record for the determination of whether the Delta Conveyance Project, if approved, would be consistent with the policies enumerated in the Delta Plan.

K.2 Background

An urban water supplier that anticipates participating in or receiving water from a proposed project, such as a multiyear water transfer, conveyance facility, or new diversion that involves transferring water through, exporting water from, or using water in the Sacramento-San Joaquin Delta (Delta), should provide information in their 2015 and 2020 UWMPs that can then be used in the certification of consistency process to demonstrate consistency with the Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-reliance (California Code Regulations, Title 23, Section 5003).

Delta Plan Policy WR P1 is one of fourteen regulatory policies in the Delta Plan. The Delta Plan is a comprehensive, long-term, legally enforceable plan guiding how federal, state, and local agencies manage the Delta’s water and environmental resources. The Delta Plan was adopted in 2013 by the Delta Stewardship Council (DSC). Delta Plan Policy WR P1 identifies urban water management plans as the tool to demonstrate consistency with the state policy that suppliers that carry out or take part in covered actions must reduce their reliance on the Delta.

The California Code of Regulations, Title 23, Section 5003(c)(1), states that commencing in 2015, water suppliers that have done all of the following are contributing to reduced reliance on the Delta and improving regional self-reliance and are therefore consistent with Delta Plan Policy WR P1.

- (A) Completed a current Urban or Agricultural Water Management Plan (Plan) which has been reviewed by the California Department of Water Resources for compliance with the applicable requirements of the Water Code Division 6, Parts 2.55, 2.6, and 2.8;
- (B) Identified, evaluated, and commenced implementation, consistent with the implementation schedule set forth in the Plan, of all programs and projects included in the Plan that are locally cost effective and technically feasible which reduce reliance on the Delta; and
- (C) Included in the Plan, commencing in 2015, the expected outcome for measurable reduction in Delta Reliance and improvement in regional self-reliance. The expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance shall be reported in the Plan as the reduction in the amount of water used, from the Delta watershed. For purposes of reporting, water efficiency is considered a new source of water supply, consistent with the Water Code section 1011(a).

This section covers both the 2015 and 2020 UWMPs, and subsequent plan cycles. OMWD’s and SDCWA’s information on reduced reliance on the Delta is documented below and can be used in future certifications of consistency with WR P1 for potential future water-supply-covered actions in the Delta.

K.3 OMWD Consistency with WR P1

OMWD is one of 24 retail member agencies of SDCWA. OMWD has a representative on the SDCWA Board of Directors and thereby participates in the setting of SDCWA policy. OMWD buys 100 percent of its potable water from SDCWA, providing a portion of SDCWA's revenue.

OMWD demonstrates consistency with WR P1 through a combination of its success in implementing water use efficiency strategies, developing its own local water recycling supply, and through the local and regional water supply projects it participates in as a member agency of SDCWA. OMWD's average water use has decreased from 359 gallons per capita per day (GPCD) as forecast in its 2005 UWMP to 206 GPCD based on the 2020 UWMP population and demand forecasts. OMWD's recycled water demand is forecast to increase from approximately 2,500 AFY in 2020 to 2,900 AFY by 2025, or approximately 15 percent of its total 2045 demand. OMWD is also actively investigating the San Dieguito Valley Brackish Groundwater Desalination Project with a minimum capacity of 1,120 AFY. Although not included in the calculations, this project, if implemented, would further reduce reliance on the Delta watershed and improve regional self-reliance.

In its Draft Appendix M, Addendum to the SDCWA's 2015 Urban Water Management Plan, Reporting on Reduced Delta Reliance, SDCWA demonstrates its service area's consistency with WR P1 by detailing the San Diego Region's collective contributions to regional self-reliance. The regional self-reliance demonstrated in SDCWA's Appendix M Table 3 consists of strategies implemented by SDCWA and its retail agencies including OMWD.

In 2010, its baseline year, the percentage of water supplies within the SDCWA service area contributing to regional self-reliance was approximately 44 percent. In 2015, this grew to 45 percent; in 2020, 79 percent; and it is projected at 90-plus percent through 2045. SDCWA and its member agencies have accomplished this reduction in Delta reliance through water use efficiency, water recycling, and seawater desalination, each of which contributes approximately 10 percent. Local and regional water supply and storage projects make up approximately 70 percent and include the Imperial Irrigation District conserved water transfer and the All-American and Coachella Canal lining projects, cumulatively 278,700 AFY. Groundwater, brackish groundwater, surface water, and potable reuse make up the remaining increments of local supply.

WRP1 subdivision (c)(1)(C) requires water suppliers to report on the expected outcomes for measurable reductions in water supplies from the Delta watershed as either a reduction in percentage or volume used of Delta supplies form a quantified baseline. As a member agency of Metropolitan, SDCWA's Draft 2020 UWMP demonstrates the reduction in Delta supplies received from Metropolitan in its Appendix M, Table 4 which is derived from Metropolitan's Draft 2020 RUWMP. SDCWA water purchases from Metropolitan include supply from the State Water Project that Metropolitan receives as a State Water Contractor. Metropolitan's 2020 UWMP, Appendix 11, Table A. 11-3, indicates that in 2010, approximately 27 percent of its service area supply was from the Delta. In 2015 and 2020, this declined to approximately 20 percent. Metropolitan forecasts that its Delta portion of its supply will decline from 24 percent in 2025, to just under 20 percent in 2045.

Through its own activities, the activities of SDCWA and its other retail member agencies and the activities of Metropolitan, OMWD is able to demonstrate its compliance with all aspects of WR P1.

K.4 OMWD Consistency with WR P1 Through Its Programs and Projects

OMWD has contributed to the SDCWA reduced reliance on water supplies from the Delta watershed, improved regional self-reliance, and consistency with WR P1 through increased water use efficiency and water recycling. The following tables demonstrate consistency with WR P1.

The sources of data used in the analysis are shown in **Table K-1**.

Table K-1: Source of Water Supply Data

Analysis Year	Data Source	
2010 (Baseline)	2005 UWMP	Pages 8, 37, Table 4
2015	2010 UWMP	Tables 2 and 7
2020	2015 UWMP	Tables 3-1 and 4-3
2025, 2030, 2035, 2040, 2045	2020 UWMP	Tables 3-1 and 4-3

Tables C-1 through C-3 (located at the end of this section) summarize OMWD's record of completing UWMPs and implementing efficiency measures identified in the plans. The tables show a measurable reduction in Delta reliance and improvement in regional self-reliance, contributing to reduced reliance on the Delta consistent with WR P1.

To demonstrate reduced reliance on the Delta, OMWD compared its projected water use against a baseline. The baseline, shown in Table C-2, was calculated by taking the projected 2010 normal year water demand and adding projected water efficiency savings for 2010. Consistent with DWR's Guidebook, normal year water demands were used as a surrogate for normal year water supplies to help alleviate issues associated with instances where available water supplies exceed normal year water demands. In addition, consistent with the DWR Guidebook, actual water use was not used for the current year due to the influence of weather and other variables on water use. Rather, UWMP normal year demand projections were used to represent current and future water use.

Quantification of Water Supplies that Contribute to Regional Self-Reliance

For a covered action to demonstrate consistency with the Delta Plan, WR P1 subsection (c)(1) (C) states water suppliers must report in their UWMP the expected outcome for measurable improvement in regional self-reliance as a reduction in water used from the Delta watershed. To determine whether there is an increase in regional self-reliance, the baseline calculated in Table C-2 is used to compare with against the water supplies listed in Table C-3 that contribute to regional self-reliance. The comparison is done over five-year periods, from 2015 through 2045, to calculate how regional self-reliance will change over time.

Table C-3 lists the sources of water supplies and volumes that contribute to regional self-reliance. As shown in the table, OMWD's reliance on the Delta decreases over time as the percent of water supplies

that contribute to regional self-reliance increase over time. The volumes of the individual supplies that contribute to regional self-reliance can be found in OMWD's UWMPs.

The water supplies included in Table C-3 that contribute to regional self-reliance are grouped into categories consistent with the DWR Guidebook. These represent OMWD verifiable supplies, water use efficiency, and water recycling for irrigation.

OMWD is also actively investigating the San Dieguito Valley Brackish Groundwater Desalination Project with a minimum capacity of 1,120 AFY. While not included in the calculations, this project if implemented, would further reduce reliance on the Delta watershed and improve regional self-reliance.

Tables C-1 Through C-3: Calculations of Water Use Efficiency, Service Area Water Demands Without Water Use Efficiency, and Supplies contributing to Regional Self Reliance

K.5 Demonstration of Reduced Reliance on Water Supplies from the Delta Watershed

WR P1 subdivision (c) (1) (C) requires water suppliers to report on the expected outcomes for measurable reductions in water supplies from the Delta watershed. For SDCWA and OMWD, the only potential source of water from the Delta watershed is water purchased from Metropolitan. Because water provided by Metropolitan to SDCWA and its member agencies can include supplies that come from the Delta watershed and Colorado River supplies, SDCWA and its member agencies must incorporate Metropolitan's forecast (Table C-5) as a reasonable methodology to forecast the percent of Metropolitan water supply from the Delta watershed and the Colorado River, at least until Metropolitan provides the methodology approved by the DSC as anticipated.

To serve as a placeholder for the WR P1 subdivision (c) (1) (C) requirement, the information in Table C-5 is presented from Metropolitan's Draft 2020 UWMP. The table calculates the reduced reliance on the Delta watershed within the entirety of the Metropolitan service area.

The CVP/SWP contract supplies in Table C-4 include Metropolitan's State Water Project Table A and Article 21 supplies. The values in the table do not include supplies from San Luis carryover storage programs. The transfers and exchanges of supplies from the Delta watershed shown in the Table include supplies from the San Bernardino Valley MWD Program, Yuba River Accord Purchase Program, the San Gabriel Valley MWD Program, other generic SWP and Central Valley transfers and exchanges. Additional information can be found in Section 3.2 and Appendix 3 of Metropolitan's 2020 UWMP.

Table C-1: Data Table for Determining WUE Supply

Service Area WUE Demands (AF)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Opt.)
Demands without WUE	25,670	24,318	22,843	20,103	19,779	19,474	19,165	18,910
Non-Potable Demands	3,320	3,200	2,443	2,693	2,819	2,834	2,855	2,860
Demands without WUE	22,350	21,118	20,400	17,410	16,960	16,640	16,310	16,050
Service Area Population	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Opt.)
	55,596	66,993	72,567	71,146	69,350	68,954	68,260	68,248
WUE Since Baseline (AF)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Opt.)
Per Capita Water Use	359	281	251	218	218	215	213	210
Change in Per Capita Water Use from Baseline		(77)	(108)	(140)	(141)	(143)	(146)	(149)
Estimated WUE Since Baseline		5,814	8,772	11,191	10,919	11,080	11,131	11,386

Table C-2: Calculation of Total Water Supplies

Total Service Area Water Demands (AF)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Opt.)
Water Demands with WUE	25,670	24,318	22,843	20,103	19,779	19,474	19,165	18,910
WUE		5,814	8,772	11,191	10,919	11,080	11,131	11,386
Demands without WUE	25,670	30,132	31,615	31,294	30,698	30,554	30,296	30,296

Table C-3: Supplier Contribution to Regional Self-Reliance

Water Supplies Contributing to Regional Self-Reliance	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Opt.)
WUE	2,490	5,814	8,772	11,191	10,919	11,080	11,131	11,386
Water Recycling	3,320	3,200	2,443	2,693	2,819	2,834	2,855	2,860
Stormwater Capture and Use	0	0	0	0	0	0	0	0
Advanced Water Technologies	0	0	0	0	0	0	0	0
Conjunctive Use	0	0	0	0	0	0	0	0
Local and Regional Water Supply and Storage	0	0	0	0	0	0	0	0
Other Programs and Projects	0	0	0	0	0	0	0	0
Water Supplies Contributing to Regional Self-Reliance	5,810	9,014	11,215	13,884	13,738	13,914	13,986	14,246

Service Area Water Demands w/o WUE	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Opt.)
Water Demands without WUE	25,670	30,132	31,615	31,294	30,698	30,554	30,296	30,296
Change in Regional Self Reliance	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Opt.)
Water Supplies Contributing to Regional Self-Reliance	5,810	9,014	11,215	13,884	13,738	13,914	13,986	14,246
Change in Water Supplies Contributing to Regional Self-Reliance		3,024	5,406	8,075	7,929	8,104	8,176	8,436
% Change in Regional Self-Reliance (As a Percent of Water Demand w/out WUE)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Opt.)
Water Supplies Contributing to Regional Self-Reliance	0.0%	29.9%	35.5%	44.4%	44.8%	45.5%	46.2%	47.0%
Change in Water Supplies Contributing to Regional Self-Reliance		7.3%	12.8%	21.7%	22.1%	22.9%	23.5%	24.4%

**Table C-4: Calculation of Reliance on Water Supplies from Delta Watershed
Metropolitan Service Area, 2020 RUWMP**

Water Supplies from the Delta Watershed	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Opt.)
CVP/SWP Contract Supplies	1,472,000	1,029,000	984,000	1,108,670	1,108,670	1,108,670	993,980	993,980
Delta/Delta Tributary Diversions								
Other Water Supplies from the Delta Watershed	20,000	44,000	91,000	8,000	8,000	8,000	8,000	8,000
Total Water Supplies from the Delta Watershed	1,492,000	1,073,000	1,075,000	1,116,670	1,116,670	1,116,670	1,001,980	1,001,980
Service Area Water Demands w/o WUE	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Opt.)
Service Area Water Demands w/o WUE	5,493,000	5,499,000	5,219,000	4,598,000	4,737,000	4,877,000	4,981,000	5,100,000
Change in Supplies from the Delta Watershed	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Opt.)
Water Supplies from the Delta Watershed	1,492,000	1,073,000	1,075,000	1,116,670	1,116,670	1,116,670	1,001,980	1,001,980
Change in Water Supplies from the Delta Watershed		(419,000)	(417,000)	(375,330)	(375,330)	(375,330)	(490,020)	(490,020)
% Change in Supplies from the Delta Watershed (As a Percent of Water Demand w/out WUE)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Opt.)
% of Water Supplies from the Delta Watershed	27.2%	19.5%	20.6%	24.3%	23.6%	22.9%	20.1%	19.6%
Change in % of Water Supplies from the Delta Watershed		-7.6%	-6.6%	-2.9%	-3.6%	-4.3%	-7.0%	-7.5%