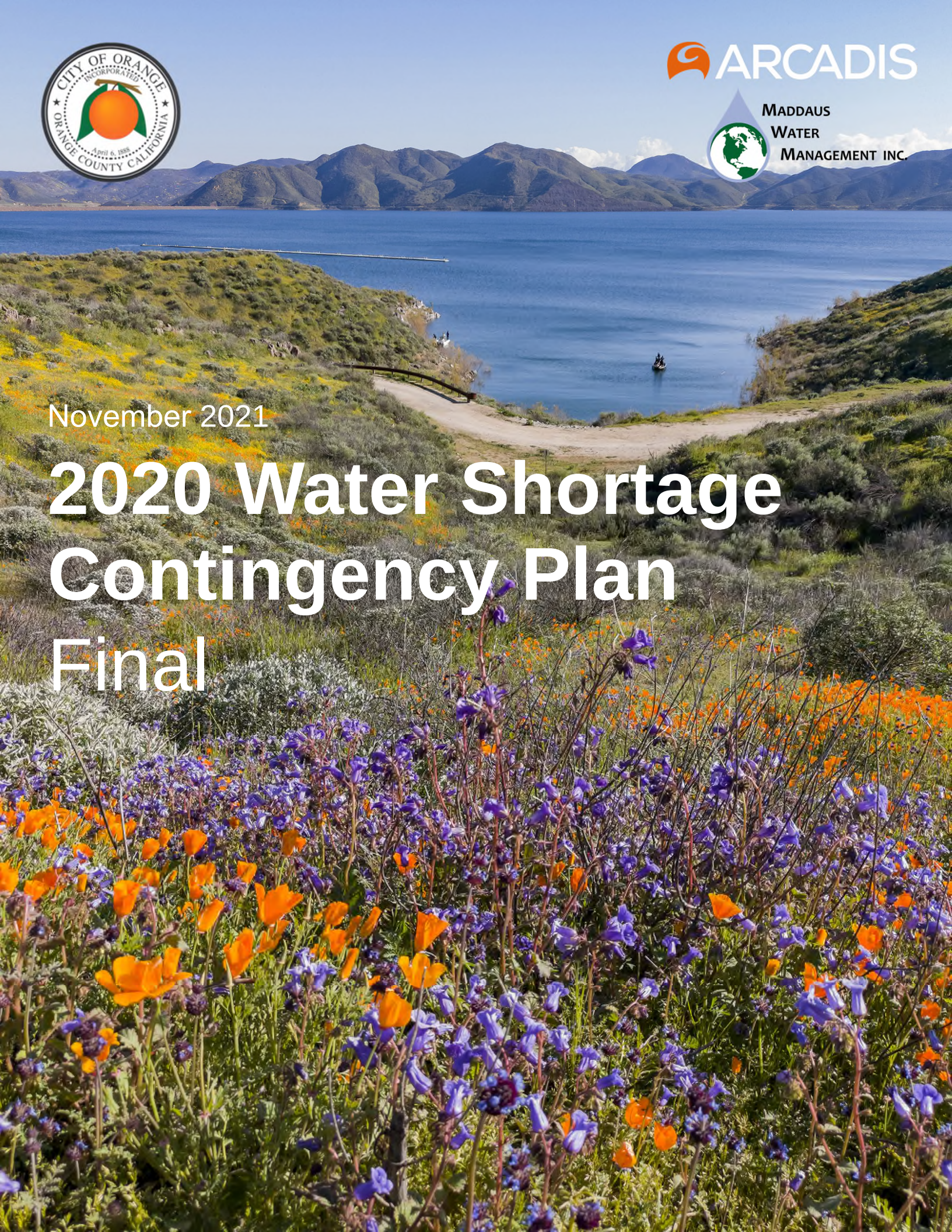

November 2021

# 2020 Water Shortage Contingency Plan

Final

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November 2021

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# Acronyms and Abbreviations

| | |
|---|---|
| % | Percent |
| AF | Acre-Feet |
| Annual Assessment | Annual Water Supply and Demand Assessment |
| BPP | Basin Production Percentage |
| City | City of Orange |
| DDW | Division of Drinking Water |
| DRA | Drought Risk Assessment |
| DVL | Diamond Valley Lake |
| DWR | California Department of Water Resources |
| EAP | Emergency Operations Center Actions Plan |
| EOC | Emergency Operation Center |
| EOP | Emergency Operations Plan |
| FY | Fiscal Year |
| GSP | Groundwater Sustainability Plan |
| HMP | Hazard Mitigation Plan |
| IAWP | Interim Agricultural Water Program |
| IRP | Integrated Water Resource Plan |
| M&I | Municipal and Industrial |
| MCL | Maximum Contaminant Level |
| MET | Metropolitan Water District of Southern California |
| Metropolitan Act | Metropolitan Water District Act |
| MWDOC | Municipal Water District of Orange County |
| NIMS | National Incident Management System |
| OC Basin | Orange County Groundwater Basin |
| OCWD | Orange County Water District |
| PFAS | Per- and Polyfluoroalkyl Substances |
| PFOA | Perfluorooctanoic Acid |
| PFOS | Perfluorooctane Sulfanate |
| PPT | Parts Per Trillion |
| Producer | Groundwater Producer |
| RL | Response Level |
| SEMS | California Standardized Emergency Management System |
| Supplier | Urban Water Supplier |
| SWP | State Water Project |
| SWRCB | California State Water Resources Control Board |
| UWMP | Urban Water Management Plan |
| Water Code | California Water Code |
| WEROC | Water Emergency Response Organization of Orange County |
| WSAP | Water Supply Allocation Plan |

| | |
|---|---|
| WSCP | Water Shortage Contingency Plan |
| WSDM | Water Surplus and Drought Management Plan |

# 1 INTRODUCTION AND WSCP OVERVIEW

The Water Shortage Contingency Plan (WSCP) is a strategic planning document designed to prepare for and respond to water shortages. This WSCP complies with California Water Code (Water Code) Section 10632, which requires that every urban water supplier (Supplier) shall prepare and adopt a WSCP as part of its Urban Water Management Plan (UWMP). This level of detailed planning and preparation is intended to help maintain reliable supplies and reduce the impacts of supply interruptions.

The WSCP is the City of Orange (City)'s operating manual that is used to prevent catastrophic service disruptions through proactive, rather than reactive, management. A water shortage, when water supply available is insufficient to meet the normally expected customer water use at a given point in time, may occur due to a number of reasons, such as drought, climate change, and catastrophic events. This WSCP provides a structured guide for the City to deal with water shortages, incorporating prescriptive information and standardized action levels, along with implementation actions in the event of a catastrophic supply interruption. This way, if and when shortage conditions arise, the City's governing body, its staff, and the public can easily identify and efficiently implement pre-determined steps to manage a water shortage. A well-structured WSCP allows real-time water supply availability assessment and structured steps designed to respond to actual conditions, to allow for efficient management of any shortage with predictability and accountability.

The WSCP also describes the City's procedures for conducting an Annual Water Supply and Demand Assessment (Annual Assessment) that is required by Water Code Section 10632.1 and is to be submitted to the California Department of Water Resources (DWR) on or before July 1 of each year, or within 14 days of receiving final allocations from the State Water Project (SWP), whichever is later. The City's 2020 WSCP is included as an appendix to its 2020 UWMP which will be submitted to DWR within 30 days of adoption. However, this WSCP is created separately from the City's 2020 UWMP and can be amended, as needed, without amending the UWMP. Furthermore, the Water Code does not prohibit a Supplier from taking actions not specified in its WSCP, if needed, without having to formally amend its UWMP or WSCP.

## 1.1 Water Shortage Contingency Plan Requirements and Organization

The WSCP provides the steps and water shortage response actions to be taken in times of water shortage conditions. The WSCP has prescriptive elements, such as an analysis of water supply reliability; the water shortage response actions for each of the six standard water shortage levels that correspond to water shortage percentages ranging from 10% to greater than 50%; an estimate of potential to close supply gap for each measure; protocols and procedures to communicate identified actions for any current or predicted water shortage conditions; procedures for an Annual Assessment; monitoring and reporting requirements to determine customer compliance; and reevaluation and improvement procedures for evaluating the WSCP.

This WSCP is organized into three main sections, with Section 3 aligned with Water Code Section 16032 requirements.

**Section 1 Introduction and WSCP Overview** gives an overview of the WSCP fundamentals.

**Section 2 Background** provides a background on the City's water service area.

**Section 3 Water Shortage Contingency Preparedness and Response Planning**

**Section 3.1 Water Supply Reliability Analysis** provides a summary of the water supply analysis and water reliability findings from the 2020 UWMP.

**Section 3.2 Annual Water Supply and Demand Assessment Procedures** provide a description of procedures to conduct and approve the Annual Assessment.

**Section 3.3 Six Standard Water Shortage Stages** explains the WSCP's six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, 50, and more than 50% shortages.

**Section 3.4 Shortage Response Actions** describes the WSCP's shortage response actions that align with the defined shortage levels.

**Section 3.5 Communication Protocols** addresses communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding any current or predicted shortages and any resulting shortage response actions.

**Section 3.6 Compliance and Enforcement** describes customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions.

**Section 3.7 Legal Authorities** is a description of the legal authorities that enable the City to implement and enforce its shortage response actions.

**Section 3.8 Financial Consequences of the WSCP** provides a description of the financial consequences of and responses for drought conditions.

**Section 3.9 Monitoring and Reporting** describes monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements**.**

**Section 3.10 WSCP Refinement Procedures** addresses reevaluation and improvement procedures for monitoring and evaluating the functionality of the WSCP.

**Section 3.11 Special Water Feature Distinction** is a required definition for inclusion in a WSCP per the Water Code.

**Section 3.12 Plan Adoption, Submittal, and Implementation** provides a record of the process the City followed to adopt and implement its WSCP.

## 1.2 Integration with Other Planning Efforts

As a retail water supplier in Orange County, the City considered other key entities in the development of this WSCP, including the Municipal Water District of Orange County([MWDOC] (regional wholesale supplier)), the Metropolitan Water District of Southern California ([MET] (regional wholesaler for Southern California and the direct supplier of imported water to MWDOC)), and Orange County Water District ([OCWD] (Orange County Groundwater Basin [OC Basin] manager and provider of recycled water in North Orange County)). As a MWDOC member agency, the City also developed this WSCP with input from several coordination efforts led by MWDOC.

Some of the key planning and reporting documents that were used to develop this WSCP are:

- **MWDOC's 2020 UWMP** provides the basis for the projections of the imported supply availability over the next 25 years for the City's service area.
- **MWDOC's 2020 WSCP** provides a water supply availability assessment and structured steps designed to respond to actual conditions that will help maintain reliable supplies and reduce the impacts of supply interruptions.
- **2021 Orange County Water Demand Forecast for MWDOC and OCWD Technical Memorandum (Demand Forecast TM)** provides the basis for water demand projections for MWDOC's member agencies as well as Anaheim, Fullerton, and Santa Ana.
- **MET's 2020 Integrated Water Resources Plan (IRP)** is a long-term planning document to ensure water supply availability in Southern California and provides a basis for water supply reliability in Orange County.
- **MET's 2020 UWMP** was developed as a part of the 2020 IRP planning process and was used by MWDOC as another basis for the projections of supply capability of the imported water received from MET.
- **MET's 2020 WSCP** provides a water supply assessment and guide for MET's intended actions during water shortage conditions.
- **OCWD's 2019-20 Engineer's Report** provides information on the groundwater conditions and basin utilization of the OC Basin.
- **OCWD's 2017 Basin 8-1 Alternative** is an alternative to the Groundwater Sustainability Plan (GSP) for the OC Basin and provides significant information related to sustainable management of the basin in the past and hydrogeology of the basin, including groundwater quality and basin characteristics.
- **2020 Local Hazard Mitigation Plan (HMP)** provides the basis for the seismic risk analysis of the water system facilities.
- **Orange County Local Agency Formation Commission's 2020 Municipal Service Review for MWDOC Report** provides a comprehensive service review of the municipal services provided by MWDOC.
- **Water Master Plan and Sewer Master Plan** of the City provide information on water infrastructure planning projects and plans to address any required water system improvements.
- **Groundwater Management Plans** provide the groundwater sustainability goals for the basins in the MWDOC's service area and the programs, actions, and strategies activities that support those goals.

# 2 BACKGROUND INFORMATION

Incorporated in 1888, under the general laws of the State of California, the City is situated at an average elevation of 195 feet above mean sea level and covers an area of approximately 27 square miles. The City is located in the north-central portion of Orange County, adjacent to the cities of Anaheim, Tustin, and Santa Ana. The City is governed by a seven-member City Council that provides policy direction for the City and enacts all municipal legislation. The City Council serves in a quasi-judicial role on certain administrative appeals and directs the administration of its policy decisions through the City Manager for delegation to appropriate City staff.

## 2.1 City Service Area

The City is located in the north-central portion of Orange County, adjacent to the cities of Anaheim, Tustin, and Santa Ana. The 24.3 square mile water service area of the City does not follow the same boundary as the City limits. The service area extends outside of City limits and excludes several small areas inside City limits, which are served by other water purveyors. The City's Water Division operates 13 groundwater wells, 7 imported water connections, 17 pressure reducing stations, 5 flow control valves, 14 pump stations, 14 water reservoirs with 40 million-gallons of storage capacity and manages 462-mile water mains system with about 35,417 service connections. The City's water service area is shown in Figure 2-1.

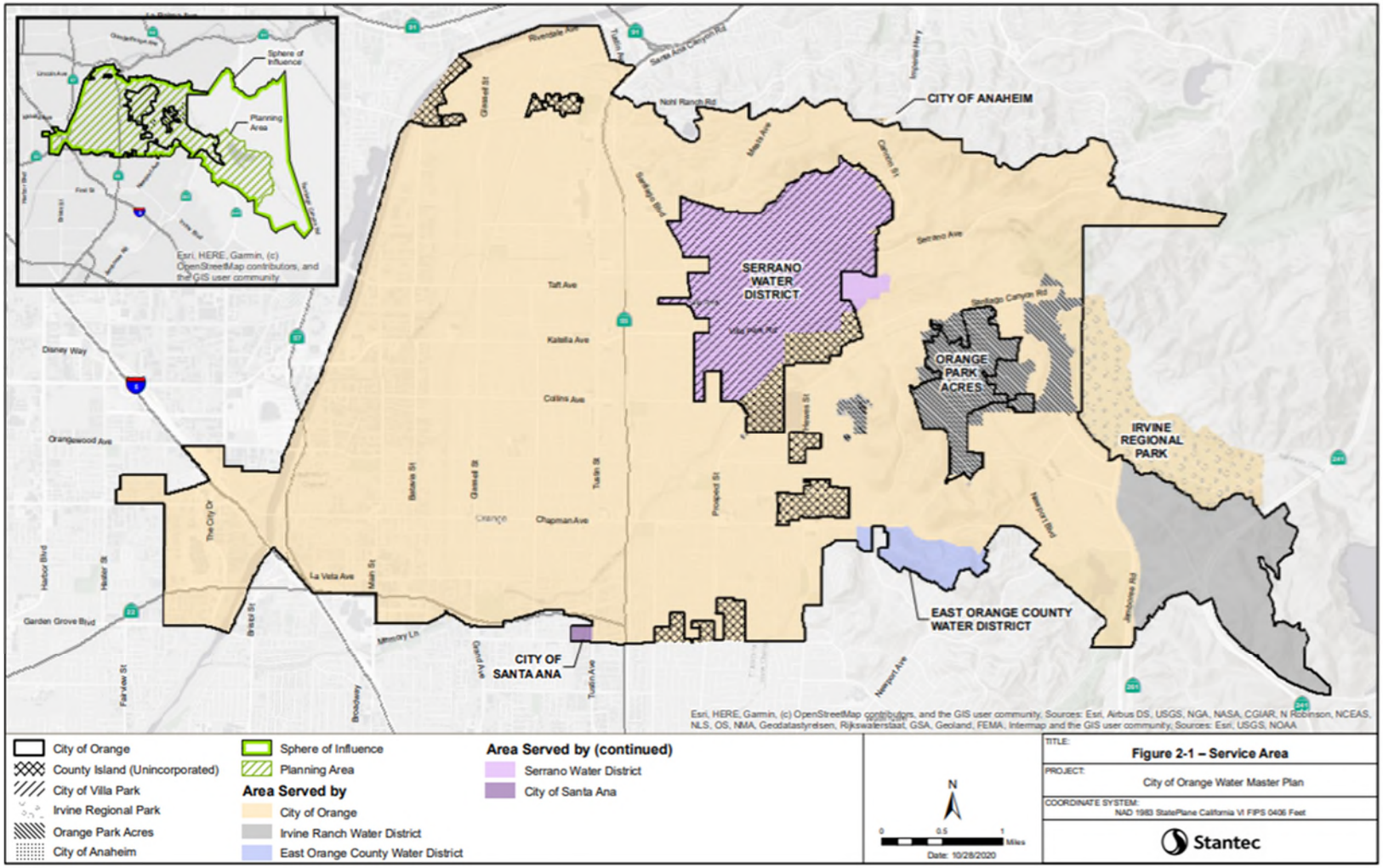


**Figure 2-1: City Service Area**

## 2.2 Relationship to Wholesalers

**The Metropolitan Water District of Southern California**: MET is the largest water wholesaler for domestic and municipal uses in California, serving approximately 19 million customers. MET wholesales imported water supplies to 26 member cities and water districts in six Southern California counties. Its service area covers the Southern California coastal plain, extending approximately 200 miles along the Pacific Ocean from the City of Oxnard in the north to the international boundary with Mexico in the south. This encompasses 5,200 square miles and includes portions of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties. Approximately 85% of the population from the aforementioned counties reside within MET's boundaries.

MET is governed by a Board of Directors comprised of 38 appointed individuals with a minimum of one representative from each of MET's 26 member agencies. The allocation of directors and voting rights are determined by each agency's assessed valuation. Each member of the Board shall be entitled to cast one vote for each ten million dollars ($10,000,000) of assessed valuation of property taxable for district purposes, in accordance with Section 55 of the Metropolitan Water District Act (Metropolitan Act). Directors can be appointed through the chief executive officer of the member agency or by a majority vote of the governing board of the agency. Directors are not compensated by MET for their service.

MET is responsible for importing water into the region through its operation of the Colorado River Aqueduct and its contract with the State of California for SWP supplies. Member agencies receive water from MET through various delivery points and pay for service through a rate structure made up of volumetric rates, capacity charges and readiness to serve charges. Member agencies provide estimates of imported water demand to MET annually in April regarding the amount of water they anticipate they will need to meet their demands for the next five years.

**The Municipal Water District of Orange County:** In Orange County, MWDOC and the cities of Anaheim, Fullerton, and Santa Ana are MET member agencies that purchase imported water directly from MET. Furthermore, MWDOC purchases both treated potable and untreated water from MET to supplement its retail agencies' local supplies.

The City is one of MWDOC's 28 member agencies receiving imported water from MWDOC. The City's location within MWDOC's service area is shown on Figure 2-2.

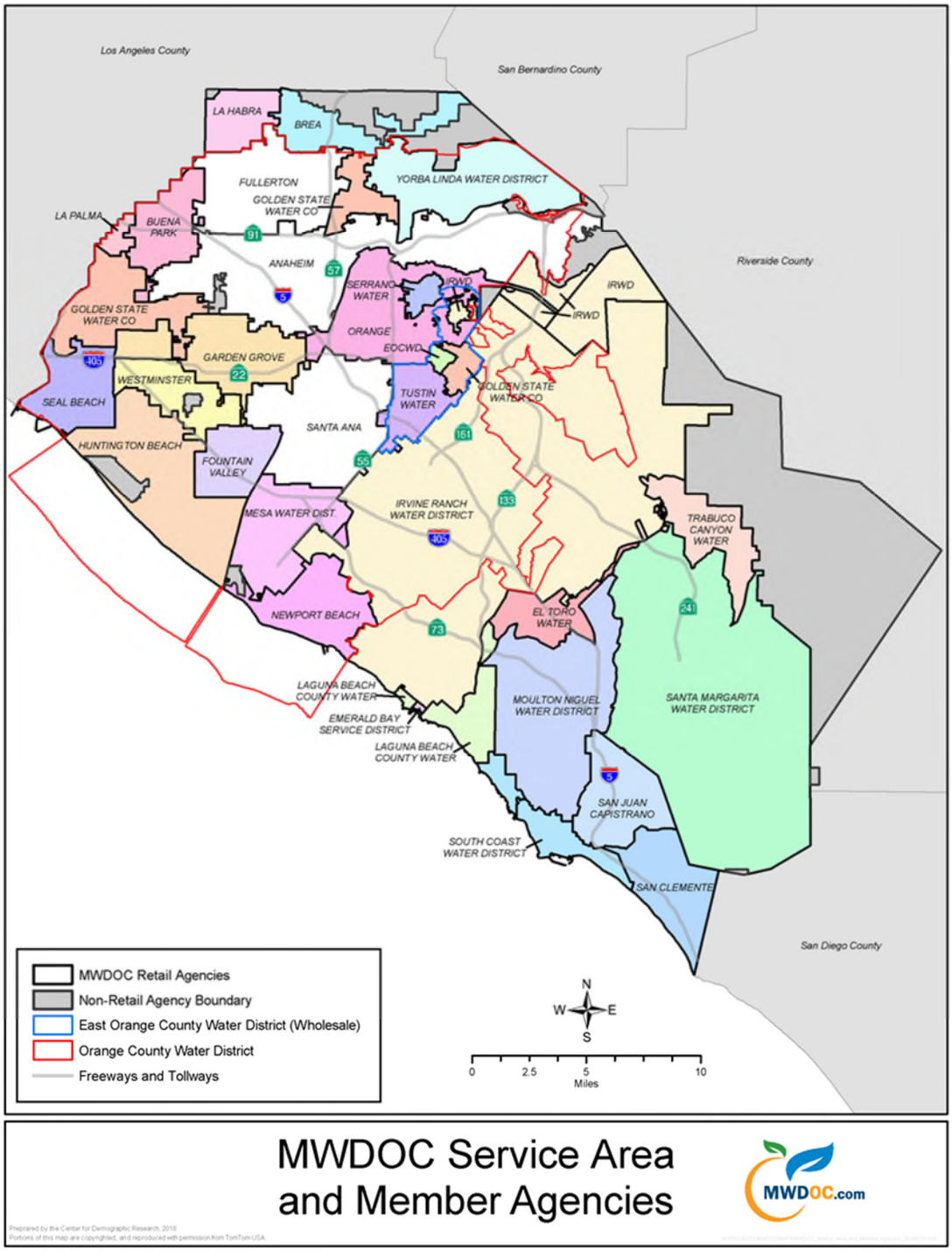


**Figure 2-2: Regional Location of City and Other MWDOC Member Agencies**

## 2.3 Relationship with Wholesaler Water Shortage Planning

The WSCP is designed to be consistent with MET's Water Shortage and Demand Management (WSDM) Plan, MWDOC's Water Supply Allocation Plan (WSAP), and other emergency planning efforts as described below. MWDOC's WSAP is integral to the WSCP's shortage response strategy in the event that MET or MWDOC determines that supply augmentation (including storage) and lesser demand reduction measures would not be sufficient to meet a projected shortage levels needed to meet demands.

### 2.3.1 MET Water Surplus and Drought Management Plan

MET evaluates the level of supplies available and existing levels of water in storage to determine the appropriate management stage annually. Each stage is associated with specific resource management actions to avoid extreme shortages to the extent possible and minimize adverse impacts to retail customers should an extreme shortage occur. The sequencing outlined in the WSDM Plan reflects anticipated responses towards MET's existing and expected resource mix.

Surplus stages occur when net annual deliveries can be made to water storage programs. Under the WSDM Plan, there are four surplus management stages that provides a framework for actions to take for surplus supplies. Deliveries in Diamond Valley Lake (DVL) and in SWP terminal reservoirs continue through each surplus stage provided there is available storage capacity. Withdrawals from DVL for regulatory purposes or to meet seasonal demands may occur in any stage.

The WSDM Plan distinguishes between shortages, severe shortages, and extreme shortages. The differences between each term are listed below.

- **Shortage**: MET can meet full-service demands and partially meet or fully meet interruptible demands using stored water or water transfers as necessary (Stages 1-3).
- **Severe Shortage**: MET can meet full-service demands only by making withdrawals from storage, calling on its water transfers, and possibly calling for extraordinary conservation and reducing deliveries under the Interim Agricultural Water Program (IAWP) (Stages 4-5).
- **Extreme Shortage**: MET must allocate available imported supplies to full-service customers (Stage 6).

There are six shortage management stages to guide resource management activities. These stages are defined by shortfalls in imported supply and water balances in MET's storage programs. When MET must make net withdrawals from storage to meet demands, it is considered to be in a shortage condition. Figure 2-3 gives a summary of actions under each surplus and shortage stages when an allocation plan is necessary to enforce mandatory cutbacks. The goal of the WSDM plan is to avoid Stage 6, an extreme shortage (MET, 1999).

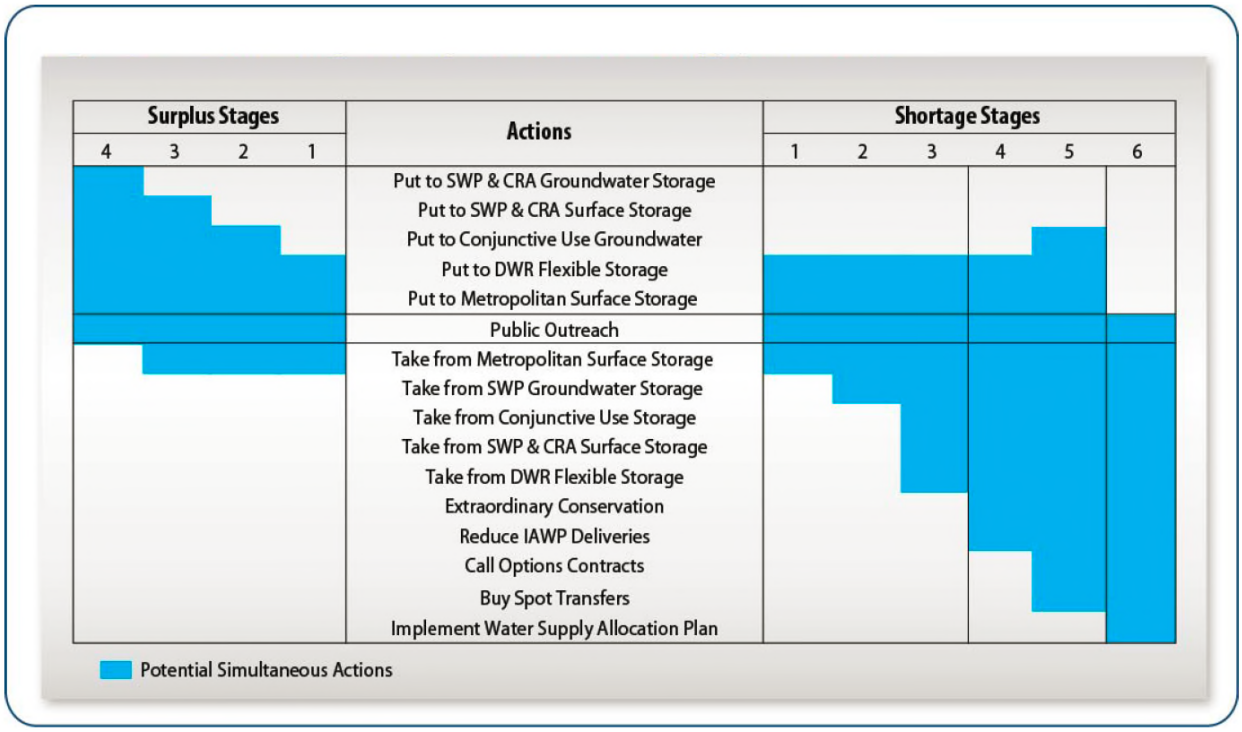


**Figure 2-3: Resource Stages, Anticipated Actions, and Supply Declarations**

**Source: MET, 1999.**

MET's Board of Directors adopted a Water Supply Condition Framework in June 2008 in order to communicate the urgency of the region's water supply situation and the need for further water conservation practices. The framework has four conditions, each calling increasing levels of conservation. Descriptions for each of the four conditions are listed below:

- Baseline Water Use Efficiency: Ongoing conservation, outreach, and recycling programs to achieve permanent reductions in water use and build storage reserves.
- Condition 1 Water Supply Watch: Local agency voluntary dry-year conservation measures and use of regional storage reserves.
- Condition 2 Water Supply Alert: Regional call for cities, counties, member agencies, and retail water agencies to implement extraordinary conservation through drought ordinances and other measures to mitigate use of storage reserves.
- Condition 3 Water Supply Allocation: Implement MET's WSAP.

As noted in Condition 3, should supplies become limited to the point where imported water demands cannot be met, MET will allocate water through the WSAP (MET, 2021a).

### 2.3.2 MET Water Supply Allocation Plan

MET's imported supplies have been impacted by a number of water supply challenges as noted earlier. In case of extreme water shortage within the MET service area is the implementation of its WSAP.

MET's Board of Directors originally adopted the WSAP in February 2008 to fairly distribute a limited amount of water supply and applies it through a detailed methodology to reflect a range of local conditions and needs of the region's retail water consumers (MET, 2021a).

The WSAP includes the specific formula for calculating member agency supply allocations and the key implementation elements needed for administering an allocation. MET's WSAP is the foundation for the urban water shortage contingency analysis required under Water Code Section 10632 and is part of MET's 2020 UWMP.

MET's WSAP was developed in consideration of the principles and guidelines in MET's 1999 WSDM Plan with the core objective of creating an equitable "needs-based allocation." The WSAP's formula seeks to balance the impacts of a shortage at the retail level while maintaining equity on the wholesale level for shortages of MET supplies of greater than 50% cutbacks. The formula takes into account a number of factors, such as the impact on retail customers, growth in population, changes in supply conditions, investments in local resources, demand hardening aspects of water conservation savings, recycled water, extraordinary storage and transfer actions, and groundwater imported water needs.

The formula is calculated in three steps: 1) based period calculations, 2) allocation year calculations, and 3) supply allocation calculations. The first two steps involve standard computations, while the third step contains specific methodology developed for the WSAP.

**Step 1: Base Period Calculations –** The first step in calculating a member agency's water supply allocation is to estimate their water supply and demand using a historical based period with established water supply and delivery data. The base period for each of the different categories of supply and demand is calculated using data from the two most recent non-shortage years.

**Step 2: Allocation Year Calculations –** The next step in calculating the member agency's water supply allocation is estimating water needs in the allocation year. This is done by adjusting the base period estimates of retail demand for population growth and changes in local supplies.

**Step 3: Supply Allocation Calculations –** The final step is calculating the water supply allocation for each member agency based on the allocation year water needs identified in Step 2.

In order to implement the WSAP, MET's Board of Directors makes a determination on the level of the regional shortage, based on specific criteria, typically in April. The criteria used by MET includes current levels of storage, estimated water supplies conditions, and projected imported water demands. The allocations, if deemed necessary, go into effect in July of the same year and remain in effect for a 12-month period. The schedule is made at the discretion of the Board of Directors (MET, 2021b).

As demonstrated by the findings in MET's 2020 UWMP, both the Water Reliability Assessment and the Drought Risk Assessment (DRA) demonstrate that MET is able to mitigate the challenges posed by hydrologic variability, potential climate change, and regulatory risk on its imported supply sources through the significant storage capabilities it has developed over the last two decades, both dry-year and emergency storage (MET, 2021a).

Although MET's 2020 UWMP forecasts that MET will be able to meet projected imported demands throughout the projected period from 2025 to 2045, uncertainty in supply conditions can result in MET needing to implement its WSAP to preserve dry-year storage and curtail demands (MET, 2021b).

### 2.3.3 MWDOC Water Supply Allocation Plan

To prepare for the potential allocation of imported water supplies from MET, MWDOC worked collaboratively with its 28 retail agencies to develop its own WSAP that was adopted in January 2009 and amended in 2016. The MWDOC WSAP outlines how MWDOC will determine and implement each of its retail agency's allocation during a time of shortage.

The MWDOC WSAP uses a similar method and approach, when reasonable, as that of the MET's WSAP. However, MWDOC's plan remains flexible to use an alternative approach when MET's method produces a significant unintended result for the member agencies. The MWDOC WSAP model follows five basic steps to determine a retail agency's imported supply allocation.

**Step 1: Determine Baseline Information –** The first step in calculating a water supply allocation is to estimate water supply and demand using a historical based period with established water supply and delivery data. The base period for each of the different categories of demand and supply is calculated using data from the last two non-shortage years.

**Step 2: Establish Allocation Year Information –** In this step, the model adjusts for each retail agency's water need in the allocation year. This is done by adjusting the base period estimates for increased retail water demand based on population growth and changes in local supplies.

**Step 3: Calculate Initial Minimum Allocation Based on MET's Declared Shortage Level –** This step sets the initial water supply allocation for each retail agency. After a regional shortage level is established, MWDOC will calculate the initial allocation as a percentage of adjusted Base Period Imported water needs within the model for each retail agency.

**Step 4: Apply Allocation Adjustments and Credits in the Areas of Retail Impacts and Conservation –** In this step, the model assigns additional water to address disparate impacts at the retail level caused by an across-the-board cut of imported supplies. It also applies a conservation credit given to those agencies that have achieved additional water savings at the retail level as a result of successful implementation of water conservation devices, programs and rate structures.

**Step 5: Sum Total Allocations and Determine Retail Reliability –** This is the final step in calculating a retail agency's total allocation for imported supplies. The model sums an agency's total imported allocation with all of the adjustments and credits and then calculates each agency's retail reliability compared to its Allocation Year Retail Demand.

The MWDOC WSAP includes additional measures for plan implementation, including the following (MWDOC, 2016):

- **Appeal Process –** An appeal process to provide retail agencies the opportunity to request a change to their allocation based on new or corrected information. MWDOC anticipates that under most circumstances, a retail agency's appeal will be the basis for an appeal to MET by MWDOC.
- **Melded Allocation Surcharge Structure –** At the end of the allocation year, MWDOC would only charge an allocation surcharge to each retail agency that exceeded their allocation if MWDOC exceeds its total allocation and is required to pay a surcharge to MET. MET enforces allocations to retail agencies through an allocation surcharge to a retail agency that exceeds its total annual allocation at the end of the 12-month allocation period. MWDOC's surcharge would be assessed

according to the retail agency's prorated share (acre-feet [AF] over usage) of MWDOC amount with MET. Surcharge funds collected by MET will be invested in its Water Management Fund, which is used to in part to fund expenditures in dry-year conservation and local resource development.

- **Tracking and Reporting Water Usage –** MWDOC will provide each retail agency with water use monthly reports that will compare each retail agency's current cumulative retail usage to their allocation baseline. MWDOC will also provide quarterly reports on its cumulative retail usage versus its allocation baseline.
- **Timeline and Option to Revisit the Plan –** The allocation period will cover 12 consecutive months and the Regional Shortage Level will be set for the entire allocation period. MWDOC only anticipates calling for allocation when MET declares a shortage; and no later than 30 days from MET's declaration will MWDOC announce allocation to its retail agencies.

# 3 WATER SHORTAGE CONTINGENCY PREPAREDNESS AND RESPONSE PLANNING

The City's WSCP is a detailed guide of how the City intends to act in the case of an actual water shortage condition. The WSCP anticipates a water supply shortage and provides pre-planned guidance for managing and mitigating a shortage. Regardless of the reason for the shortage, the WSCP is based on adequate details of demand reduction and supply augmentation measures that are structured to match varying degrees of shortage will ensure the relevant stakeholders understand what to expect during a water shortage situation.

## 3.1 Water Supply Reliability Analysis

Per Water Code Section 10632 (a)(1), the WSCP shall provide an analysis of water supply reliability conducted pursuant to Water Code Section 10635, and the key issues that may create a shortage condition when looking at the City's water asset portfolio.

Understanding water supply reliability, factors that could contribute to water supply constraints, availability of alternative supplies, and what effect these have on meeting customer demands provides the City with a solid basis on which to develop appropriate and feasible response actions in the event of a water shortage. In the 2020 UWMP, the City conducted a Water Reliability Assessment to compare the total water supply sources available to the water supplier with long-term projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years (Orange, 2021).

The City also conducted a DRA to evaluate a drought period that lasts five consecutive water years starting from the year following when the assessment is conducted. An analysis of both assessments determined that the City is capable of meeting all customers' demands from 2021 through 2045 for a normal year, a single dry year, and a drought lasting five consecutive years with significant imported water supplemental dedicated drought supplies from MWDOC/MET and ongoing conversation program efforts. The City receives the majority of its water supply from groundwater from the OC Basin, as well as supplemental imported water supplies from MWDOC and surface water from Serrano Water District.

As a result, there is no projected shortage condition due to drought that will trigger customer demand reduction actions until MWDOC notifies the City of insufficient imported supplies. More information is available in the City's 2020 UWMP Section 6 and 7 (Orange, 2021).

## 3.2 Annual Water Supply and Demand Assessment Procedures

Per Water Code Section 10632.1, the City will conduct an Annual Assessment pursuant to subdivision (a) of Section 10632 and by July 1st of each year, beginning in 2022, submit an annual water shortage assessment with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the Supplier's WSCP.

The City must include in its WSCP the procedures used for conducting an Annual Assessment. The Annual Assessment is a determination of the near-term outlook for supplies and demands and how a perceived shortage may relate to WSCP shortage stage response actions in the current calendar year. This determination is based on information available to the City at the time of the analysis. Starting in 2022, the Annual Assessment will be due by July 1 of every year.

This section documents the decision-making process required for formal approval of the City's Annual Assessment determination of water supply reliability each year and the key data inputs and the methodologies used to evaluate the water system reliability for the coming year, while considering that the year to follow would be considered dry.

### 3.2.1 Decision-Making Process

The following decision-making process describes the functional steps that the City will take to formally approve the Annual Assessment determination of water supply reliability each year.

#### 3.2.1.1 City Steps to Approve the Annual Assessment Determination

The Annual Assessment will be predicated on the OCWD Basin Production Percentage (BPP) and on MWDOC's Annual Assessment outcomes.

The City receives groundwater from OCWD. The OC Basin is not adjudicated and as such, pumping from the OC Basin is managed through a process that uses financial incentives to encourage groundwater producers (Producers) to pump a sustainable amount of water. The framework for the financial incentives is based on establishing the BPP, the percentage of each Producer's total water supply that comes from groundwater pumped from the OC Basin. The BPP is set uniformly for all Producers by OCWD on an annual basis in by OCWD Board of Directors. Based on the projected water demand and water modeled water supply, over the long-term, OCWD anticipates sustainably supporting a BPP of 85%; however, volumes of groundwater and imported water may vary depending on OCWD's actual BPP projections. A supply reduction that may result from the annual BPP projection will be included in the Annual Assessment.

While the City's primary source of water is OCWD groundwater, any remaining source to meet retail demands comes from the purchase of imported water from MWDOC. MWDOC surveys its member agencies annually for anticipated water demands and supplies for the upcoming year. MWDOC utilizes this information to plan for the anticipated imported water supplies for the MWDOC service area. This information is then shared and coordinated with MET and is incorporated into their analysis of their service area's annual imported water needs. Based on the year's supply conditions and WSDM actions, MET will present a completed Annual Assessment for its member agencies' review from which they will then seek Board approval in April of each year. Additionally, MET expects that any triggers or specific shortage response actions that result from the Annual Assessment would be approved by their Board at that time. Based upon MET's Assessment and taking into consideration information provided to MWDOC through the annual survey, MWDOC will provide an anticipated estimate of imported supplies for the City to incorporate into the Annual Assessment.

If the Annual Assessment does not indicate a water shortage, the Water Manager, or Designee, will be responsible for approving the Annual Assessment in June and formally submit to DWR prior to the July 1 deadline. If the Annual Assessment indicates the water shortage is expected, the City staff will seek approval by City Council.

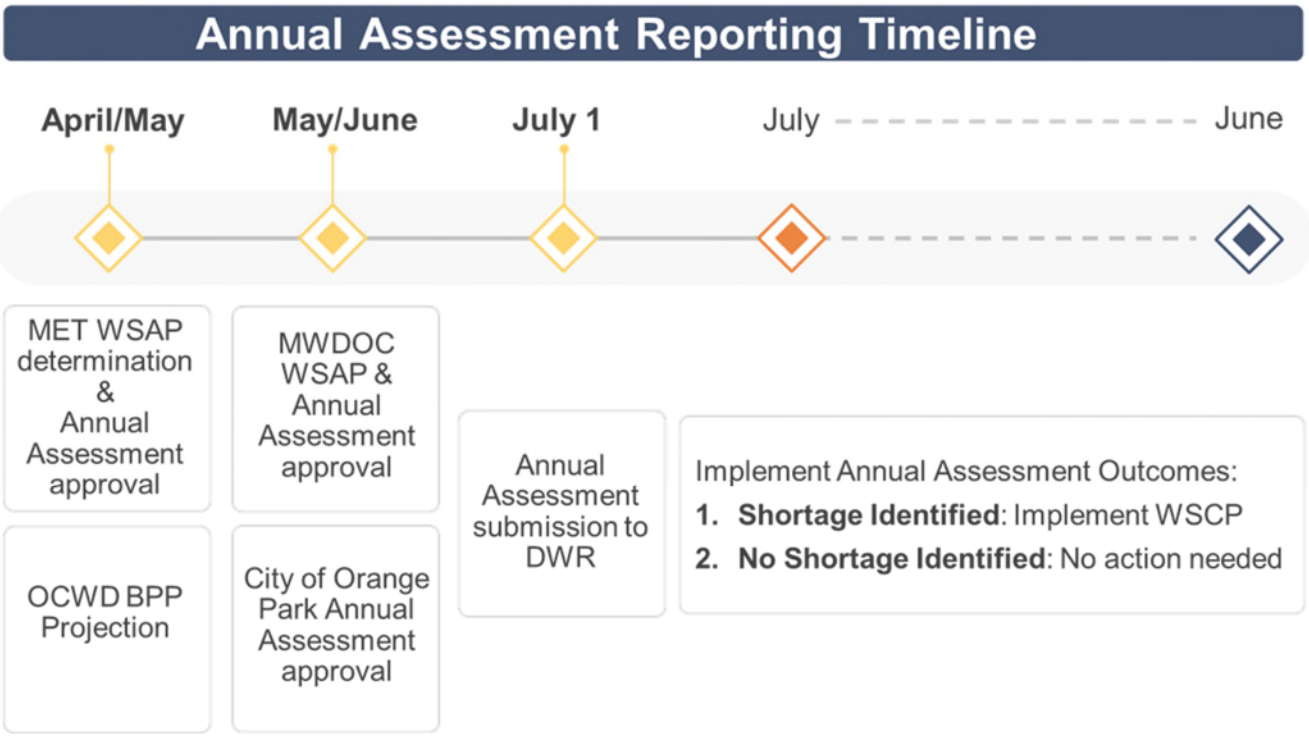


**Figure 3-1: Sample Annual Assessment Reporting Timeline**

### 3.2.2 Data and Methodologies

The following paragraphs document the key data inputs and methodologies that are used to evaluate the water system reliability for the coming year, while considering that the year to follow would be considered dry.

#### 3.2.2.1 Assessment Methodology

The City will evaluate water supply reliability for the current year and one dry year for the purpose of the Annual Assessment. The Annual Assessment determination will be based on considerations of unconstrained water demand, local water supplies, MWDOC imported water supplies, planned water use, and infrastructure considerations. The balance between projected in-service area supplies, coupled with MWDOC imported supplies, and anticipated unconstrained demand will be used to determine what, if any, shortage stage is expected under the WSCP framework as presented in Figure 3-2. The WSCP's standard shortage stages are defined in terms of shortage percentages. Shortage percentages will be calculated by dividing the difference between water supplies and unconstrained demand by total unconstrained demand. This calculation will be performed separately for anticipated current year conditions and for assumed dry year conditions.

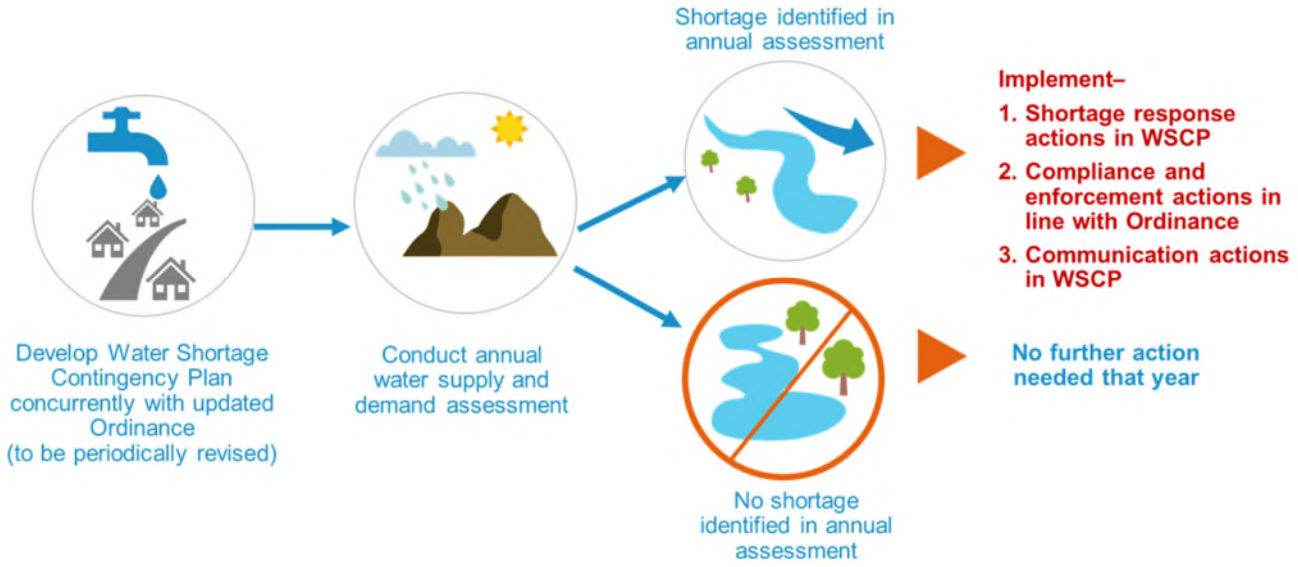


**Figure 3-2: Water Shortage Contingency Plan Annual Assessment Framework**

### 3.2.2.2 Locally Applicable Evaluation Criteria

Within Orange County, there are no significant local applicable criteria that directly affect reliability. Through the years, the water agencies in Orange County have made tremendous efforts to integrate their systems to provide flexibility to interchange with different sources of supplies. There are emergency agreements in place to ensure all parts of the County have an adequate supply of water. In the northern part of the County, agencies have the ability to meet a majority of their demands through groundwater with very little limitation, except for the OCWD BPP.

The City will also continue to monitor emerging supply and demand conditions related to supplemental imported water from MWDOC/MET and take appropriate actions consistent with the flexibility and adaptiveness inherent to the WSCP. The City's Annual Assessment was based on the City's service area, water sources, water supply reliability, and water use as described in Water Code Section 10631, including available data from state, regional, or local agency population, land use development, and climate change projections within the service area of the City. Some conditions that affect MWDOC's wholesale supply and demand, such as groundwater replenishment, surface water and local supply production, can differ significantly from earlier projections throughout the year.

If a major earthquake on the San Andreas Fault occurs, it has the potential to damage all three key regional water aqueducts and disrupt imported supplies for up to six months. The region would likely impose a water use reduction ranging from 10-25% until the system is repaired. However, MET has taken proactive steps to handle such disruption, such as constructing DVL, which mitigates potential impacts. DVL, along with other local reservoirs, can store a six to twelve-month supply of emergency water (MET, 2021b).

### 3.2.2.3 Water Supply

As detailed in the City's 2020 UWMP, the City meets all of its customers' demands with a combination of local groundwater, imported water, and local surface water. The City's main source of water supply is groundwater from the OC Basin, with the rest of the City's water supply portfolio made up of imported water from MWDOC/MET and surface water from Serrano Water District. In fiscal year (FY) 2019-20, the City relied on 77%

groundwater, 18% imported water, and 5% surface water. It is projected that by 2045, the City's water supply mix will change to approximately 85% groundwater, 11% imported water, and 4% surface water, reflecting the increase in OCWD's BPP to 85% starting in 2025 (Orange, 2021).

#### 3.2.2.4 Unconstrained Customer Demand

The WSCP and Annual Assessment define unconstrained demand as expected water use prior to any projected shortage response actions that may be taken under the WSCP. Unconstrained demand is distinguished from observed demand, which may be constrained by preceding, ongoing, or future actions, such as emergency supply allocations during a multi-year drought. WSCP shortage response actions to constrain demand are inherently extraordinary; routine activities such as ongoing conservation programs and regular operational adjustments are not considered as constraints on demands.

The City's DRA reveals that its supply capabilities are expected to balance anticipated total water use and supply, assuming a five-year consecutive drought from FY 2020-21 through FY 2024-25 (Orange, 2021). Water demands in a five-year consecutive drought are calculated as a six percent increase in water demand above a normal year for each year of the drought, without compounding increases (CDM Smith, 2021).

#### 3.2.2.5 Planned Water Use for Current Year Considering Dry Subsequent Year

Water Code Section 10632(a)(2)(B)(ii) requires the Annual Assessment to determine "current year available supply, considering hydrological and regulatory conditions in the current year and one dry year."

The Annual Assessment will include two separate estimates of City's annual water supply and unconstrained demand using: 1) current year conditions, and 2) assumed dry year conditions. Accordingly, the Annual Assessment's shortage analysis will present separate sets of findings for the current year and dry year scenarios. The Water Code does not specify the characteristics of a dry year, allowing discretion to the Supplier. The City will use its discretion to refine and update its assumptions for a dry year scenarios in each Annual Assessment as information becomes available and in accordance with best management practices.

Supply and demand analyses for the single-dry year case was based on conditions affecting the SWP as this supply availability fluctuates the most among MET's, and therefore MWDOC and the City's, sources of supply. FY 2013-14 was the single driest year for SWP supplies with an allocation of 5% to Municipal and Industrial (M&I) uses. Unique to this year, the 5% SWP allocation was later reduced to 0%, before ending up at its final allocation of 5%, highlight the stressed water supplies for the year. Furthermore, on January 17, 2014, Governor Brown declared the drought State of Emergency citing 2014 as the driest year in California history. Additionally, within MWDOC's service area, precipitation for FY 2013-14 was the second lowest on record, with 4.37 inches of rain, significantly impacting water demands.

The water demand forecasting model developed for the Demand Forecast TM isolated the impacts that weather and future climate can have on water demand through the use of a statistical model. The impacts of hot/dry weather conditions are reflected as a percentage increase in water demands from the normal year condition (average of FY 2017-18 and FY 2018-19). For a single dry year condition (FY 2013-14), the model projects a six percent increase in demand for the OC Basin area where the City's service area is located (CDM Smith, 2021). Detailed information of the model is included in the City's 2020 UWMP.

The City has documented that it is 100% reliable for single dry year demands from 2025 through 2045 with a demand increase of six percent from normal demand with significant reserves held by MET, local groundwater supplies, and water use efficiency (Orange, 2021).

#### 3.2.2.6 Infrastructure Considerations

The Annual Assessment will include consideration of any infrastructure issues that may pertain to near-term water supply reliability, including repairs, construction, and environmental mitigation measures that may temporarily constrain capabilities, as well as any new projects that may add to system capacity. MWDOC closely coordinates with MET and its member agencies, including the City, on any planned infrastructure work that may impact water supply availability. Throughout each year, MET regularly carries out preventive and corrective maintenance of its facilities within the MWDOC service area that may require shutdowns to inspect and repair pipelines and facilities and support capital improvement projects. These shutdowns involve a high level of planning and coordination between MWDOC, MWDOC's member agencies, and MET to ensure that major portions of the distribution system are not out of service at the same time. Operational flexibility within MET's system and the cooperation of member agencies allow shutdowns to be successfully completed while continuing to meet all system demands.

Specifically for the City, as of July 2021 there are no foreseen near-term infrastructure issues that would impact supply.

#### 3.2.2.7 Other Factors

For the Annual Assessment, any known issues related to water quality would be considered for their potential effects on water supply reliability.

Per- and polyfluoroalkyl substances (PFAS) are a group of thousands of manmade chemicals that includes perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). PFAS compounds were once commonly used in many products including, among many others, stain- and water-repellent fabrics, nonstick products (e.g., Teflon), polishes, waxes, paints, cleaning products, and fire-fighting foams. Beginning in the summer of 2019, the California State Division of Drinking Water (DDW) began requiring testing for PFAS compounds in some groundwater production wells in the OCWD area.

PFAS are of particular concern for groundwater quality, and since the summer of 2019, DDW requires testing for PFAS compounds in some groundwater production wells in the OCWD area. In February 2020, the DDW lowered its Response Levels (RL) for PFOA and PFOS to 10 and 40 parts per trillion (ppt), respectively. The DDW recommends Producers not serve any water exceeding the RL – effectively making the RL an interim Maximum Contaminant Level (MCL) while DDW undertakes administrative action to set a MCL. In response to DDW's issuance of the revised RL, as of December 2020, approximately 45 wells in the OCWD service area have been temporarily turned off until treatment systems can be constructed. As additional wells are tested, OCWD expects this figure may increase to at least 70 to 80 wells. The state has begun the process of establishing MCLs for PFOA and PFOS and anticipates these MCLs to be in effect by the Fall of 2023. OCWD anticipates the MCLs will be set at or below the RLs.

In April 2020, OCWD as the groundwater basin manager, executed an agreement with the impacted Producers to fund and construct the necessary treatment systems for production wells impacted by PFAS compounds. The PFAS treatment projects includes the design, permitting, construction, and operation of PFAS removal systems for impacted Producer production wells. Each well treatment system will be evaluated for use with either granular activated carbon or ion exchange for the removal of PFAS compounds. These treatment systems utilize vessels

in a lead-lag configuration to remove PFOA and PFOS to less than 2 ppt (the current non-detect limit). Use of these PFAS treatment systems are designed to ensure the groundwater supplied by Producer wells can be served in compliance with current and future PFAS regulations. With financial assistance from OCWD, the Producers will operate and maintain the new treatment systems once they are constructed.

To minimize expenses and provide maximum protection to the public water supply, OCWD initiated design, permitting, and construction of the PFAS treatment projects on a schedule that allows rapid deployment of treatment systems. Construction contracts were awarded for treatment systems for production wells in the City of Fullerton and Serrano Water District in Year 2020. Additional construction contracts will likely be awarded in the first and second quarters of 2021. OCWD expects the treatment systems to be constructed for most of the initial 45 wells above the RL within the next 2 to 3 years.

As additional data are collected and new wells experience PFAS detections at or near the current RL, and/or above a future MCL, and are turned off, OCWD will continue to partner with the affected Producers and take action to design and construct necessary treatment systems to bring the impacted wells back online as quickly as possible.

Groundwater production in FY 2019-20 was expected to be approximately 325,000 AF but declined to 286,550 AF primarily due to PFAS impacted wells being turned off around February 2020. OCWD expects groundwater production to be in the area of 245,000 AF in FY 2020-21 due to the currently idled wells and additional wells being impacted by PFAS and turned off. As PFAS treatment systems are constructed, OCWD expects total annual groundwater production to slowly increase back to normal levels (310,000 to 330,000 AF) (OCWD, 2020).

## 3.3 Six Standard Water Shortage Levels

Per Water Code Section 10632 (a)(3)(A), the City must include the six standard water shortage levels that represent shortages from the normal reliability as determined in the Annual Assessment. The shortage levels have been standardized to provide a consistent regional and statewide approach to conveying the relative severity of water supply shortage conditions. This is an outgrowth of the severe statewide drought of 2012-2016, and the widely recognized public communication and state policy uncertainty associated with the many different local definitions of water shortage Levels.

The six standard water shortage levels correspond to progressively increasing estimated shortage conditions (up to 10, 20, 30, 40, 50, and greater than 50% shortage compared to the normal reliability condition) and align with the response actions the Supplier would implement to meet the severity of the impending shortages (Table 3-1).

Table 3-1: Water Shortage Contingency Plan Levels

| Submittal Table 8-1<br>Water Shortage Contingency Plan Levels | | |
|---|---|---|
| **Shortage Level** | **Percent Shortage Range** | **Shortage Response Actions** |
| 0 | 0% (Normal) | A Level 0 Water Supply Shortage – Condition exists when the City notifies its water users that no supply reductions are anticipated in this year. The City proceeds with planned water efficiency best practices to support consumer demand reduction in line with state mandated requirements and local City goals for water supply reliability. Permanent water waste prohibitions are in place as stipulated in the City's Water Shortage Response Ordinance. |
| 1 | Up to 10% | A Level 1 Water Supply Shortage – Condition exists when the City notifies its water users that due to drought or other supply reductions, a consumer demand reduction of up to 10% is necessary to make more efficient use of water and respond to existing water conditions. The City shall implement the mandatory Level 1 conservation measures identified in this WSCP. The type of event that may prompt the City to declare a Level 1 Water Supply Shortage may include, among other factors, a finding that its wholesale water provider calls for extraordinary water conservation. |
| 2 | 11% to 20% | A Level 2 Water Supply Shortage – Condition exists when the City notifies its water users that due to drought or other supply reductions, a consumer demand reduction of up to 20% is necessary to make more efficient use of water and respond to existing water conditions. Upon declaration of a Level 2 Water Supply Shortage condition, the City shall implement the mandatory Level 2 conservation measures identified in this WSCP. |
| 3 | 21% to 30% | A Level 3 Water Supply Shortage – Condition exists when the City declares a water shortage emergency condition pursuant to California Water Code section 350 and notifies its residents and businesses that up to 30% consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. The City must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code section 350. |
| 4 | 31% to 40% | A Level 4 Water Supply Shortage - Condition exists when the City declares a water shortage emergency condition pursuant to California Water Code section 350 and notifies its residents and businesses that up to 40% consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. The City must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code section 350. |

| Submittal Table 8-1<br>Water Shortage Contingency Plan Levels | | |
|---|---|---|
| **Shortage Level** | **Percent Shortage Range** | **Shortage Response Actions** |
| 5 | 41% to 50% | A Level 5 Water Supply Shortage - Condition exists when the City declares a water shortage emergency condition pursuant to California Water Code section 350 and notifies its residents and businesses that up to 50% or more consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. The City must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code section 350. |
| 6 | >50% | A Level 6 Water Supply Shortage – Condition exists when the City declares a water shortage emergency condition pursuant to California Water Code section 350 and notifies its residents and businesses that greater than 50% or more consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. The City must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code section 350. |
| NOTES: | | |

## 3.4 Shortage Response Actions

Water Code Section 10632 (a)(4) requires the WSCP to specify shortage response actions that align with the defined shortage levels. The City has defined specific shortage response actions that align with the defined shortage levels in DWR Tables 8-2 and 8-3 (Appendix A). These shortage response actions were developed with consideration to the system infrastructure and operations changes, supply augmentation responses, customer-class or water use-specific demand reduction initiatives, and increasingly stringent water use prohibitions.

### 3.4.1 Demand Reduction

The demand reduction measures that would be implemented to address shortage levels are described in DWR Table 8-2 (Appendix A). This table indicates which actions align with specific defined shortage levels and estimates the extent to which the actions will reduce the gap between supplies and demands to deliver the outcomes necessary to meet the requirements of a given shortage level. This table also identifies the enforcement action, if any, associated with each demand reduction measure.

### 3.4.2 Supply Augmentation

The supply augmentation actions are described in DWR Table 8-3 (Appendix A). These augmentations represent short-term management objectives triggered by the MET's WSDM Plan and do not overlap with the long-term new water supply development or supply reliability enhancement projects. Supply Augmentation is made available to the City through MWDOC and MET. The City relies on MET's reliability portfolio of water supply programs including existing water transfers, storage and exchange agreements to supplement gaps in the City's

supply/demand balance. MET has developed significant storage capacity (over 5 million AF) in reservoirs and groundwater banking programs both within and outside of the Southern California region. Additionally, MET can pursue additional water transfer and exchange programs with other water agencies to help mitigate supply/demand imbalances and provide additional dry-year supply sources.

MWDOC, and in turn its retail agencies, including the City, has access to supply augmentation actions through MET. MET may exercise these actions based on regional need, and in accordance with their WSCP, and may include the use of supplies and storage programs within the Colorado River, SWP, and in-region storage. The City has the ability to augment its supply to reduce the shortage gap by up to 100% by purchasing additional imported water through MWDOC or pumping additional groundwater in the OC Basin; however, both are subject to rate penalties from MWDOC and OCWD, respectively.

### 3.4.3 Operational Changes

During shortage conditions, operations may be affected by supply augmentation or demand reduction responses. The City will consider their operational procedures when it completes its Annual Assessment or as needed to identify changes that can be implemented to address water shortage on a short-term basis. The City can alter maintenance cycles, such as system flushing, reduce leak response time, and defer planned construction activities and capital improvement projects to limit or defer planned system outages.

### 3.4.4 Additional Mandatory Restrictions

California Water Code Section 10632(a)(4)(D) calls for “additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions” to be included among the WSCP’s shortage response actions. The City will identify additional mandatory restrictions as needed based on the Orange Municipal Code Chapter 7.02 Water Conservation and Water Supply Shortage (Appendix B). The City intends to update any mandatory restrictions in a subsequently adopted ordinance which will supersede the existing ordinance.

### 3.4.5 Emergency Response Plan (Hazard Mitigation Plan)

A catastrophic water shortage would be addressed according to the appropriate water shortage level and response actions. It is likely that a catastrophic shortage would immediately trigger Shortage Level 6 and response actions have been put in place to mitigate a catastrophic shortage. In addition, there are several Plans that address catastrophic failures and align with the WSCP, including MET’s WSDM and WSAP, the City’s HMP, and the Water Emergency Response Organization of Orange County (WEROC)’s Emergency Operations Plan.

#### 3.4.5.1 MET’s WSDM and WSAP

MET has comprehensive plans for stages of actions it would undertake to address a catastrophic interruption in water supplies through its WSDM and WSAP. MET also developed an Emergency Storage Requirement to mitigate against potential interruption in water supplies resulting from catastrophic occurrences within the southern California region, including seismic events along the San Andreas Fault. In addition, MET is working with the state to implement a comprehensive improvement plan to address catastrophic occurrences outside of the southern California region, such as a maximum probable seismic event in the Delta that would cause levee failure and disruption of SWP deliveries.

#### 3.4.5.2 Water Emergency Response Organization of Orange County Emergency Operations Plan

In 1983, the Orange County water community identified a need to develop a plan on how agencies would respond effectively to disasters impacting the regional water distribution system. The collective efforts of these agencies resulted in the formation of the WEROC to coordinate emergency response on behalf of all Orange County water and wastewater agencies, develop an emergency plan to respond to disasters, and conduct disaster training exercises for the Orange County water community. WEROC was established with the creation of an indemnification agreement between its member agencies to protect each other against civil liabilities and to facilitate the exchange of resources. WEROC is unique in its ability to provide a single point of contact for representation of all water and wastewater utilities in Orange County during a disaster. This representation is to the county, state, and federal disaster coordination agencies. Within the Orange County Operational Area, WEROC is the recognized contact for emergency response for the water community, including the City.

As a member of WEROC, the District will follow WEROC's EOP in the event of an emergency and coordinate with WEROC to assess damage, initiate repairs, and request and coordinate mutual aid resources in the event that the District is unable to provide the level of emergency response support required by the situation.

The EOP defines the actions to be taken by WEROC Emergency Operations Center (EOC) staff to reduce the loss of water and wastewater infrastructure; to respond effectively to a disaster; and to coordinate recovery operations in the aftermath of any emergency involving extensive damage to Orange County water and wastewater utilities. The EOP includes activation notification protocol that will be used to contact partner agencies to inform them of the situation, activation status of the EOC, known damage or impacts, or resource needs. The EOP is a standalone document that is reviewed annually and approved by the Board every three years.

WEROC is organized on the basis that each member agency is responsible for developing its own EOP in accordance with the California Standardized Emergency Management System (SEMS), National Incident Management System (NIMS), and Public Health Security and Bioterrorism Preparedness and Response Act of 2002 to meet specific emergency needs within its service area.

The WEROC EOC is responsible for assessing the overall condition and status of the Orange County regional water distribution and wastewater collection systems including MET facilities that serve Orange County. The EOC can be activated during an emergency situation that can result from both natural and man-made causes, and can be activated through automatic, manual, or standby for activation.

WEROC recognized four primary phases of emergency management, which include:

- **Preparedness:** Planning, training, and exercises that are conducted prior to an emergency to support and enhance response to an emergency or disaster.
- **Response:** Activities and programs designed to address the immediate and short-term effects of the onset of an emergency or disaster that helps to reduce effects to water infrastructure and speed recovery. This includes alert and notification, EOC activation, direction and control, and mutual aid.
- **Recovery:** This phase involved restoring systems to normal, in which short-term recovery actions are taken to assess the damage and return vital life-support systems to minimum operating standards, while long-term recovery actions have the potential to continue for many years.
- **Mitigation/Prevention:** These actions prevent the occurrence of an emergency or reduce the area's vulnerability in ways that minimize the adverse impacts of a disaster or emergency. MWDOC's HMP outlines threats and identifies mitigation projects.

The EOC Action Plans (EAP) provide frameworks for EOC staff to respond to different situations with the objectives and steps required to complete them, which will in turn serve the WEROC member agencies. In the event of an emergency which results in a catastrophic water shortage, the City will declare a water shortage condition of up to Level 6 for the impacted area depending on the severity of the event, and coordination with WEROC is anticipated to begin at Level 4 or greater (WEROC, 2018).

#### 3.4.5.3 City of Orange Emergency Response Plan

The City will also refer to its current American Water Infrastructure Act Risk and Resilience Assessment and Emergency Response Plan in the event of a catastrophic supply interruption.

### 3.4.6 Seismic Risk Assessment and Mitigation Plan

Per the Water Code Section 10632.5, Suppliers are required to assess seismic risk to water supplies as part of their WSCP. The plan also must include the mitigation plan for the seismic risk(s). Given the great distances that imported supplies travel to reach Orange County, the region is vulnerable to interruptions along hundreds of miles aqueducts, pipelines and other facilities associated with delivering the supplies to the region. Additionally, the infrastructure in place to deliver supplies are susceptible to damage from earthquakes and other disasters.

In lieu of conducting their own seismic risk assessment, the City has included the local hazard mitigation plan or multi-hazard mitigation plan that is required under the federal Disaster Mitigation Act of 2000 (Public Law 106-390).

Per the Water Code Section 10632.5, Suppliers are required to assess seismic risk to water supplies as part of their WSCP. The plan also must include the mitigation plan for the seismic risk(s). Given the great distances that imported supplies travel to reach Orange County, the region is vulnerable to interruptions along hundreds of miles of aqueducts, pipelines and other facilities associated with delivering the supplies to the region. Additionally, the infrastructure in place to deliver supplies are susceptible to damage from earthquakes and other disasters.

MWDOC's HMP identified that the overarching goals of the HMP were the same for all of its member agencies, which include:

- Goal 1: Minimize vulnerabilities of critical infrastructure to minimize damages and loss of life and injury to human life caused by hazards.
- Goal 2: Minimize security risks to water and wastewater infrastructure.
- Goal 3: Minimize interruption to water and wastewater utilities.
- Goal 4: Improve public outreach, awareness, education, and preparedness for hazards in order to increase community resilience.
- Goal 5: Eliminate or minimize wastewater spills and overflows.
- Goal 6: Protect water quality and supply, critical aquatic resources, and habitat to ensure a safe water supply.
- Goal 7: Strengthen Emergency Response Services to ensure preparedness, response, and recovery during any major or multi-hazard event.

MWDOC's HMP evaluates hazards applicable to all jurisdictions in its entire planning area, prioritized based on probability, location, maximum probable extent, and secondary impacts. The identification of hazards is highly dependent on the location of facilities within the City's jurisdiction and takes into consideration the history of the

hazard and associated damage, information provided by agencies specializing in a specific hazard, and relies upon the City's expertise and knowledge.

Earthquake fault rupture and seismic hazards, including ground shaking and liquefaction, are among the highest ranked hazards to the region as a whole because of its long history of earthquakes, with some resulting in considerable damage. A significant earthquake along one of the major faults could cause substantial casualties, extensive damage to infrastructure, fires, damages and outages of water and wastewater facilities, and other threats to life and property.

Nearly all of Orange County is at risk of moderate to extreme ground shaking, with liquefaction possible throughout much of Orange County but the most extensive liquefaction zones occur in coastal areas. Based on the amount of seismic activity that occurs within the region, there is no doubt that communities within Orange County will continue to experience future earthquake events, and it is a reasonable assumption that a major event will occur within a 30-year timeframe.

The mitigation actions identify the hazard, proposed mitigation action, location/facility, local planning mechanism, risk, cost, timeframe, possible funding sources, status, and status rationale, as applicable. Mitigation actions for the City for seismic risks include (MWDOC, 2019):

- Continuous monitoring of hazard sensitive areas.
- Propose improvement and retrofit for seismic protection.
- Improve structural and connection of reservoirs and pump stations.
- Provide backup power for all well sites and pump stations.
- Increase storage capacity.
- Participate and coordinate with WEROC and other member agencies to improve vulnerability.
- Perform retrofitting for facilities in disaster prone areas.
- Avoid building in high risk areas.

### 3.4.7 Shortage Response Action Effectiveness

For each specific Shortage Response Action identified in the plan, the WSCP also estimates the extent to which that action will reduce the gap between supplies and demands identified in DWR Table 8-2 (Appendix A). To the extent feasible, the City has estimated percentage savings for the chosen suite of shortage response actions, which can be anticipated to deliver the expected outcomes necessary to meet the requirements of a given shortage level.

## 3.5 Communication Protocols

Timely and effective communication is a key element of the WSCP implementation. In the context of water shortage response, the purpose may be an emergency water shortage situation, such as may result from an earthquake, or a longer-term, non-emergency, shortage condition, such as may result from a drought. In an emergency, the City will activate the communication protocol detailed in the Emergency Response Plan. In a non-emergency water shortage situation, the City will follow the communication protocols described below.

Per the Water Code Section 10632 (a)(5), the City has established communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments regarding any current or predicted shortages as determined by the Annual Assessment described pursuant to Section 10632.1; any

shortage response actions triggered or anticipated to be triggered by the Annual Assessment described pursuant to Section 10632.1; and any other relevant communications.

Non-emergency water shortage communication protocols are focused on communicating the water shortage contingency planning actions that can be derived from the results of the Annual Assessment, and it would likely trigger based upon the decision-making process in Section 3.2. Prior to water shortage level declaration, the City will pursue outreach to inform customers of water shortage levels and definitions, targeted water savings for each drought stage, guidelines that customers are to follow during each stage, and sources of current information on the City's supply and demand response status.

The type and degree of communication varies with each shortage level, thus predefined and actionable communication protocols improve the City's ability to message necessary events. These communication objectives and tools are summarized in Table 3-2.

The City's Public Relations department will lead public information and outreach efforts in close coordination with other MWDOC and MET. The City will share information and provide guidance to its customers as well as monitor the customer response and attitude toward both voluntary and mandatory customer response guidelines. The City's customer outreach is required to successfully achieve targeted water savings during each drought stage.

**Table 3-2: Communication Procedures**

| Shortage level | Communication Objectives | Communication Tools |
|---|---|---|
| **1** | Compliance with response actions, 10% reduction in water use | - Website info. on "City" website<br>- Social media outreach<br>- Direct mailings to homes and businesses<br>- School education programs (thru MWDOC)<br>- City water efficiency programs (thru MWDOC)<br>- Direct communication with high water users<br>- Communication with commercial/industrial water users |
| **2** | Compliance with response actions, 20% reduction in water use | - Include all Communication Tools listed under Shortage Level 1 and<br>- Communication outreach<br>- Educational outreach |

| Shortage level | Communication Objectives | Communication Tools |
|---|---|---|
| **3** | Compliance with response actions, 30% reduction in water use | Include all Communication Tools listed under Shortage Levels 1, 2, and<br>- Water bill communications |
| **4** | Compliance with response actions, 40% reduction in water use | |
| **5** | Compliance with response actions, 50% reduction in water use | |
| **6** | Compliance with response actions, >50% reduction in water use | |

## 3.6 Compliance and Enforcement

Per the Water Code Section 10632 (a)(6), the City has defined customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions. Procedures to ensure customer compliance are described in Section 3.5. Communication Protocols and customer enforcement, appeal, and exemption procedures are defined in the Orange Municipal Code Chapter 7.02 Water Conservation and Water Supply Shortage (Appendix B).

## 3.7 Legal Authorities

Per Water Code Section 10632 (a)(7)(A), the City has provided a description of the legal authorities that empower the City to implement and enforce its shortage response in Orange Municipal Code Chapter 7.02 Water Conservation and Water Supply Shortage (Appendix B). The City intends to update any legal authorities in a subsequently adopted ordinance which will supersede the existing ordinance.

Per Water Code Section 10632 (a)(7) (B), the City shall declare a water shortage emergency condition to prevail within the area served by such wholesaler whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

Per Water Code Section 10632 (a)(7)(C), the City shall coordinate with any agency or county within which it provides water supply services for the possible proclamation of a local emergency under California Government Code, California Emergency Services Act (Article 2, Section 8558). Table 3-3Table 3-3 identifies the contacts for all cities or counties for which the Supplier provides service in the WSCP, along with developed coordination protocols, can facilitate compliance with this section of the Water Code in the event of a local emergency as defined in subpart (c) of Government Code Section 8558.

Table 3-3: Agency Contacts and Coordination Protocols

| Contact | Agency | Coordination Protocols |
|---|---|---|
| City Manager | City of Anaheim | Phone and email |
| City Manager | City of Santa Ana | Phone and email |
| City Manager | City of Garden Grove | Phone and email |
| City Manager | City of Tustin | Phone and email |
| General Manager | Irvine Ranch Water District | Phone and email |
| General Manager | Serrano Water District | Phone and email |
| City Manager | City of Villa Park | Phone and email |
| | County of Orange | Phone and email |
| General Manager | East Orange County Water District | Phone and email |

## 3.8 Financial Consequences of WSCP

Per Water Code Section 10632(a)(8), Suppliers must include a description of the overall anticipated financial consequences to the Supplier of implementing the WSCP. This description must include potential reductions in revenue and increased expenses associated with implementation of the shortage response actions. This should be coupled with an identification of the anticipated mitigation actions needed to address these financial impacts.

During a catastrophic interruption of water supplies, prolonged drought, or water shortage of any kind, the City will experience a reduction in revenue due to reduced water sales. Throughout this period of time, expenditures may increase or decrease with varying circumstances. Expenditures may increase in the event of significant damage to the water system, resulting in emergency repairs. Expenditures may also decrease as less water is pumped through the system, resulting in lower power costs. Water shortage mitigation actions will also impact revenues and require additional costs for drought response activities such as increased staff costs for tracking, reporting, and communications.

The City receives water revenue from a service charge and a commodity charge based on consumption. The service charge recovers costs associated with providing water to the serviced property. The service charge does not vary with consumption and the commodity charge is based on water usage. Rates have been designed to recover the full cost of water service in the charges. Therefore, the total cost of purchasing water would decrease as the usage or sale of water decreases. In the event of a drought emergency, the City will impose excessive water use penalties on its customers, which may include additional costs associated with reduced water revenue, staff time taken for penalty enforcement, and advertising the excessive use penalties. The excessive water use

penalties are further described in the Orange Municipal Code Chapter 7.02 Water Conservation and Water Supply Shortage (Appendix B).

However, there are significant fixed costs associated with maintaining a minimal level of service. The City will monitor projected revenues and expenditures should an extreme shortage and a large reduction in water sales occur for an extended period of time. To overcome these potential revenue losses and/or expenditure impacts, the City may use reserves. If necessary, the City may reduce expenditures by delaying implementation of its Capital Improvement Program and equipment purchases to reallocate funds to cover the cost of operations and critical maintenance, adjust the work force, implement a drought surcharge, and/or make adjustments to its water rate structure.

Based on current water rates, a volumetric cutback of 50% and above of water sales may lead to a range of reduction in revenues. The impacts to revenues will depend on a proportionate reduction in variable costs related to supply, pumping, and treatment for the specific shortage event. The City has set aside reserve funding to mitigate short-term water shortage situation.

## 3.9 Monitoring and Reporting

Per Water Code Section 10632(a)(9), the City is required to provide a description of the monitoring and reporting requirements and procedures that have been implemented to ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.

Monitoring and reporting key water use metrics is fundamental to water supply planning and management. Monitoring is also essential in times of water shortage to ensure that the response actions are achieving their intended water use reduction purposes, or if improvements or new actions need to be considered (see Section 3.10). Monitoring for customer compliance tracking is also useful in enforcement actions.

Under normal water supply conditions, potable water production figures are recorded daily. Weekly and monthly reports are prepared and monitored. This data will be used to measure the effectiveness of any water shortage contingency level that may be implemented. As levels of water shortage are declared by MET and MWDOC, the City will follow implementation of those levels as appropriate based on the City's risk profile provided in UWMP Chapter 6 and continue to monitor water demand levels. When MET calls for extraordinary conservation, MET's Drought Program Officer will coordinate public information activities with MWDOC and monitor the effectiveness of ongoing conservation programs.

The City will participate in monthly member agency manager meetings with both MWDOC and OCWD to monitor and discuss monthly water allocation charts. This will enable the City to be aware of imported water and groundwater use on a timely basis as a result of specific actions taken responding to the City's WSCP.

## 3.10 WSCP Refinement Procedures

Per Water Code Section 10632 (a)(10), the City must provide reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of the water shortage contingency plan in order to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed.

The City's WSCP is prepared and implemented as an adaptive management plan. The City will use the monitoring and reporting process defined in section 3.9 to refine the WSCP. In addition, if certain procedural

refinements or new actions are identified by City staff, or suggested by customers or other interested parties, the City will evaluate their effectiveness, incorporate them into the WSCP, and implement them quickly at the appropriate water shortage level.

It is envisioned that the WSCP will be periodically re-evaluated to ensure that its shortage risk tolerance is adequate and the shortage response actions are effective and up to date based on lessons learned from implementing the WSCP. The WSCP will be revised and updated during the UWMP update cycle to incorporate updated and new information. For example, new supply augmentation actions will be added, and actions that are no longer applicable for reasons such as program expiration will be removed. However, if revisions to the WSCP are warranted before the UWMP is updated, the WSCP will be updated outside of the UWMP update cycle. In the course of preparing the Annual Assessment each year, City staff will routinely consider the functionality the overall WSCP and will prepare recommendations for City Council if changes are found to be needed.

## 3.11 Special Water Feature Distinction

Per Water Code Section 10632 (b), the City has defined water features in that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code, in City's Municipal Code Chapter 7.02 Water Conservation and Water Supply Shortage (Appendix B).

## 3.12 Plan Adoption, Submittal, and Availability

Per Water Code Section 10632 (a)(c), the City provided notice of the availability of the draft 2020 UWMP and draft 2020 WSCP and notice of the public hearing to consider adoption of the WSCP. The public review drafts of the 2020 UWMP and the 2020 WSCP were posted prominently on the City's website in advance of the public hearing on October 13, 2021. Copies of the draft WSCP were also made available for public inspection at the City Clerk's and Utilities Department offices and public hearing notifications were published in local newspapers. A copy of the published Notice of Public Hearing is included in Appendix C.

The City held the public hearing for the draft 2020 UWMP and draft WSCP on October 13, 2021, at the City Council meeting. The City Council reviewed and approved the 2020 UWMP and the WSCP at its October 13, 2021 meeting after the public hearing. See Appendix D for the resolution approving the WSCP.

Within 30 days after adoption, the City's adopted 2020 UWMP and WSCP was filed with DWR, California State Library, and the County of Orange. The City will make the WSCP available for public review on its website no later than 30 days after filing with DWR.

Based on DWR's review of the WSCP, the City will make any amendments in its adopted WSCP, as required and directed by DWR.

If the City revises its WSCP after UWMP is approved by DWR, then an electronic copy of the revised WSCP will be submitted to DWR within 30 days of its adoption.

# 4 REFERENCES

CDM Smith. (2021, March 30). *Orange County Water Demand Forecast for MWDOC and OCWD Technical Memorandum.*

City of Orange. (2021, July). *2020 Urban Water Management Plan*.

Metropolitan Water District of Southern California (MET). (2021a, April. *Water Shortage Contingency Plan*. http://www.mwdh2o.com/PDF_About_Your_Water/Draft%20Metropolitan%20Water%20Shortage%20Contingency%20Plan%20April%202021.pdf

Metropolitan Water District of Southern California (MET). (2021b, June). *2020 Urban Water Management Plan.*

Metropolitan Water District of Southern California (MET). (1999, August). *Water Surplus and Drought Management Plan*. http://www.mwdh2o.com/PDF_About_Your_Water/2.4_Water_Supply_Drought_Management_Plan.pdf

Municipal Water District of Orange County (MWDOC). (2016). *Water Supply Allocation Plan*.

Municipal Water District of Orange County (MWDOC). (2019, August). *Orange County Regional Water and Wastewater Hazard Mitigation Plan*.

Water Emergency Response Organization of Orange County (WEROC). (2018, March). *WEROC Emergency Operations Plan (EOP).*

# Appendix A

## DWR Submittal Tables

### Table 8-1: Water Shortage Contingency Plan Levels

### Table 8-2: Demand Reduction Actions

### Table 8-3: Supply Augmentation and Other Actions

**Submittal Table 8-1**
**Water Shortage Contingency Plan Levels**

| Shortage Level | Percent Shortage Range | Shortage Response Actions (*Narrative description*) |
|---|---|---|
| 0 | 0% (Normal) | A Level 0 Water Supply Shortage –Condition exists when the City notifies its water users that no supply reductions are anticipated in this year. The City proceeds with planned water efficiency best practices to support consumer demand reduction in line with state mandated requirements and local City goals for water supply reliability. Permanent water waste prohibitions are in place as stipulated in the City's Water Shortage Response Ordinance. |
| 1 | Up to 10% | A Level 1 Water Supply Shortage – Condition exists when the City notifies its water users that due to drought or other supply reductions, a consumer demand reduction of up to 10% is necessary to make more efficient use of water and respond to existing water conditions. The City shall implement the mandatory Level 1 conservation measures identified in this WSCP. The type of event that may prompt the City to declare a Level 1 Water Supply Shortage may include, among other factors, a finding that its wholesale water provider calls for extraordinary water conservation. |
| 2 | 11% to 20% | A Level 2 Water Supply Shortage – Condition exists when the City notifies its water users that due to drought or other supply reductions, a consumer demand reduction of up to 20% is necessary to make more efficient use of water and respond to existing water conditions. Upon declaration of a Level 2 Water Supply Shortage condition, the City shall implement the mandatory Level 2 conservation measures identified in this WSCP. |
| 3 | 21% to 30% | A Level 3 Water Supply Shortage – Condition exists when the City declares a water shortage emergency condition pursuant to California Water Code section 350 and notifies its residents and businesses that up to 30% consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. The City must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code section 350. |
| 4 | 31% to 40% | A Level 4 Water Supply Shortage - Condition exists when the City declares a water shortage emergency condition pursuant to California Water Code section 350 and notifies its residents and businesses that up to 40% consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. The City must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code section 350. |
| 5 | 41% to 50% | A Level 5 Water Supply Shortage - Condition exists when the City declares a water shortage emergency condition pursuant to California Water Code section 350 and notifies its residents and businesses that up to 50% or more consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. The City must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code section 350. |
| 6 | >50% | A Level 6 Water Supply Shortage – Condition exists when the City declares a water shortage emergency condition pursuant to California Water Code section 350 and notifies its residents and businesses that greater than 50% or more consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. The City must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code section 350. |

NOTES:

**Submittal Table 8-2: Demand Reduction Actions**

| Shortage Level | Demand Reduction Actions<br>***Drop down list***<br>*These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.* | How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)* | Additional Explanation or Reference *(optional)* | Penalty, Charge, or Other Enforcement?<br>***For Retail Suppliers Only***<br>*Drop Down List* |
|---|---|---|---|---|
| *Add additional rows as needed* | | | | |
| 0 | Landscape - Limit landscape irrigation to specific times | On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings. | Limits of watering hours: Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 9:00 a.m. and 5:00 p.m. Pacific Standard Time on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system. | Yes |
| 0 | Landscape - Prohibit all landscape irrigation | On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings. | Limit on watering duration: Watering or irrigating of lawn, landscape or other vegetated area with potable water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than fifteen (15) minutes watering per day per station. This subsection does not apply to landscape irrigation systems that exclusively use very low-flow drip type irrigation systems when no emitter produces more than two (2) gallons water per hour, and weather based controllers or stream rotor sprinklers that meet a 70 percent efficiency standard. | Yes |
| 0 | Landscape - Restrict or prohibit runoff from landscape irrigation | Statewide Prohibition is Required | No excessive water flow or runoff: Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited | |
| 0 | Other - Prohibit use of potable water for washing hard surfaces | Statewide Prohibition is Required | No washing down hard or paved surfaces: Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device or a low-volume, high-pressure cleaning machine equipped to recycle any water used. | Yes |
| 0 | Other - Customers must repair leaks, breaks, and malfunctions in a timely manner | On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings. | Obligation to fix leaks, breaks or malfunctions: Excessive use, loss or escape of water through breaks, leaks or other malfunctions, in the water user's plumbing or distribution system for any period of time after such escape of water should have been discovered and corrected and in no event more than seven (7) days of receiving a notice from the City is prohibited. | Yes |
| 0 | Water Features - Restrict water use for decorative water features, such as fountains | Statewide Prohibition is Required | Re-circulating water required for water fountains and decorative water features: Operating a water fountain or other decorative water feature that does not use re-circulated water is prohibited. | No |
| 0 | CII - Other CII restriction or prohibition | On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings. | No installation of single pass cooling systems: Installation of single pass cooling systems is prohibited in buildings requesting new water service. | No |
| 0 | CII - Other CII restriction or prohibition | On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings. | No installation of non-re-circulating in commercial car wash and laundry systems: Installation of non-re-circulating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems. | No |

**Submittal Table 8-2: Demand Reduction Actions**

| Shortage Level | Demand Reduction Actions ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.* | How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)* | Additional Explanation or Reference *(optional)* | Penalty, Charge, or Other Enforcement? ***For Retail Suppliers Only*** *Drop Down List* |
|---|---|---|---|---|
| 0 | Other - Require automatic shut of hoses | On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings. | Limits on washing vehicles: Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility. | Yes |
| 1 | Expand Public Information Campaign | 5% | Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 1 Protocols) | No |
| 1 | Other - Customers must repair leaks, breaks, and malfunctions in a timely manner | 2% | Obligation to fix leaks, breaks or malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within seventy-two (72) hours of notification by the City unless other arrangements are made with the City. | Yes |
| 1 | CII - Lodging establishment must offer opt out of linen service | 1% | Commercial lodging establishments must provide option to not launder linen daily: Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language. | No |
| 1 | CII - Commercial kitchens required to use pre-rinse spray valves | 1% | Restaurants required to use water conserving dish wash spray valves: Food preparation establishments, such as restaurants or cafes, are prohibited from using non-water conserving dish wash spray valves. | No |
| 1 | CII - Restaurants may only serve water upon request | 1% | Drinking water served upon request only: Eating or drinking establishments, including, but not limited to, a restaurant, hotel, café, cafeteria, bar, club or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any person unless expressly requested. | Yes |
| 1 | Other | | Other prohibited uses: The City may implement other prohibited water uses as determined by the Director of Public Works, or his designee, after notice to customers. | Yes |
| 2 | Expand Public Information Campaign | 5% | Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 2 Protocols) | No |
| 2 | Water Features - Restrict water use for decorative water features, such as fountains | 1% | Limits on filling ornamental lakes or ponds: Filling or re-filling ornamental lakes or ponds is prohibited, 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 supply shortage level under this chapter. | No |
| 2 | Other water feature or swimming pool restriction | 2% | Limits on filling residential swimming pools and spas: Re-filling of more than one (1) foot and initial filling of residential swimming pools or outdoor spas with potable water is prohibited. | Yes |

**Submittal Table 8-2: Demand Reduction Actions**

| Shortage Level | Demand Reduction Actions ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.* | How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)* | Additional Explanation or Reference *(optional)* | Penalty, Charge, or Other Enforcement? ***For Retail Suppliers Only*** *Drop Down List* |
|---|---|---|---|---|
| 2 | Landscape - Limit landscape irrigation to specific days | 10% | Limits on watering days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to three (3) days per week during the months of April through October. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than two (2) days per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system. | Yes |
| 2 | Other - Customers must repair leaks, breaks, and malfunctions in a timely manner | 2% | Obligation to fix leaks, breaks or malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within forty-eight (48) hours of notification by the City unless other arrangements are made with the City. | Yes |
| 2 | Other | | Other prohibited uses: The City may implement other prohibited water uses as determined by the City, after notice to customers. | Yes |
| 3 | Expand Public Information Campaign | 5% | Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 3 Protocols) | No |
| 3 | Other | 5% | Reporting mechanism—hotline: The City may establish a water waste hotline for residents to report violations of this chapter. | Yes |
| 3 | Landscape - Other landscape restriction or prohibition | 3% | Large landscape areas—rain sensors: Large landscape areas, such as parks, cemeteries, golf courses, school grounds, and playing fields, that use landscape irrigation systems to water or irrigate, must use landscape irrigation systems with rain sensors that automatically shut off such systems during periods of rain or irrigation timers which automatically use information such as evapotranspiration sensors to set an efficient water use schedule. | No |

**Submittal Table 8-2: Demand Reduction Actions**

| Shortage Level | Demand Reduction Actions<br>***Drop down list***<br>*These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.* | How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)* | Additional Explanation or Reference *(optional)* | Penalty, Charge, or Other Enforcement?<br>***For Retail Suppliers Only***<br>*Drop Down List* |
|---|---|---|---|---|
| 3 | Landscape - Limit landscape irrigation to specific days | 10% | Limits on watering days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to two (2) days per week during the months of April through October. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one (1) day per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system. | Yes |
| 3 | Other - Customers must repair leaks, breaks, and malfunctions in a timely manner | 2% | Obligation to fix leaks, breaks or malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired immediately upon notification by the City unless other arrangements are made with the City. | Yes |
| 3 | Other | | Other prohibited uses: The City may implement other prohibited water uses as determined by the City, after notice to customers. | Yes |
| 4 | Expand Public Information Campaign | 5% | Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 4 Protocols) | No |
| 4 | Other | 1% | Retrofits upon sale or transfer: No structure shall be sold or transferred unless all existing plumbing fixtures in the structure are retrofitted exclusively with water-conserving plumbing fixtures. | No |
| 4 | Other | 3% | Water recycling required if alternative available: The use of potable water, other than recycled water, is prohibited for specified uses after the City has provided to the customer an analysis showing that recycled water is a cost-effective alternative to potable water for such uses and the customer has had a reasonable time, as determined by the City Manager, to make the conversion to recycled water. | No |
| 4 | Other | 1% | Change in service: Upon the establishment of new water service or a change in water service from one (1) person to another non-family member, all existing plumbing fixtures are required to be retrofitted exclusively with water-conserving plumbing fixtures. | No |
| 4 | Other | 1% | Limits of building permits: The City may limit or withhold the issuance of building permits which require new or expanded water service, except to protect the public health, safety and welfare. | No |

**Submittal Table 8-2: Demand Reduction Actions**

| Shortage Level | Demand Reduction Actions ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.* | How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)* | Additional Explanation or Reference *(optional)* | Penalty, Charge, or Other Enforcement? ***For Retail Suppliers Only*** *Drop Down List* |
|---|---|---|---|---|
| 4 | Landscape - Limit landscape irrigation to specific days | 10% | Watering days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to one (1) day per week during the months of April through October. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one (1) day per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system. | Yes |
| 5 | Expand Public Information Campaign | 5% | Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 5 Protocols) | No |
| 5 | Other | 2% | City conservation reports: Upon request of the City Manager, City Departments must prepare and submit quarterly reports on their water conservation efforts. The reports will be consolidated by the City Manager and reported to the City Council at a minimum of once a year. | Yes |
| 5 | Landscape - Prohibit all landscape irrigation | 10% | No watering or irrigating: Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited. | Yes |
| 5 | Moratorium or Net Zero Demand Increase on New Connections | 5% | No new potable water service: No new potable water service will be provided, no new temporary meters or permanent meters will be provided, and no statement of immediate ability to serve or provide potable water service (such as, will serve letters, certificates, or letters of availability) will be issued, except under the following circumstances: | No |
| 5 | Other | 5% | Customer water conservation reports: The City may, by written request, require all commercial, residential and industrial customers using twenty five thousand (25,000) or more billing units per year to submit a water conservation plan and to submit quarterly progress reports on such plan. The conservation plan must include recommendations for increased water savings, including increased water recycling based on feasibility, and the reports must include progress to date on implementation of such recommendations. | No |
| 5 | Other | 1% | Discontinue service: The City, in its sole discretion, may discontinue service to customers who willfully violate provisions of this section. | No |
| 6 | Expand Public Information Campaign | 5% | Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 6 Protocols) | Yes |
| 6 | Other | 20% | Water use for public health and safety purposes only. | Yes |
| 6 | Other | | Other prohibited uses: The City may implement other prohibited water uses as determined by the City, after notice to customers. | Yes |

NOTES:

| Submittal Table 8-3: Supply Augmentation and Other Actions | | | |
|---|---|---|---|
| Shortage Level | Supply Augmentation Methods and Other Actions by Water Supplier<br>***Drop down list***<br>*These are the only categories that will be accepted by the WUEdata online submittal tool* | How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)* | Additional Explanation or Reference *(optional)* |
| 1 through 6 | Other Purchases | 0 - 100% | Additional imported water purchases through MWDOC |
| 1 through 6 | Other Purchases | 0 - 100% | Additional groundwater pumping in the Orange County Groundwater Basin |
| NOTES: | | | |

# Appendix B

## Orange Municipal Code Chapter 7.02 Water Conservation and Water Supply Shortage

**Below is the weblink to the current ordinance (last accessed on June 7, 2021)**
https://library.municode.com/ca/orange/codes/municipal_code?nodeId=TIT7EN_CH7.02WACOWASUSH

# Appendix C

## Notice of Public Hearing

# CITY OF ORANGE

PUBLIC WORKS DEPARTMENT

ENGINEERING DIVISION
(714) 744-5544
FAX: (714) 744-5573

MAINTENANCE DIVISION
(714) 532-6480
FAX: (714) 532-6444

TRAFFIC DIVISION
(714) 844-5540
FAX: (714) 744-5573

WATER DIVISION
(714) 288-2475
FAX: (714) 744-2973

March 11, 2021
Orange County Water District
Attn: Mr. Mike Markus, General Manager
18700 Ward Street
Fountain Valley, California 92708

**Subject: City of Orange 2020 Urban Water Management Plan Update**

The City of Orange (City) is in the process of preparing and updating its 2020 Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act and the Water Conservation Act of 2009, commonly referred to as SBX7-7. An update of the City's UWMP is required every five (5) years.

Water Code section 10621(b) requires an urban water supplier updating its UWMP to notify cities and counties within its service area of the update at least sixty (60) days prior to holding a public hearing. This letter serves as City's notice that it is preparing and updating its 2020 UWMP, to be adopted and submitted to the California Department of Water Resources before the July 1, 2021 deadline. City will be adopting its Water Shortage Contingency Plan as part of the 2020 UWMP.

City is also considering an Addendum to the 2015 UWMP to demonstrate consistency with the Delta Plan Policy to Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit. 23, § 5003). The 2015 UWMP Addendum and a copy of City's draft 2020 UWMP will be available for review on the City website (www.cityoforange.org) in spring of 2021, and City will subsequently hold noticed public hearings on the 2020 UWMP, Water Shortage Contingency Plan, and 2015 UWMP Addendum in advance of their proposed adoption.

City invites you to submit comments and consult with City regarding its 2020 UWMP update and 2015 UWMP Addendum. City anticipates holding a public comment period in spring 2021, with a public hearing planned during that time.

If you have any input for the matters contained in this notice letter, require additional information, or would like to set up a meeting to discuss City's 2020 UWMP update, please contact Mr. Sonny Tran, P.E. at (714) 288-2475, or by email at stran@cityoforange.org.

Sincerely,

Jose M. Diaz
Water Manager

Cc: Sonny Tran, P.E., Assistant Water Manager
Tuan Cao, P.E., Senior Civil Engineer

# CITY OF ORANGE

PUBLIC WORKS DEPARTMENT

ENGINEERING DIVISION
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FAX: (714) 744-5573

WATER DIVISION
(714) 288-2475
FAX: (714) 744-2973

March 11, 2021
Municipal Water District of Orange County
Attn: Mr. Rob Hunter, General Manager
18700 Ward Street
Fountain Valley, California 92708

**Subject: City of Orange 2020 Urban Water Management Plan Update**

The City of Orange (City) is in the process of preparing and updating its 2020 Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act and the Water Conservation Act of 2009, commonly referred to as SBX7-7. An update of the City's UWMP is required every five (5) years.

Water Code section 10621(b) requires an urban water supplier updating its UWMP to notify cities and counties within its service area of the update at least sixty (60) days prior to holding a public hearing. This letter serves as City's notice that it is preparing and updating its 2020 UWMP, to be adopted and submitted to the California Department of Water Resources before the July 1, 2021 deadline. City will be adopting its Water Shortage Contingency Plan as part of the 2020 UWMP.

City is also considering an Addendum to the 2015 UWMP to demonstrate consistency with the Delta Plan Policy to Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit. 23, § 5003). The 2015 UWMP Addendum and a copy of City's draft 2020 UWMP will be available for review on the City website (www.cityoforange.org) in spring of 2021, and City will subsequently hold noticed public hearings on the 2020 UWMP, Water Shortage Contingency Plan, and 2015 UWMP Addendum in advance of their proposed adoption.

City invites you to submit comments and consult with City regarding its 2020 UWMP update and 2015 UWMP Addendum. City anticipates holding a public comment period in spring 2021, with a public hearing planned during that time.

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Sincerely,

Jose M. Diaz
Water Manager

Cc: Sonny Tran, P.E., Assistant Water Manager
Tuan Cao, P.E., Senior Civil Engineer

# CITY OF ORANGE

PUBLIC WORKS DEPARTMENT

ENGINEERING DIVISION
(714) 744-5544
FAX: (714) 744-5573

MAINTENANCE DIVISION
(714) 532-6480
FAX: (714) 532-6444

TRAFFIC DIVISION
(714) 844-5540
FAX: (714) 744-5573

WATER DIVISION
(714) 288-2475
FAX: (714) 744-2973

March 11, 2021
City of Anaheim
Attn: James Vanderpool, City Manager
200 S. Anaheim Blvd., Ste 733
Anaheim, California 92805

**Subject: City of Orange 2020 Urban Water Management Plan Update**

The City of Orange (City) is in the process of preparing and updating its 2020 Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act and the Water Conservation Act of 2009, commonly referred to as SBX7-7. An update of the City's UWMP is required every five (5) years.

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Sincerely,

Jose M. Diaz
Water Manager

Cc: Sonny Tran, P.E., Assistant Water Manager
Tuan Cao, P.E., Senior Civil Engineer

# CITY OF ORANGE

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March 11, 2021
City of Garden Grove
Attn: Mr. Scott Stiles, City Manager
11222 Acacia Parkway
Garden Grove, California 92840

**Subject: City of Orange 2020 Urban Water Management Plan Update**

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Sincerely,

Jose M. Diaz
Water Manager

Cc: Sonny Tran, P.E., Assistant Water Manager
Tuan Cao, P.E., Senior Civil Engineer

# CITY OF ORANGE

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WATER DIVISION
(714) 288-2475
FAX: (714) 744-2973

March 11, 2021
City of Santa Ana
Attn: Kristine Ridge, City Manager
20 Civic Center Plaza
Santa Ana, California 92701

**Subject: City of Orange 2020 Urban Water Management Plan Update**

The City of Orange (City) is in the process of preparing and updating its 2020 Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act and the Water Conservation Act of 2009, commonly referred to as SBX7-7. An update of the City's UWMP is required every five (5) years.

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Sincerely,

Jose M. Diaz
Water Manager

Cc: Sonny Tran, P.E., Assistant Water Manager
Tuan Cao, P.E., Senior Civil Engineer

# CITY OF ORANGE

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FAX: (714) 744-2973

March 11, 2021
City of Tustin
Attn: Mr. Matthew West, City Manager
300 Centennial Way
Tustin, California 92780

**Subject: City of Orange 2020 Urban Water Management Plan Update**

The City of Orange (City) is in the process of preparing and updating its 2020 Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act and the Water Conservation Act of 2009, commonly referred to as SBX7-7. An update of the City's UWMP is required every five (5) years.

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Sincerely,

Jose M. Diaz
Water Manager

Cc: Sonny Tran, P.E., Assistant Water Manager
Tuan Cao, P.E., Senior Civil Engineer

# CITY OF ORANGE

PUBLIC WORKS DEPARTMENT

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March 11, 2021
City of Villa Park
Attn: Steve Franks, City Manager
17855 Santiago Boulevard
Villa Park, California 92861

**Subject: City of Orange 2020 Urban Water Management Plan Update**

The City of Orange (City) is in the process of preparing and updating its 2020 Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act and the Water Conservation Act of 2009, commonly referred to as SBX7-7. An update of the City's UWMP is required every five (5) years.

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Sincerely,

Jose M. Diaz
Water Manager

Cc: Sonny Tran, P.E., Assistant Water Manager
Tuan Cao, P.E., Senior Civil Engineer

# CITY OF ORANGE

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March 11, 2021
City of Orange, Community Development Department
Attn: Bonnie Hagan, Assistant City Manager and Community Services Director
300 E Chapman Avenue
Orange, California 92866

**Subject: City of Orange 2020 Urban Water Management Plan Update**

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Sincerely,

Jose M. Diaz
Water Manager

Cc: Sonny Tran, P.E., Assistant Water Manager
Tuan Cao, P.E., Senior Civil Engineer

# CITY OF ORANGE

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March 11, 2021
County of Orange
Attn: Mr. Hugh Nguyen, Clerk Recorder
601 N. Ross Street
Santa Ana, California 92701

**Subject: City of Orange 2020 Urban Water Management Plan Update**

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Sincerely,

Jose M. Diaz
Water Manager

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Tuan Cao, P.E., Senior Civil Engineer

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FAX: (714) 744-2973

March 11, 2021
East Orange County Water District
Attn: Mr. David Youngblood, General Manager
185 N McPherson Road
Orange, California 92869

**Subject: City of Orange 2020 Urban Water Management Plan Update**

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Jose M. Diaz
Water Manager

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March 11, 2021
Irvine Ranch Water District
Attn: Mr. Paul Cook, General Manager
15600 Sand Canyon Avenue
Irvine, California 92168

**Subject: City of Orange 2020 Urban Water Management Plan Update**

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Jose M. Diaz
Water Manager

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Tuan Cao, P.E., Senior Civil Engineer

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March 11, 2021
Serrano Water District
Attn: Mr. Jerry Vilander, General Manager
18021 Lincoln Street
Villa Park, California 92861

**Subject: City of Orange 2020 Urban Water Management Plan Update**

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March 11, 2021
County of Orange Planning Department
Attn: Ms. Linda Smith, Research Analyst
300 N Flower Street
Santa Ana, California 92702

**Subject: City of Orange 2020 Urban Water Management Plan Update**

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Jose M. Diaz
Water Manager

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Tuan Cao, P.E., Senior Civil Engineer

**Anaheim Bulletin**
1771 S. Lewis Street
Anaheim, CA 92805
714-796-2209

5190328

ORANGE CITY OF /CLERK
300 E CHAPMAN AVE
ORANGE, CA 92866-1591

**LE NO. 10-13-21 Urban Water Mgmt Plan 202**

## AFFIDAVIT OF PUBLICATION

STATE OF CALIFORNIA, } **SS.**

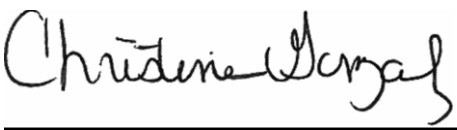
County of Orange

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am the principal clerk of the Anaheim Bulletin, a newspaper that has been adjudged to be a newspaper of general circulation by the Superior Court of the County of Orange, State of California, on December 28, 1951, Case No. A-21021 in and for the City of Anaheim, County of Orange, State of California; that the notice, of which the annexed is a true printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

**09/16/2021, 09/23/2021**

I certify (or declare) under the penalty of perjury under the laws of the State of California that the foregoing is true and correct:

Executed at Anaheim, Orange County, California, on Date: September 23, 2021.



Signature

## PROOF OF PUBLICATION

Legal No. **0011487268**

**CITY OF ORANGE**
**NOTICE OF PUBLIC HEARING**
**2020 URBAN WATER MANAGEMENT PLAN**
**& WATER SHORTAGE CONTINGENCY PLAN**

**NOTICE IS HEREBY GIVEN** that the City Council of the City of Orange ("City") will hold a public hearing on **Wednesday, October 13, 2021, at 6:00 p.m.**, or as soon thereafter as the matter may be heard, in the Council Chamber, 300 E. Chapman Avenue, Orange, to consider the City's proposed 2020 Urban Water Management Plan ("UWMP"), 2020 Water Shortage Contingency Plan ("WSCP"), and Appendix C as an Addendum to its 2015 UWMP in advance of their proposed adoption.

The public hearing is being held in accordance with the Urban Water Management Planning Act (California Water Code Sections 10610 through 10656; the "Act"). The Act requires "every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually" to prepare, adopt, and file a UWMP with the California Department of Water Resources and review and update its UWMP every five years. The purpose of the public hearing will be to solicit public comment prior to adoption of the proposed updated UWMP and WSCP.

Copies of the proposed 2020 UWMP, 2020 WSCP, and Appendix C as an Addendum to its 2015 UWMP are available for public inspection at either the City of Orange Water Division at 189 S Water Street, or in the Office of the City Clerk at 300 E Chapman Ave.

All interested persons may submit comments and may be heard on any relevant matter relating to the proposed action by mail, email, voicemail or in-person, as set forth in the October 13, 2021, City Council agenda. For further information, please contact Mr. Sonny Tran, Assistant Water Manager at 714-288-2475 or via email at stran@cityoforange.org

Dated: September 16, 2021
PHONE (714) 744-5500

CITY COUNCIL OF THE CITY OF ORANGE
BY: PAMELA COLEMAN, CITY CLERK

Published Orange City News Sept. 16, 23, 2021

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# Appendix D

## Adopted WSCP Resolution

**RESOLUTION NO. 11357**

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ORANGE ADOPTING THE CITY OF ORANGE 2020 URBAN WATER MANAGEMENT PLAN AND 2020 WATER SHORTAGE CONTINGENCY PLAN**

**WHEREAS,** the City of Orange (the "City") is a municipal corporation that exercises governmental functions and powers and is organized and existing under the laws of the State of California; and

**WHEREAS,** the City is an "urban retail water supplier" under the meaning of that term as set forth in Section 10608.12 of the California Water Code; and

**WHEREAS,** the Urban Water Management Planning Act (commencing with Section 10610 of the California Water Code, herein referred to as the "Law") was enacted in 1984 to require every urban water supplier to prepare and adopt an Urban Water Management Plan and Water Shortage Contigency Plan, the primary objective of which is to plan for the conservation and efficient use of water; and

**WHEREAS,** the City has heretofore prepared and adopted an Urban Water Management Plan and Water Shortage Contingency Plan (the "Plans") pursuant to the Law; and

**WHEREAS,** the Law requires each urban water supplier to review and update its Plans at least every five (5) years; and

**WHEREAS,** the City has received comments back from the California Department of Water Resources that require the Plans to be revised and amended, and that such amended Plans will be required to be adopted; and

**WHEREAS,** the City has prepared updates to its Plans in the form of the "City of Orange 2020 Urban Water Management Plan" and "City of Orange 2020 Water Shortage Contingency Plan" in accordance with the Law, which, among other things, requires each urban water supplier to make the proposed updated Plans available for public inspection and to hold a noticed public hearing thereon; and

**WHEREAS,** pursuant to Section 10642 of the Law, after notice duly published in accordance with the Law, the Agency held a public hearing on October 13, 2021, with respect to the proposed updated Plans; and

**WHEREAS,** the proposed updated Plans have been made available in the office of the City Clerk for at least two weeks prior to such public hearing for public inspection and copying, at a cost not to exceed the cost of duplication.

**NOW, THEREFORE,** the City Council of the City of Orange resolves, finds and determines, on the basis of the facts set forth in the agenda report presented to it and any testimony received at the meeting at which this matter was considered, as follows:

1. The foregoing recitals are true and correct.

2. The Plans in the form presented at this meeting, together with such amendments or changes therein as the City Council has determined necessary and appropriate, are adopted.

3. The City Clerk is authorized and directed to file the Plans with the California Department of Water Resources within thirty (30) days after the date of this Resolution.

**ADOPTED** this 13th day of October 2021.

Mark A. Murphy, Mayor, City of Orange

**ATTEST:**

Pamela Coleman, City Clerk. City of Orange

STATE OF CALIFORNIA )
COUNTY OF ORANGE ) ss.
CITY OF ORANGE )

I, PAMELA COLEMAN, City Clerk of the City of Orange, California, do hereby certify that the foregoing Resolution was duly and regularly adopted by the City Council of the City of Orange at an Adjourned Regular Meeting thereof held on the 13th day of October 2021, by the following vote:

| | | |
|---|---|---|
| AYES: | COUNCILMEMBERS: | Nichols, Monaco, Barrios, Tavoularis, Gutierrez, and Murphy |
| NOES: | COUNCILMEMBERS: | Dumitru |
| ABSENT: | COUNCILMEMBERS: | None |
| ABSTAIN: | COUNCILMEMBERS: | None |

Pamela Coleman, City Clerk, City of Orange

# Agenda Item

City Council

**Item #:** 10.1. 10/13/2021 **File #:** 21-0477

**TO:** **Honorable Mayor and Members of the City Council**

**THRU:** **Bonnie Hagan, Acting City Manager**

**FROM:** **Christopher Cash, Public Works Director**

## 1. SUBJECT

Public Hearing to consider adopting the City of Orange 2020 Urban Water Management Plan (UWMP). Resolution No. 11357 and Ordinance No. 16-21.

## 2. SUMMARY

The City's Urban Water Management Plan (UWMP) was initially adopted in 1985 and must be updated every five years to satisfy the UWMP Act of 1983 and the California Water Code requirements (Sections 10610 - 10656). The comprehensive UWMP assesses the City's current and future water demands, availability and reliability of its water supplies, various water demand management measures to facilitate customer water use efficiency, water supply contingency plan, and future water supply programs. In addition to that, the 2020 UWMP also presents a new 2020 Water Shortage Contingency Plan (WSCP) designed to prepare for and respond to water shortages.

## 3. RECOMMENDED ACTION

1. Adopt Resolution No. 11357. A Resolution of the City Council of the City of Orange adopting the City of Orange 2020 Urban Water Management Plan and 2020 Water Shortage Contingency Plan.

2. Introduce and conduct First Reading of Ordinance No. 16-21. An Ordinance of the City Council of the City of Orange deleting Chapter 7.02 of the Orange Municipal Code (the Water Conservation and Water Supply Shortage Program) and adopting new Chapter 7.02 (the Water Shortage Contingency Response Ordinance).

## 4. FISCAL IMPACT

None.

## 5. STRATEGIC PLAN GOALS

Goal 1: Provide for a safe community

b: Provide and maintain infrastructure necessary to ensure the safety of the public.

Goal 4: Provide outstanding public service

b: Provide facilities and services to meet customer expectations.

## 6. DISCUSSION AND BACKGROUND

Water Code Sections 10610 through 10656 and the UWMP Act require every urban water supplier providing drinking water to more than 3,000 customers or supplying more than 3,000 acre-feet (AF)

of water annually to prepare, adopt, and file an Urban Water Management Plan (UWMP) with the California Department of Water Resources (DWR) every five years.

This UWMP provides the DWR with a detailed summary of present and future water resources and demands within the City of Orange (City) service area and assesses the City's water resource needs. Specifically, the UWMP provides water supply planning for a 25-year planning period in five-year increments and identifies water supplies needed to meet existing and future demands. The demand analysis must identify supply reliability under three hydrologic conditions: a normal year, a single-dry year, and multiple-dry years.

The 2020 UWMP provides a comprehensive discussion of the City's Water Service Area and Facilities, Water Sources and Supplies, Water Use by Customer Type, Demand Management Measures (DMM), Water Supply Reliability, Planned Water Supply Projects and Programs, and Recycled Water Use. It also adds the 2020 Water Shortage Contingency Plan (WSCP) to help the City effectively respond to potential water shortages. In addition, it updates various 2015 UWMP items related to water resource needs, water use efficiency, assessment of water reliability, and strategies to mitigate water shortage conditions. The 2020 UWMP contains all elements needed to comply with new requirements of the Act, as amended since 2015. The updated WSCP requires the City to replace the current four water conservation stages with the new six standard water shortage levels and presents the framework for determining these levels, enforcement provisions, and other water conservation details specific to the City. To comply with this requirement, Ordinance No. 16-21 is introduced to delete the existing Chapter 7.02 and adopt new Chapter 7.02 in the Orange Municipal Codes.

Since the original Act's passage in 1983, several amendments have been added. The most recent changes affecting the 2015 UWMP include Senate Bill 7 or SBx7-7 and SB 1087. SBx7-7, the Water Conservation Act of 2009, is part of the Delta Action Plan that stemmed from the Governor's goal to achieve a 20 percent statewide reduction in urban per capita water use by 2020 (20 by 2020). Reduction in water use is an important part of this plan that aims to sustainably manage the Sacramento-San Joaquin River Delta (Delta) and reduce conflicts between environmental conservation and water supply. As detailed in Section 3.2.2, SBx7-7 requires each urban retail water supplier to develop urban water use targets to achieve the 20 percent by 2020 goal and the interim ten percent goal by 2015. Each urban retail water supplier must include in its 2020 UWMPs the following information from its target-setting process:

• Baseline daily per capita water use

• 2020 urban water use target

• 2020 interim water use target compliance

• Compliance method being used along with calculation method and support data

• An implementation plan to meet the targets

The other recent amendment, made to the UWMP on September 19, 2014, is set forth by SB 1420, Distribution System Water Losses. SB 1420 requires water purveyors to quantify distribution system losses for the most recent 12-month period available. The water loss quantification is based on the water system balance methodology developed by the American Water Works Association (AWWA).

## 7. ATTACHMENTS

- Resolution No. 11357
- Ordinance No. 16-21
- City of Orange 2020 UWMP (available for review in the City Clerk's Office)
- City of Orange 2020 WSCP (available for review in the City Clerk's Office)

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