

PICO WATER DISTRICT



OCTOBER 2021

FINAL

2020 URBAN WATER MANAGEMENT PLAN



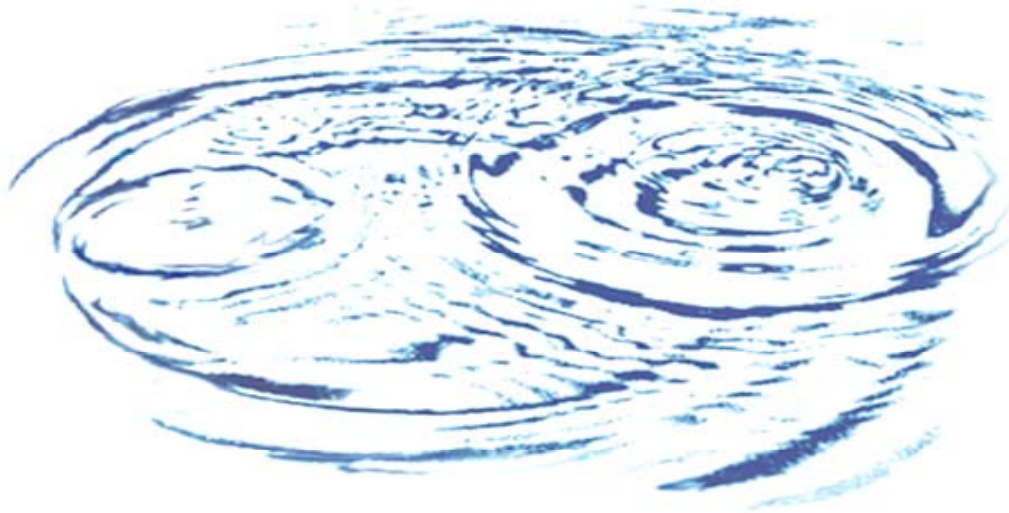
Northern California • Southern California • Arizona • Colorado • Oregon



Pico Water District

2020

Urban Water Management Plan



OCTOBER 2021



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LIST OF ACRONYMS

AB	Assembly Bill
AF	Acre-feet
AFY	Acre-feet per year
AWWA	American Water Works Association
CBMWD	Central Basin Municipal Water District
CIMIS	California Irrigation Management Information System
CWC	California Water Code
CY	Calendar Year
DACs	Disadvantaged Communities
Delta	Sacramento-San Joaquin Delta
District	Pico Water District
DOF	Department of Finance
DPW	Department of Public Works
DRA	Drought Risk Assessment
DWR	Department of Water Resources
ERP	Emergency Response Plan
ETo	Evapotranspiration
GCMs	General Circulation Models
GIS	Geographical Information Systems
GPCD	Gallons per capita per day
gpm	Gallons per minute
GSP	Groundwater Sustainability Plan
GWMA	Gateway Water Management Authority
HET	High-efficiency toilet
HECW	High-efficiency clothes washer
JWPCP	Joint Water Pollution Control Plant
LACSD	Los Angeles County Sanitation Districts
LCWRP	Los Coyotes Water Reclamation Plant
LVL	Leo J. Vander Lans Advanced Water Treatment Facility
MCL	Maximum Contaminant Level
MWD	Metropolitan Water District of Southern California
PCE	Perchloroethylene
PFAS	Per- and Poly-Fluoroalkyl Substances
Plan	Urban Water Management Plan
PRWA	Pico Rivera Water Authority
RCP	Representative Concentration Pathway
RDM	Robust Decision Making
RRA	Risk and Resilience Assessment
SB	Senate Bill
SCAG	Southern California Association of Governments
SGMA	Sustainable Groundwater Management Act

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SJCWRP	San Jose Creek Water Reclamation Plant
SWRCB	State Water Resources Control Board
SWRCB-DDW	State Water Resources Control Board - Division of Drinking Water
SWP	State Water Project
TCE	Trichloroethylene
TDS	Total Dissolved Solids
USEPA	U.S. Environmental Protection Agency
UWMP	Urban Water Management Plan
VOCs	Volatile Organic Compounds
WIN	Water Independence Now
WRCC	Western Regional Climate Center
WRD	Water Replenishment District of Southern California
WSCP	Water Shortage Contingency Plan
WUCA	Water Utility Climate Alliance
WUE	Water Use Efficiency

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CHAPTER 1

URBAN WATER MANAGEMENT PLAN INTRODUCTION AND OVERVIEW

LAY DESCRIPTION - INTRODUCTION

An urban water supplier is defined (pursuant to Section 10617 of the California Water Code¹) as “a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers.”

The Pico Water District (District) is classified as an urban water supplier because it serves more than 3,000 customers (i.e. individual metered accounts) for municipal purposes.

In accordance with the “Urban Water Management Planning Act”, which was enacted by the California Legislature in 1983, every urban water supplier (including the District) is required to prepare and adopt an Urban Water Management Plan (UWMP), periodically review its UWMP, and incorporate updated and new information into an updated UWMP at least once every five years.

The District’s most recent update was its 2015 UWMP (or 2015 Plan) which was submitted to, and approved by, the California Department of Water Resources (DWR). Urban water suppliers (including the District) are required to complete and submit their 2020 UWMPs to DWR by July 1st, 2021.

¹ References to CWC Sections in this 2020 UWMP were obtained from <https://leginfo.ca.gov/>



The current requirements for preparing the UWMP are included in California Water Code (CWC) Sections 10608 through 10657. The District's 2020 UWMP (or 2020 Plan) was prepared consistent with the CWC and the recommended organization provided in DWR's Final "Urban Water Management Plan Guidebook 2020" (Final 2020 UWMP Guidebook), dated March 2021.

The UWMP provides urban water suppliers (including the District) with a reliable management action plan for long-term resource planning to ensure adequate water supplies are available to meet existing and future water supply needs. In addition, the 2020 UWMP incorporates water supply reliability determinations resulting from potential prolonged drought, regulatory revisions, and/or changing climatic conditions.

The District's 2020 Plan consists of the following Chapters:

- Chapter 1 Urban Water Management Plan Introduction and Overview
- Chapter 2 Plan Preparation
- Chapter 3 System Description
- Chapter 4 Water Use Characterization
- Chapter 5 SB_X7-7 Baselines, Targets, and 2020 Compliance
- Chapter 6 Water Supply Characterization
- Chapter 7 Water Service Reliability and Drought Risk Assessment
- Chapter 8 Water Shortage Contingency Plan
- Chapter 9 Demand Management Measures
- Chapter 10 Plan Adoption, Submittal, and Implementation

A lay description is presented at the beginning of each of these Chapters.



LAY DESCRIPTION – CHAPTER 1

URBAN WATER MANAGEMENT PLAN INTRODUCTION AND OVERVIEW

Chapter 1 (Urban Water Management Plan Introduction and Overview) of the District's 2020 Plan discusses and provides the following:

- An overall lay description of the 2020 Plan, including California Water Code and Urban Water Management Plan Act requirements, is provided. The District is required to prepare an Urban Water Management Plan.
- The District's 2020 Plan was prepared consistent with the recommended organization provided in DWR's Final "Urban Water Management Plan Guidebook 2020", dated March 2021. A description regarding the organization of the 2020 Plan, including a summary of each Chapter, is provided. The District's Water Shortage Contingency Plan (discussed in Chapter 8) is also included in the 2020 Plan.
- The 2020 Plan incorporates DWR's water use and supply tables (standardized tables) for the reporting and submittal of UWMP data. These tables are included within the respective sections of the 2020 Plan and in Appendix A.
- The District's coordination efforts with other planning agencies are discussed, including coordination efforts with Central Basin Municipal Water District (CBMWD) and the Southern California Association of Governments
- The District's eligibility to receive grants and loans administered by the State of California and/or DWR, as a result of preparing the 2020 Plan, is discussed.
- Information is provided which demonstrates the District's prior, continued, and projected reduction on imported water supplies obtained (either directly or indirectly) from the Sacramento-San Joaquin Delta (Delta). The District has



reduced its reliance on imported water supplies, through the Water Replenishment District of Southern California's (WRD) replacement of imported water with recycled water for groundwater replenishment purposes, for CY 2015 and CY 2020. In addition, the District is projected to continue reducing its reliance on imported water supplies through CY 2045.

- The checklist developed by DWR and used by the District to incorporate the specific UWMP requirements is discussed. The completed checklist is provided in Appendix C.

1.1 RECOMMENDED UWMP ORGANIZATION

The District's 2020 Urban Water Management Plan (2020 Plan) was prepared consistent with the recommended organization provided in DWR's Final "Urban Water Management Plan Guidebook 2020" (Final 2020 UWMP Guidebook), dated March 2021. The District's 2020 Plan consists of the following Chapters:

Chapter 1	Urban Water Management Plan Introduction and Overview
Chapter 2	Plan Preparation
Chapter 3	System Description
Chapter 4	Water Use Characterization
Chapter 5	SB X7-7 Baselines, Targets, and 2020 Compliance
Chapter 6	Water Supply Characterization
Chapter 7	Water Service Reliability and Drought Risk Assessment
Chapter 8	Water Shortage Contingency Plan
Chapter 9	Demand Management Measures
Chapter 10	Plan Adoption, Submittal, and Implementation



Pursuant to CWC requirements, the District's 2020 Plan incorporates DWR's water use and supply tables (standardized tables) for the reporting and submittal of UWMP data. DWR's standardized tables are provided within the body of the 2020 Plan text as well as in Appendix A. The District also submitted the UWMP data (standardized tables) electronically through DWR's Online Submittal Tool.

The District's 2020 Plan also provides supporting documents (appendices) including notification letters of the Plan update, public notice of the Plan hearing, and adoption resolution from the District's governing body. Further discussions regarding these supporting documents are provided within the individual Chapters of the District's 2020 Plan.

1.2 UWMPs IN RELATION TO OTHER EFFORTS

The District is situated within the boundaries of Central Basin Municipal Water District, a wholesale water agency. CBMWD prepared a 2020 Plan which is incorporated in the District's 2020 Plan by reference. In addition, the District provided its 2020 Plan to CBMWD which includes water use projections in five-year increments for a normal year, a single dry year, and a five consecutive year drought over the next 25 years.

1.3 UWMPs AND GRANT OR LOAN ELIGIBILITY

Pursuant to DWR's Final 2020 UWMP Guidebook:

"In order for a Supplier to be eligible for any water grant or loan administered by DWR, the Supplier must have a current UWMP on file that has been determined by DWR to address the requirements of the Water Code. A current UWMP must also be maintained by the Supplier throughout the term of any grant or loan administered by DWR. A UWMP may also be required in order to be eligible for other state funding, depending on the



conditions that are specified in the funding guidelines. Suppliers are encouraged to seek guidance on the specifics of any state funding source from the respective funding agencies. The following sections of the Water Code are pertinent to Suppliers considering pursuit of grants or loans.”

The District’s 2020 UWMP has been prepared to meet eligibility requirements for grants and loans administered by the State and/or DWR.

1.4 DEMONSTRATION OF CONSISTENCY WITH THE DELTA PLAN FOR PARTICIPANTS IN COVERED ACTIONS

Pursuant to DWR, an urban water supplier that anticipates participating in or receiving water from a proposed project (or “covered action”) such as a multi-year water transfer, conveyance facility, or new diversion that involves transferring water through, exporting water from, or using water in the Sacramento-San Joaquin Delta (Delta) should provide information in their 2015 and 2020 UWMPs for use in demonstrating consistency with Delta Plan Policy WR P1, “*Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance*”. In addition, pursuant to California Code of Regulations, Title 23, § 5003:

(c)(1) Water suppliers that have done all of the following are contributing to reduced reliance on the Delta and improved regional self-reliance and are therefore consistent with this policy:

(A) Completed a current Urban or Agricultural Water Management Plan (Plan) which has been reviewed by the California Department of Water Resources for compliance with the applicable requirements of Water Code Division 6, Parts 2.55, 2.6, and 2.8;

(B) Identified, evaluated, and commenced implementation, consistent with the implementation schedule set forth in the Plan, of all programs and projects included in the Plan that are locally cost effective and technically feasible which reduce reliance on the Delta; and



(C) Included in the Plan, commencing in 2015, the expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance. The expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance shall be reported in the Plan as the reduction in the amount of water used, or in the percentage of water used, from the Delta watershed. For the purposes of reporting, water efficiency is considered a new source of water supply, consistent with Water Code section 1011(a).

The District has reduced its reliance on the imported water supplies for calendar year (CY) 2015 and CY2020, as WRD has replaced the use of imported water with local recycled water for groundwater replenishment purposes. In addition, the District is projected to continue reducing its reliance on the imported water supplies through CY 2045. A further discussion which demonstrates the District's measurable reduction in imported water reliance and improvement in regional self-reliance is provided in Appendix B.

1.5 TIPS FOR UWMP PREPARERS

The District's 2020 UWMP (which includes the District's 2020 Water Shortage Contingency Plan (WSCP)) is considered an update to the District's 2015 UWMP. However, the 2020 UWMP and the WSCP are considered stand-alone documents. As discussed in Section 1.1, the District's 2020 UWMP was prepared consistent with the recommended organization provided in DWR's Final 2020 UWMP Guidebook.

A checklist of specific UWMP requirements is included in Appendix C. The checklist includes the page number where the required elements are addressed to assist in DWR's review of the submitted Plan.



CHAPTER 2

PLAN PREPARATION

LAY DESCRIPTION – CHAPTER 2

PLAN PREPARATION

Chapter 2 (Plan Preparation) of the District's 2020 Plan discusses and provides the following:

- The basis for preparing an Urban Water Management Plan is provided. The District is required to prepare the 2020 Plan because it is an "urban water supplier" (the District serves more than 3,000 customers for municipal purposes)
- The District is a "Public Water System" and is regulated by the State Water Resources Control Board - Division of Drinking Water. The District's Public Water System number is provided in Table 2-1.
- The District's Plan has been prepared as an "individual" plan rather than a "regional" plan in an effort to provide information specific to the District to best inform its employees, management and customers.
- Information presented in the District's 2020 Plan is provided on calendar year basis.
- Water quantities presented in the District's 2020 Plan are provided on an "acre-foot" basis.
- The District's coordination and outreach efforts with wholesale water agencies, other retail water agencies, and the community are described. The District coordinated the preparation of its 2020 Plan with the City of Pico Rivera and the County of Los Angeles.
- The District's notification process to the cities and county within which the District provides water supplies to is discussed.



2.1 PLAN PREPARATION

As discussed in Section 1.1, the District's 2020 Plan was prepared consistent with the recommended organization provided in DWR's Final 2020 UWMP Guidebook. Pursuant to DWR's Final 2020 UWMP Guidebook:

"The California Water Code (Water Code) specifies several requirements for preparing a UWMP, including who is required to prepare a UWMP; how to prepare a UWMP, depending on whether the Supplier chooses to participate in a regional or individual planning effort; selection of reporting year-type; and coordination, notification, and outreach."

Pursuant to CWC requirements, the District's 2020 Plan incorporates DWR's water use and supply tables (standardized tables) for the reporting and submittal of UWMP data.



2.2 BASIS FOR PREPARING A PLAN

CWC 10617.

"Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.

CWC 10620.

(b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.

CWC 10621.

(a) Each urban water supplier shall update its plan at least once every five years on or before July 1, in years ending in six and one, incorporating updated and new information from the five years preceding each update.

The District's 2020 Plan was prepared in accordance with the UWMP Act which was established in 1983. The UWMP Act requires every "urban water supplier" to prepare and adopt a Plan, to periodically review its Plan at least once every five years and make any amendments or changes which are indicated by the review. An "Urban Water Supplier" is defined as a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet (AF) of water annually.

Section 10621(a) of the CWC states, *"Each urban water supplier shall update its plan at least once every five years on or before July 1, in years ending in six and one, incorporating updated and new information from the five years preceding each update"*. As a result, DWR requires the 2020 Plans be submitted by July 1, 2021.



The District is an “urban water supplier” pursuant to Section 10617 of the CWC and directly serves potable water to more than 3,000 customers for municipal purposes. The District’s 2020 Plan is an update to the District’s 2015 Plan.

2.2.1 PUBLIC WATER SYSTEMS

CWC 10644.

(a)(2) The plan, or amendments to the plan, submitted to the department ... shall include any standardized forms, tables, or displays specified by the department.

California Health and Safety Code 116275.

(h) "Public water system" means a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.

Pursuant to CWC requirements, the District’s 2020 Plan incorporates DWR’s standardized tables for the reporting and submittal of UWMP data. The standardized tables are provided within the body of the 2020 Plan text as well as in Appendix A. The District also submitted the UWMP data (from the standardized tables) electronically through DWR’s Online Submittal Tool.

In addition, the District is a Public Water System and is regulated by the State Water Resources Control Board - Division of Drinking Water (SWRCB-DDW). The SWRCB-DDW requires water agencies to provide the number of connections, water usage, and other information annually. The information provided to SWRCB-DDW indicates the District serves potable water to more than 3,000 customers. Table 2-1 provides the District’s Public Water System name and number.



2.2.2 SUPPLIERS SERVING MULTIPLE SERVICE AREAS / PUBLIC WATER SYSTEMS

The District serves only a single Public Water System. Table 2-1 provides the District's Public Water System name and number.

Table 2-1 Public Water Systems

Submittal Table 2-1 Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 *
<i>Add additional rows as needed</i>			
CA1910125	Pico Water District	5,490	2,875
TOTAL		5,490	2,875
* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.			
NOTES: The "Volume of Water Supplied 2020" includes recycled water supplies of 59 AF. Source for "Number of Municipal Connections 2020": https://sdwis.waterboards.ca.gov/PDWW/			

2.3 REGIONAL PLANNING

The District has developed its 2020 Plan reporting solely on its service area to address all requirements of the California Water Code. The District's 2020 Plan was not developed as a Regional Plan.



2.4 INDIVIDUAL OR REGIONAL PLANNING AND COMPLIANCE

As shown in Table 2-2, the District's 2020 Plan is an "Individual UWMP". The District has developed its 2020 Plan reporting solely on its service area to address all requirements of the California Water Code, including water use targets and baselines pursuant to SB X7-7 Water Conservation Act of 2009 reporting (discussed further in Chapter 5). The District notified and coordinated with appropriate regional agencies and constituents (See Section 2.6).

Table 2-2 Plan Identification Type

Submittal Table 2-2: Plan Identification		
Select Only One	Type of Plan	Name of RUWMP or Regional Alliance <i>if applicable</i> (select from drop down list)
<input checked="" type="checkbox"/>	Individual UWMP	
	<input type="checkbox"/> Water Supplier is also a member of a RUWMP	
	<input type="checkbox"/> Water Supplier is also a member of a Regional Alliance	
<input type="checkbox"/>	Regional Urban Water Management Plan (RUWMP)	
NOTES:		



2.4.1 REGIONAL UWMP

CWC 10620.

(d)(1) An urban water supplier may satisfy the requirements of this part by participation in area wide, regional, watershed, or basin wide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.

As indicated in Table 2-2, the District's 2020 Plan was developed as an "Individual UWMP", however, the District is a part of a Regional Alliance with Gateway Regional Alliance.

2.4.2 REGIONAL ALLIANCE

CWC 10608.20.

(a)(1) ...Urban retail water suppliers may elect to determine and report progress toward achieving these targets on an individual or regional basis, as provided in subdivision (a) of Section 10608.28...

CWC 10608.28.

(a) An urban retail water supplier may meet its urban water use target within its retail service area, or through mutual agreement, by any of the following:

- (1) Through an urban wholesale water supplier.*
- (2) Through a regional agency authorized to plan and implement water conservation, including, but not limited to, an agency established under the Bay Area Water Supply and Conservation Agency Act (Division 31 (commencing with Section 81300)).*
- (3) Through a regional water management group as defined in Section 10537.*
- (4) By an integrated regional water management funding area.*
- (5) By hydrologic region.*
- (6) Through other appropriate geographic scales for which computation methods have been developed by the department.*

(b) A regional water management group, with the written consent of its member agencies, may undertake any or all planning, reporting, and implementation functions under this chapter for the member agencies that consent to those activities. Any data or reports shall provide information both for the regional water management group and separately for each consenting urban retail water supplier and urban wholesale water supplier.

As indicated in Table 2-2, the District's 2020 Plan was developed as an "Individual UWMP". However, the District is also a participating agency in the Gateway Water



Management Authority's (GWMA) "Gateway Regional Water Conservation Alliance Report" (Gateway Regional Alliance report). GWMA is a coalition comprised of 28 cities and water agencies in the Los Angeles Gateway Region and was formed to integrate regional watershed activities. The GWMA previously prepared a "Summary of Baseline and Compliance Urban per Capita Water Use Determination" to provide its participating agencies with an alternative way of calculating Baseline and Urban per Capita Water Use compliance as a region. The District chose to estimate its Baseline and Urban per Capita Water Use as part of an Individual UWMP, which is discussed in detail in Chapter 5.

2.5 FISCAL OR CALENDAR YEAR AND UNITS OF MEASURE

[CWC 10608.20.](#)

(a)(1) Urban retail water suppliers...may determine the targets on a fiscal or calendar year basis.

2.5.1 FISCAL OR CALENDAR YEAR

The data provided in the District's 2020 Plan is reported on a calendar basis, unless noted otherwise, as shown in Table 2-3.



Table 2-3 Supplier Identification

Submittal Table 2-3: Supplier Identification	
Type of Supplier (select one or both)	
<input type="checkbox"/>	Supplier is a wholesaler
<input checked="" type="checkbox"/>	Supplier is a retailer
Fiscal or Calendar Year (select one)	
<input checked="" type="checkbox"/>	UWMP Tables are in calendar years
<input type="checkbox"/>	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
01/01	
Units of measure used in UWMP * (select from drop down)	
Unit	AF
<i>* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i>	
NOTES:	

2.5.2 REPORTING COMPLETE 2020 DATA

The data provided in the District's 2020 Plan is provided on a calendar year basis.

2.5.3 UNITS OF MEASURE

As shown in Table 2-3, the data provided in the District's 2020 Plan is reported in units of AF, unless noted otherwise.



2.6 COORDINATION AND OUTREACH

CWC 10631.

(h) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

2.6.1 WHOLESALE AND RETAIL COORDINATION

The District is situated within the boundaries of the wholesale water agency CBMWD. As indicated in Table 2-4, the District has provided its 2020 Plan to CBMWD which includes water use projections in five-year increments for normal, single dry, and a five consecutive year drought conditions over the next 25 years.

Table 2-4 Water Supplier Information Exchange

Submittal Table 2-4 Retail: Water Supplier Information Exchange
The retail Supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631.
Wholesale Water Supplier Name
Add additional rows as needed
Central Basin Municipal Water District (CBMWD)
NOTES:



2.6.2 COORDINATION WITH OTHER AGENCIES AND THE COMMUNITY

CWC 10620.

(d)(3) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

CWC 10642.

Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of both the plan...

The District is a retail water supplier that serves customers in the City of Pico Rivera. The District is required to coordinate the preparation of the Plan with appropriate agencies in the area, including appropriate water suppliers that share a common source. Therefore, the District coordinated the preparation of its 2020 UWMP with Central Basin Municipal Water District. As discussed in Section 10.2, the District notified the cities and county within which the District provides water supplies, at least sixty (60) days prior to the public hearing of the preparation of the 2020 Plan and invited them to participate in the development of the 2020 Plan. A copy of the notification letters sent to these agencies is provided in Appendix D.



2.6.3 NOTICE TO CITIES AND COUNTIES

CWC 10621.

(b) Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

As discussed in Section 10.2, notification was provided to the cities and county within which the District provides water supplies that the District was reviewing and considering amendments (updates) to the previous 2015 Plan, and as a result prepare the 2020 Plan. Notification was provided at least 60 days prior to the public hearing (see Appendix D).



CHAPTER 3

SYSTEM DESCRIPTION

LAY DESCRIPTION – CHAPTER 3

SYSTEM DESCRIPTION

Chapter 3 (System Description) of the District's 2020 Plan discusses and provides the following:

- A description of the District's service area is provided. The District serves approximately 26 percent of the area within the City of Pico Rivera's boundaries. The District is located approximately eleven (11) miles southeast of downtown Los Angeles, on the eastern edge of the Los Angeles Basin, and on the southern edge of the San Gabriel Valley
- The District's water service area encompasses an area of approximately 2.3 square miles. The location of the District's water service area is provided in Figure 1.
- A description regarding the District's water service area climate is provided. The monthly historical average temperatures (including minimum and maximum), monthly historical average rainfall, and monthly evapotranspiration (ET_o) in the vicinity of the District's service area is summarized. The sources of the climate information are also discussed.
- The population within the District's water service area is discussed and projected. The sources of the population information are also discussed. The District provides water service to an area with a current population of about 22,051. The District is projected to have a population of 23,214 by CY 2045.
- A discussion of land use information used by the District to develop the 2020 Plan is provided. The District reviewed the current and projected land uses within its



service area. The District also reviewed data provided by the Southern California Association of Governments, the Department of Finance, and the United States Census Bureau and prepared for counties, cities, and unincorporated areas within Southern California.

3.1 GENERAL DESCRIPTION

CWC 10631.

(a) Describe the service area of the supplier, including current and projected population, climate, and other social, economic, and demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available. The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities, as developed pursuant to Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of Title 7 of the Government Code.

The District was formed in 1926 as a “County Water District” under the State Water Act of 1913 and was formerly known as “Pico County Water District.” As a public agency, the District is governed by a five-member board which is elected by registered voters who reside within the District’s service area. The Board’s policies are administered and implemented by the General Manager, who is hired by the Board. Board elections are held every two years and Directors serve a four year term of office.

The District’s water service area covers approximately 1,470 acres (2.3 square miles) and is located within the City of Pico Rivera. Figure 1 shows the District's water service area. The District is located approximately eleven (11) miles southeast of downtown Los



Angeles, on the eastern edge of the Los Angeles Basin, and on the southern edge of the San Gabriel Valley.

The District is one of three (3) independent water purveyors that provide water service to the residents of the City, the other supplier being the Pico Rivera Water Authority (PRWA), a division within the City of Pico Rivera municipal services, and San Gabriel Valley Water Company. The District serves approximately 26 percent of the area within the City's boundaries. The District's service area is primarily residential land use. Other land uses in the District are commercial including the Pico Rivera Plaza; government including 11 schools and public buildings such as libraries and post offices; light industrial; and parks including the William A. Smith Park and Pico Park.

3.2 SERVICE AREA BOUNDARY MAPS

As discussed in Section 3.1, the District's current water service area covers approximately 2.3 square miles encompassing the central portion of the City of Pico Rivera. A service area boundary map is provided in Figure 1. The District's service area boundary relative to the City of Pico Rivera's municipal boundary is also provided in Figure 2.

The District's service area map was submitted online through DWR's Population Tool in a "KML" file format (i.e. Google Earth format). The KML file was originally created in a Geographical Information Systems (GIS) shape file format and converted into a KML format. To the extent information was available, metadata was included in the KML file (including map projection, contact information, start and end dates for which the map is valid, constraints, attribute table definitions, and digitizing base).



3.3 SERVICE AREA CLIMATE

CWC 10631.

(a) Describe the service area of the supplier, including ... climate...

CWC 10630.

It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied, while accounting for impacts from climate change.

The monthly historical average temperatures (including minimum and maximum), monthly historical average rainfall, and monthly ETo in the vicinity of the District's service area is summarized in the tabulation below. Historical climate information was obtained from the Western Regional Climate Center (WRCC), Los Angeles County Department of Public Works (DPW), and from DWR's California Irrigation Management Information System (CIMIS).

The historical average rainfall in the vicinity of the District's service area is 14.5 inches. The District's service area has a dry climate and summers can reach average maximum daily temperatures in the high 80s. Although changes in climatic conditions may have an impact (as discussed in Section 4.5), the projected water supply demands will be based on average year, single dry year and a five consecutive year drought, based on historical data and projected demands. Precipitation within the vicinity of the District's service area is discussed further in Section 7.2.



Service Area Climate Information

Month	Average Temperature (F)	Average Min. Temperature (F)	Average Max. Temperature (F)	Average Total Precipitation (Inches)	ETo (Inches)
January	58.6	47.8	69.6	3.2	1.94
February	60.2	48.8	71.4	3.2	2.36
March	61.6	50.4	72.9	2.2	3.67
April	65.5	53.3	77.6	1.0	4.58
May	68.3	57.3	79.4	0.2	4.74
June	72.5	60.9	84.0	0.1	4.89
July	76.5	64.2	88.6	0.0	5.64
August	77.2	65.1	89.5	0.1	5.45
September	75.6	63.6	87.7	0.3	4.48
October	70.6	58.5	82.9	0.5	3.21
November	63.4	51.5	75.4	1.4	2.08
December	59.0	47.4	70.5	2.0	1.66
Annual	67.0	55.3	79.1	14.5	44.7

Source:

Historical average monthly precipitation information was obtained from the Western Regional Climate Center (<http://www.wrcc.dri.edu/>) and is based on data collected from Station 049660 (Whittier City Yard, California) from 1949 through 2014. Historical average monthly temperature information was obtained from the Western Regional Climate Center (<http://www.wrcc.dri.edu/>) and is based on data collected from Station 045790 (Montebello, California) from 1979 through 2011. Historical monthly average ETo information was obtained from the California Irrigation Management Information Systems (<http://www.cimis.water.ca.gov>) and is based on data collected from Station 174 (Long Beach).

A discussion of the District's sources of supply, how those sources may be impacted by climate change, and the proactive actions the District and other local/regional water managers may take to address the potential climate change on water supplies is provided in Section 4.5.



3.4 SERVICE AREA POPULATION AND DEMOGRAPHICS

3.4.1 SERVICE AREA POPULATION

CWC 10631.

(a) Describe the service area of the supplier, including current and projected population... The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

The District provides water service to an area with a current population of 22,051. Table 3-1 presents the current and projected population of the area encompassed by the District's service area from CY 2020 to CY 2045. The District is projected to have a population of 23,214 by CY 2045.

The District initially reviewed the available historical populations within its service area for population growth trends. The District determined historical U.S. Census populations within its service area using DWR's Population Tool (<https://wuedata.water.ca.gov/>). The District's service area boundary was uploaded to DWR's Population Tool in a "KML" file format (i.e. Google Earth format). The KML file was originally created in a GIS shapefile format and converted into a KML format. The uploaded KML file represents the District's service area boundary from 1990 to present (2020). DWR's Population Tool utilized U.S. Census data from 1990, 2000, and 2010, along with the District's service area boundary, to estimate the population served by the District in the years 1990, 2000, and 2010.

The District estimated the 2020 population within its service area based on census block GIS data from the 2020 U.S. Census. Census blocks located within, or partially within, the City of Pico Rivera were identified. The corresponding populations within these whole or partial census blocks were totaled in order to estimate a 2020 population of approximately 22,051 within the District's service area. The calculated CY 2020



population (discussed in Section 5.4) was used to determine compliance with the District's SB X7-7 water use target for 2020 (discussed in Section 5.5).

Projected populations in the District's service area were based on growth rate projections obtained from data provided by the Southern California Association of Governments (SCAG). The data provided by SCAG was based on their "*The 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy of the SCAG*", dated September 2020, and incorporates demographic trends, existing land use, general plan land use policies, and input and projections through the year 2045 from the Department of Finance (DOF) and the US Census Bureau for counties, cities and unincorporated areas within Southern California.

Table 3-1 Population – Current and Projected

Submittal Table 3-1 Retail: Population - Current and Projected						
Population Served	2020	2025	2030	2035	2040	2045(opt)
	22,051	22,279	22,509	22,741	22,976	23,214
NOTES: 2020 US Census data was used to estimate the 2020 population (See Section 5.4.1). The projected populations were estimated by applying the SCAG's projected annual growth rate for the City of Pico Rivera to the 2020 population (See Section 3.4.1).						

3.4.2 OTHER SOCIAL, ECONOMIC, AND DEMOGRAPHIC FACTORS

CWC 10631.

(a) Describe the service area of the supplier, including... other social, economic, and demographic factors affecting the supplier's water management planning.



No other demographic factors affect the District's water management planning. However, increased population will have an impact on water demand.

3.5 LAND USES WITHIN SERVICE AREA

The District reviewed the current and projected land uses within its service area during the preparation of this 2020 Plan. Information regarding current and projected land uses is included in the City of Pico Rivera's General Plan. The existing land uses within the District's service area include single-family residential, multi-family residential, commercial, and industrial. The projected land uses within the District's service area are expected to remain similar to the existing land uses. In addition, although mostly built-out, the projected population within the District's service area is anticipated to increase (as discussed in Section 3.4). A discussion of the existing and projected water uses for the individual water use sectors within the District's service area, which includes the different land uses, is provided in Section 4.2. As discussed in Section 2.6, the District coordinated the preparation of the 2020 Plan with the City of Pico Rivera and the County of Los Angeles.

As discussed in Section 3.4, the District obtained data from the Southern California Association of Governments document entitled "*The 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy of the SCAG*", dated September 2020. Projected populations in the District's service area were based on growth rate projections developed by SCAG. The data provided by SCAG incorporates demographic trends, existing land use, general plan land use policies, and input and projections through the year 2045 from the Department of Finance and the US Census Bureau for counties, cities and unincorporated areas within Southern California.



CHAPTER 4

WATER USE CHARACTERIZATION

LAY DESCRIPTION – CHAPTER 4

WATER USE CHARACTERIZATION

Chapter 4 (Water Use Characterization) of the District's 2020 Plan discusses and provides the following:

- The District provides water service to individual “water use sectors”. These water use sectors include single-family residential, multi-family residential, commercial, and industrial. Individual descriptions for these water use sectors are provided in Section 4.2.1.
- The District's total water demands (including potable and recycled water) over the past 10 years have ranged from 2,722 acre-feet per year (AFY) to 3,315 AFY, with an average of 2,990 AFY. The District currently measures its water use through meter data and billing records.
- The District conducts an annual water loss audit to identify distribution system water losses. Water losses can result from pipeline leaks and inaccurate metering due to faulty meters. Water loss estimates are incorporated into the District's projected water demands.
- The District's current and projected water demands are provided in five-year increments over the next 25 years (through Calendar Year 2045) as shown on Table 4-3.
- The District's water demand projections incorporate water savings which are the result of implementation of new plumbing codes along with consumer awareness of the need to conserve water.



- The projected water demands for lower income households are identified and are included in the District's total projected water demands.
- The District's sources of water supply and how those sources may be impacted by climate change are discussed. The proactive actions the District and other local/regional water managers may take to address the potential climate change impacts on water supplies are also discussed.
- The District will be able to provide sufficient water supplies to meet the projected water demands of its customers, including during a five consecutive year drought period.

4.1 NON-POTABLE VERSUS POTABLE WATER USE

The Water Code requires a description and quantification of water uses within the District's service area, including both non-potable and potable water. Recycled water (non-potable) uses are addressed in Section 6.5; however, a summary is provided in Table 4-3. Furthermore, Chapter 4 addresses the District's potable water demands.



4.2 PAST, CURRENT, AND PROJECTED WATER USES BY SECTOR

CWC 10635.

(a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total 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. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

CWC 10631.

(d)(1) For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following...

(2) The water use projections shall be in the same five-year increments described in subdivision (a).

(4)(A) Water use projections, where available, shall display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.

(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following:

(i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections.

(ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.

The District's current and projected water demands are provided in five-year increments over the next 25 years (through CY 2045) in Tables 4-1, 4-2, and 4-3. The District's total water demands were projected based on a review of the SB X7-7 calculations which are discussed in Chapter 5 (including the SB X7-7 water use target for 2020), current water



use factors based on recent water demands, and the total population projections based on land use trends within the District.

The District provides water service to individual “water use sectors” as identified by the California Water Code. The water use sectors supplied by the District are discussed in Section 4.2.1. The water use for each of these sectors during CY 2020 is provided in Table 4-1. The projected water use for each individual water use sector is provided in Table 4-2 and is based on the percentage breakdown of water use from each individual water use sector in CY 2020 (the percentages were then applied to the projected total water use).

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

Submittal Table 4-1 Retail: Demands for Potable and Non-Potable ¹ Water - Actual			
Use Type	2020 Actual		
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume ²
Add additional rows as needed			
Single Family		Drinking Water	1,592
Multi-Family		Drinking Water	425
Commercial	Includes institutional	Drinking Water	680
Industrial		Drinking Water	1
Losses		Drinking Water	118
TOTAL			2,816
¹ Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.			
² Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.			
NOTES: Recycled water demands are provided in Table 4-3 and Table 6-4.			



Table 4-2 Use for Potable and Non-Potable Water - Projected

Submittal Table 4-2 Retail: Use for Potable and Non-Potable ¹ Water - Projected						
Use Type	Additional Description (as needed)	Projected Water Use ² <i>Report To the Extent that Records are Available</i>				
<u>Drop down list</u> May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool		2025	2030	2035	2040	2045 (opt)
Add additional rows as needed						
Single Family		1,623	1,640	1,656	1,673	1,691
Multi-Family		433	438	442	447	451
Commercial		693	700	707	715	722
Industrial		1	1	1	1	1
Losses		120	121	123	124	125
TOTAL		2,870	2,900	2,929	2,960	2,990
¹ Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4. Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.						
NOTES:						

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

Submittal Table 4-3 Retail: Total Water Use (Potable and Non-Potable)						
	2020	2025	2030	2035	2040	2045 (opt)
Potable Water, Raw, Other Non-potable <i>From Tables 4-1R and 4-2 R</i>	2,816	2,870	2,900	2,929	2,960	2,990
Recycled Water Demand ¹ <i>From Table 6-4</i>	59	61	61	61	61	61
Optional Deduction of Recycled Water Put Into Long-Term Storage ²						
TOTAL WATER USE	2,875	2,931	2,961	2,990	3,021	3,051
¹ Recycled water demand fields will be blank until Table 6-4 is complete ² Long term storage means water placed into groundwater or surface storage that is not removed from storage in the same year. Supplier <i>may</i> deduct recycled water placed in long-term storage from their reported demand. This value is manually entered into Table 4-3.						
NOTES:						



4.2.1 WATER USE SECTORS LISTED IN WATER CODE

CWC 10631.

(d)(1) For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following:

- (A) Single-family residential.*
- (B) Multifamily.*
- (C) Commercial.*
- (D) Industrial.*
- (E) Institutional and governmental.*
- (F) Landscape.*
- (G) Sales to other agencies.*
- (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.*
- (I) Agricultural.*
- (J) Distribution system water loss.*

As shown in Table 4-1, the District's service area includes the following water use sectors listed in the California Water Code:

- Single-family residential (A single-family dwelling unit is a lot with a free-standing building containing one dwelling unit that may include a detached secondary dwelling. Single-family residential water demands are included in retail demands.)
- Multi-family (Multiple dwelling units are contained within one building or several buildings within one complex. Multi-family residential water demands are included in retail demands.)
- Commercial
(Commercial users are defined as water users that provide or distribute a product or service. Commercial water demands are included in retail demands.)



- **Industrial**
(Industrial users are defined as water users that are primarily a manufacturer or processor of materials as defined by the North American Industry Classification System. Industrial water demands are included in retail demands.)
- **Distribution system losses**
(Distribution system losses represent the potable water losses from the pressurized water distribution system and water storage facilities, up to the point of delivery to the customers. Additional information is discussed in Section 4.2.4)

4.2.2 WATER USE SECTORS IN ADDITION TO THOSE LISTED IN WATER CODE

The District's service area does not include other water demand sectors which are not listed in the California Water Code (including exchanges, surface water augmentation, transfers, and wetlands or wildlife habitat).

4.2.3 PAST WATER USE

Chapter 6 provides a discussion of the sources of water supply the District uses to meet its water demands. Section 6.1 provides a tabulation of the District's historical annual water demands for each water supply source. Over the past ten years, the District's total water demands (including potable and recycled water) have ranged from 2,722 AFY to 3,315 AFY, with an average of 2,990 AFY. In addition, the District recently experienced a five consecutive year drought within its service area from CY 2011 to CY 2015. The District reviewed its historical water demands to determine the projected water demands and water supply reliability (discussed in Chapter 7). The District is able to provide sufficient water supplies to meet the projected water demands of its customers, including during a five consecutive year drought period.



4.2.4 DISTRIBUTION SYSTEM WATER LOSS

CWC 10631.

(d)(1) For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following...

(J) Distribution system water loss.

CWC 10631.

(3)(A) The distribution system water loss shall be quantified for each of the five years preceding the plan update, in accordance with rules adopted pursuant to Section 10608.34.

(B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.

(C) In the plan due July 1, 2021, and in each update thereafter, data shall be included to show whether the urban retail water supplier met the distribution loss standards enacted by the board pursuant to Section 10608.34.

Distribution system water losses represent the potable water losses from the pressurized water distribution system and water storage facilities, up to the point of delivery to the customers. Sources of distribution system water loss can include: inaccurate metering due to faulty meters; water use not metered such as firefighting, flushing of the water system; and pipeline leaks.

The California Water Code Section 10608.34(b)(1) requires “[o]n or before October 1 of each year unit October 1, 2023, each urban retail water supplier shall submit a completed and validated water loss audit report for the previous calendar year or the previous fiscal year...” The water loss audits must follow American Water Works Association (AWWA) guidance and be validated by a certified water audit validator. The District has completed the annual water loss audit process through October 1, 2020, as required by the California



Water Code (i.e. the District has completed water loss audits representing calendar years 2016, 2017, 2018, and 2019). The District's water loss audits were prepared and validated pursuant to DWR requirements. The annual water loss audit reports submitted by retail water agencies in California, including the District (provided in Appendix E), are available on DWR's website (https://wuedata.water.ca.gov/awwa_plans).

The District's annual water loss audits identify real water losses (e.g. leaks and main failures) and apparent water losses (e.g. customer meter inaccuracies, systematic data handling errors in customer billing systems, and unauthorized consumption). The District's distribution system water losses are based on the sum of the real and apparent water losses and are summarized in Table 4-4 for the past five years. Over the past five years, the District's average distribution system water losses represent approximately 3.9 percent of its total water demands. This average water loss factor was incorporated into the District's total potable water demand projections (Tables 4-2 and 4-3).



Table 4-4 12 Month Water Loss Audit Report

Submittal Table 4-4 Retail: Last Five Years of Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss ^{1,2}
01/2016	75
01/2017	101
01/2018	96
01/2019	141
01/2020	118
¹ Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet. ² Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.	
NOTES: The "Volume of Water Loss" quantities for CY 2017 through CY 2019 were obtained from the annual AWWA Water Loss Audits (and based on the combination of apparent losses and real losses). Because the AWWA water loss audits were reported on a fiscal year basis, half of the water loss during each fiscal year was applied to the water losses for the corresponding calendar year (to estimate the water losses for the entire calendar year), pursuant to direction from DWR staff. The "Volume of Water Loss" quantities for CY 2016 and CY 2020 were estimated based on metered water production less metered water deliveries to customers.	

The California Water Code Section 10608.34(i) directs the SWRCB to "adopt rules requiring urban retail water suppliers to meet performance standards for the volume of water losses." Pursuant to this law, and as discussed above, urban retail water suppliers (including the District) have been submitting water loss audits to DWR annually since October 2017. Pursuant to (SB) Senate Bill 606, urban retail water suppliers are required to calculate an "urban water use objective", which includes indoor, outdoor, commercial, industrial and institutional irrigation uses and allowed system water loss, by the year 2024. In addition, by calendar year 2028, urban retail water suppliers are required to comply with individual volumetric standards (based on an economic model) for leak detection and repair actions. The goal of the proposed water loss standards is to reduce collective



water losses throughout California by approximately 40 percent. The District will continue to develop its water loss standard and urban water use objective pursuant to SWRCB requirements.

4.2.5 CURRENT WATER USE

The District currently measures its water use through meter data and billing records. The water use for the District's individual water use sectors during CY 2020 are provided in Table 4-1. Recycled water uses are addressed separately in Section 6.5; however, a summary of projected recycled water uses is provided in Table 4-3. The District's total water uses during CY 2020 have been reviewed for compliance with the SB X7-7 water use target for 2020 adopted in the District's 2015 Plan (discussed in Section 5.5).

DWR has created an optional "Planning Tool Worksheet" for water suppliers to review and assess monthly water use trends. DWR has deemed the tool as optional and the District is not required by DWR to use the tool. Section 6.1 provides a tabulation of the District's historical annual water uses for each water supply source. During the past 10 years, the District experienced a five consecutive year drought within its service area from CY 2011 to CY 2015. Historical records indicate the District's annual water demands had been greater prior to CY 2020. The District has been able to provide sufficient water supplies to its customers, including during long-term droughts and years with historically high water demands. In addition, the District has been able to provide water service to meet maximum day water demands for these years, including during the summer months. A further discussion regarding the reliability of the District's water supply sources is provided in Chapter 7.



4.2.6 PROJECTED WATER USE

CWC 10635.

(a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total 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. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

CWC 10631.

(h) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

CWC 10631.

(d)(4)(A) Water use projections, where available, shall display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.

(d)(4)(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following:

- (i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections.*
- (ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.*

The District's projected water demands are provided in five-year increments over the next 25 years (through CY 2045) in Table 4-3. The District's projected water demands and water supplies during a normal year, a single dry year, and a five consecutive year



drought are provided in Chapter 7. The projected water demands for each of the District's water use sectors are provided in Table 4-2.

The District's water demands were projected based on a review of the SB X7-7 calculations discussed in Chapter 5 (including the SB X7-7 water use target for 2020), existing water use factors based on recent water demands, and the total population projections based on land use trends within the District. The projected water demands for the water use sectors were based on the percentage breakdown of water demands from each individual water use sector in CY 2020 (the percentages were then applied to the projected total water demands). A discussion of the District's water supplies from CBMWD, a wholesaler which provides recycled water to the District, are discussed in Section 6.2. As discussed in Section 2.6, the District has coordinated its water demand projections with CBMWD for each water use sector.

The District's water demand projections incorporate water savings, or "passive savings", which are the result of implementation of new plumbing codes along with consumer awareness of the need to conserve water. The District's Ordinance No. 62, which was adopted in June 2015 (discussed in Section 9.2.1), includes methods for current and ongoing reduction in water use and water waste. Prior to adoption of Ordinance No. 62, the District's water use rate ranged from approximately 142 gallons per capita day to 173 gallons per capita day (from CY 1999 through CY 2008). As identified in Section 5.5, the District's actual water use rate during CY 2020 was 109 gallons per capita per day which is a decrease of up to 64 gallons per capita per day from the recent historical water use and includes passive savings. The District's projected water demands incorporate water use targets less than its established SB X7-7 water use target for 2020 and incorporate ongoing water passive savings and reduced water use. As indicated in Table 4-5, estimated future water savings have been considered as part of the District's water use projections.



Table 4-5 Inclusion in Water Use Projections

Submittal Table 4-5 Retail Only: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) <i>Drop down list (y/n)</i>	Yes
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found.	Section 4.2.6 and Chapter 8
Are Lower Income Residential Demands Included In Projections? <i>Drop down list (y/n)</i>	Yes
NOTES:	

4.2.7 CHARACTERISTIC FIVE-YEAR WATER USE

CWC 10635.

(b) Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following:

(3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.

(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

The District's projected water demands are provided in five-year increments over the next 25 years (and through CY 2045) in Table 4-3. The District's projected water demands and water supplies during a normal year, a single dry year, and a five consecutive year drought over the next 25 years (and through CY 2045) are provided in Chapter 7.



The District’s “Drought Risk Assessment” (DRA) for the next five years (from CY 2020 through CY 2025) is discussed in Section 7.3. The DRA includes the District’s projected annual water demands and supplies for each of the next five years and was prepared based on the five driest consecutive years on record. The DRA provides an assessment of the District’s water service reliability during a drought lasting five years. The DRA reflects anticipated water demands and supplies prior to any expected benefits associated with water supply shortage responses included in the District’s Water Shortage Contingency Plan (provided in Chapter 8). In addition to historical drought hydrology, the District considered impacts to water supplies and demands based on climate change conditions (discussed in Section 4.5) and anticipated regulatory changes, including the urban water use objectives (discussed in Section 4.2.4)

4.3 WORKSHEETS AND REPORTING TABLES

The District’s current and projected water demands, including the water demands for each of the District’s water use sectors, are provided in five-year increments over the next 25 years (and through CY 2045) in Tables 4-1, 4-2, and 4-3.

4.3.1 OPTIONAL PLANNING TOOL USE ANALYSIS WORKSHEET

As discussed in Section 4.2.5, DWR has deemed the “Planning Tool Worksheet” as optional and the District is not required by DWR to use the tool. The District has provided sufficient water supplies to its customers, including during long-term droughts and years with historically high water demands. The District has also been able to provide water service to meet maximum day water demands for these years, including during the summer months. A further discussion regarding the reliability of the District’s water supply sources is provided in Chapter 7.



4.3.2 DWR 2020 UWMP SUBMITTAL TABLES

The District's current water demands for each of the water use sectors during CY 2020 are provided in Table 4-1. The District's projected water demands for each of the water use sectors, in five-year increments over the next 25 years (and through CY 2045), are provided in Table 4-2. The District's total projected water demands, including potable and recycled water, in five-year increments over the next 25 years (and through CY 2045), are summarized in Table 4-3. The District's distribution system water losses over the past five years, based on the sum of the real and apparent water losses, are summarized in Table 4-4. The District's annual AWWA water loss audits are provided in Appendix E.

4.4 WATER USE FOR LOWER INCOME HOUSEHOLDS

CWC 10631.1.

(a) The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.

California Health and Safety Code 50079.5.

(a) "Lower income households" means persons and families whose income does not exceed the qualifying limits for lower income families... In the event the federal standards are discontinued, the department shall, by regulation, establish income limits for lower income households for all geographic areas of the state at 80 percent of area median income, adjusted for family size and revised annually.

The District's water demands projections provided in Table 4-3 include projected water demands for lower income single-family and multi-family households. A lower income household is defined as a household with an income less than 80 percent of the "area median income", adjusted for family size. For the purpose of this evaluation, the entire Los Angeles County was used for the "area median income". The total number of lower income households within the District's service area was estimated based on billing



records provided by the District, a review of the City of Pico Rivera's General Plan, a review of median household income range statistics provided by the US Census Bureau (<https://data.census.gov/cedsci/>), and a review of GIS maps of Disadvantaged Communities² (DACs), including block groups, tracts, and places, provided by DWR. The estimated number of lower income households located within the District's service area is 42 percent of the total number of households. As indicated in Table 4-2, the total projected residential (single family and multi-family) water demands within the District in 2045 is estimated at about 2,142 AFY. Based on a 42 percent use factor of total residential water demands, the projected water demand for lower income households will be about 900 AFY by the CY 2045. The projected water demands for lower income households were included in the District's total projected water demands, as indicated in Table 4-5.

4.5 CLIMATE CHANGE CONSIDERATIONS

CWC 10630.

It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied, while accounting for impacts from climate change.

CWC 10635.

(b) Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following...

(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

² GIS information for DACs is based on data from the US Census showing census block groups, tracts, and places identified as disadvantaged communities (less than 80 percent of the State's median household income) or severely disadvantaged communities (less than 60 percent of the State's median household income)



Climate is defined as “the average course or condition of the weather at a place usually over a period of years as exhibited by temperature, wind velocity and precipitation³”. A change in the climate which produces a greater amount of precipitation (i.e. more runoff and/or snowpack) and lower temperatures is generally a benefit to water supplies. However, drought conditions which may result in decreased precipitation, decreased runoff, and increased temperature may adversely affect an urban water supplier’s ability to meet demands by potentially impacting supplies. Consequently, the focus of impacts of climate change is on these adverse consequences.

Section 6.2 of this Plan describes the District’s sources of water supply, management practices associated with those sources, and the long-term reliability of those sources. Section 7.3 includes a Drought Risk Assessment which considers the potential impacts of climate change to the District’s water supply sources. Chapter 8 provides a detailed discussion of the District’s Water Shortage Contingency Plan, including but not limited to, the six standard water shortage levels in the event climate change results in a reduction to water supplies associated with a periodic drought condition. The following is a discussion of the District’s sources of supply, how those sources may be impacted by climate change, and the proactive actions the District and other local/regional water managers may take to address the potential climate change impacts on water supplies.

Imported Water Supplies

Although the District does not receive treated imported water supplies, the District relies on WRD to manage groundwater supplies of the Central Basin (including through groundwater replenishment). WRD has largely replaced the use of imported water from Metropolitan Water District of Southern California (MWD) with local recycled water for groundwater replenishment purposes. However, MWD has prepared a Regional 2020 Urban Water Management Plan which includes a discussion (Section 2.6 in MWD’s 2020

³ www.merriam-webster.com



UWMP) of the reliability of its water supplies and the impacts of climate change and is incorporated by reference in this Plan. Furthermore, the District is situated within the boundaries of the Central Basin Municipal Water District, which has also provided a discussion of climate change considerations and that discussion is included by reference. The following is a brief summary of MWD's efforts:

Resource Planning

- MWD has established the Robust Decision Making (RDM) approach to identify vulnerabilities to its water supplies. Climate change information was applied to MWD's simulated water supply scenarios to demonstrate the vulnerability of water supplies to climate change.
- MWD altered the inflow hydrology scenarios on the Colorado River simulation model to reflect modified inflow to MWD's Colorado River aqueduct.

Knowledge Sharing and Research Support

- MWD is an active and founding member of the Water Utility Climate Alliance (WUCA) which includes 12 nationwide partners collaborating on climate change considerations. As such, MWD shares agency actions on climate change and adaptation. WUCA has also released numerous research papers on climate change.

Implementation of Programs and Policies

- MWD's programs include the use of solar energy, use of ride share programs, and reduction of greenhouse emissions. Collectively these actions are intended to impact the effects of climate change.



Groundwater Supplies – Central Basin

The District relies on groundwater produced from the Central Basin as noted in Section 6.2.2 of this UWMP. As previously noted, the Central Basin has been identified by DWR as a very low-priority groundwater basin partially due to the fact it is adjudicated. In that regard, the Central Basin is actively managed by the Water Replenishment District of Southern California which serves as the Central Basin Watermaster and those management activities are described in detail in Section 6.2.2.

Recognizing the potential impacts of climate change on the Central Basin groundwater supplies (decreased local runoff and replenishment, along with increased groundwater production, may lead to decreased groundwater levels), the District has used climate tools available on the California Energy Commission's Cal-Adapt website (<https://cal-adapt.org/>) to identify potential future climate change cycles for the Central Basin. The Cal-Adapt website has been developed by the Geospatial Innovation Facility at the University of California, Berkeley with funding and advisory oversight by the California Energy Commission and California Strategic Growth Council.

To address the uncertainty in future greenhouse gas emissions, Cal-Adapt has developed a Representative Concentration Pathway 4.5 (RCP 4.5) scenario and a Representative Concentration Pathway 8.5 (RCP 8.5) scenario. RCP 4.5 represents a scenario in which greenhouse gas emissions peak around 2040, then decline and stabilize. RCP 8.5 represents a scenario in which emissions continue to strongly rise through 2050 and plateau around 2100. RCP 4.5 is a "medium" emissions scenario that models a future in which there is an effort made by societies to reduce greenhouse gas emissions, whereas RCP 8.5 is a "business-as-usual" scenario. For the District's climate change analysis, the RCP 4.5 scenario was selected.

The Cal-Adapt climate tools also incorporate several General Circulation Models (GCMs), which represent physical processes in the atmosphere, ocean, and land surface. These



GCMs projected future climates under conditions such as warm/dry, cooler/wetter, and average simulations. For the District's climate change analysis, the average condition GCM (CanESM2) was selected.

The climate tools available on the Cal-Adapt website were used to simulate projected annual precipitation and annual average maximum temperature in the Central Basin. An electronic boundary of the Central Basin was submitted online through the Cal-Adapt website in a "KML" file format (i.e. Google Earth format) and data using several of the available climate tools was generated.

Based on the data generated by the Cal-Adapt simulations (see Appendix F), the average annual rainfall in the Central Basin is projected to be 14.90 inches over the next 25 years (through 2045), compared to historical average of 13.72 inches (from 1950 through 2019). In addition, the average maximum temperature is projected to be 78.4 degrees Fahrenheit compared to a historical average of 75.4 degrees Fahrenheit. Although there may be more precipitation in the future, it may be more likely to fall as rainfall compared to snowfall. The simulations do not denote the duration or intensity of storms contributing to the annual precipitation. Notwithstanding, the San Gabriel River watershed includes a complex and interconnected series of dams, reservoirs and replenishment basins to capture stormwater runoff. In an average to below average year of precipitation, over 95 percent of the precipitation in the watershed is retained within the watershed and is not lost to the ocean. Consequently, most if not all precipitation (whether it is rain or snowfall) likely will be captured for use in the Central Basin area and not adversely impacted by a potentially higher average annual temperature.

Recognizing these potential impacts to local hydrology resulting from climate change and the resultant impacts to the groundwater supplies, WRD has taken (and may reinstate as needed) the following proactive actions to anticipate and circumvent the potential impacts of climate change. These actions will enable the District to use rely on the Central Basin as a reliable source of supply.



Recycled Water Groundwater Replenishment

The WRD has actively used recycled water for groundwater replenishment for many decades. Historically the recycled water replenishment was supplemented with untreated imported water replenishment as part of Central Basin management. However, WRD has also established the Water Independence Now (WIN) program. The WIN program includes a treatment facility (previously referred to as the Groundwater Reliability Improvement Program) which includes ultrafiltration, reverse osmosis, and ultraviolet disinfection and advanced oxidation to treat recycled water by significantly reducing the total dissolved solids concentration. This action will gradually help to improve the water quality of the Central Basin, plus reduce or eliminate the future need to purchase untreated imported water.

Water Storage Programs

The Central Basin Adjudication allows Parties to the Judgment to pump up to 20 percent more of its annual Allowed Pumping Allocation plus any carry-over water rights as described in Section 6.2.2. In addition, the Central Basin Judgment includes an amendment which implemented a water storage program. A party may store up to 50 percent of the party's Allowed Pumping Allocation in an Individual Storage Account and 150 percent of the party's Allowed Pumping Allocation in a Community Storage Account if space is available. The amendments also allow parties to convert unused Allowed Pumping Allocation to stored water and revised the amount of carryover to be equal to 60 percent of the party's Allowed Pumping Allocation minus the amount of carryover water set aside for storage. The purpose of the storage program creates an added reliability in water supply from the Central Basin.



CHAPTER 5

SB X7-7 BASELINES, TARGETS, AND 2020 COMPLIANCE

LAY DESCRIPTION – CHAPTER 5

SB X7-7 BASELINES, TARGETS, AND 2020 COMPLIANCE

Chapter 5 (SB X7-7 Baselines, Targets, and 2020 Compliance) of the District's 2020 Plan discusses and provides the following:

- The Water Conservation Act of 2009 (or SB X7-7) required the State of California to achieve a 20 percent reduction in urban water use by the year 2020.
- SB X7-7 required urban water suppliers, including the District, to develop a "2020 Water Use Target" to assist the State of California to achieve the 20 percent reduction. The 2020 Water Use Target represents the amount of water each person should use per day (i.e. gallons per capita per day or GPCD) by the year 2020.
- The District previously determined its 2020 Water Use Target during the preparation of its 2015 Plan by completing standardized tables (or the SB X7-7 Verification Form) to demonstrate compliance with the Water Conservation Act of 2009. The District's SB X7-7 Verification Form has not been modified and is included as part of this 2020 Plan as Appendix G. The District's 2020 Water Use Target is 142 GPCD.
- The District's 2020 Plan incorporates the 2020 Water Use Target and determines compliance based on actual water use.
- The population within the District's service area during Calendar Year 2020 is estimated at 22,051. The District's population was estimated using 2020 United



States Census data in a Geographic Information Systems (or GIS) format to estimate the population within the District's service area.

- The District's "gross water" use represents the total volume of water entering its distribution system from its water supply sources. The District's gross water use excludes recycled water deliveries or water conveyed to another supplier. The District's annual gross water during Calendar Year 2020 was 2,816 AF.
- The District's per-capita water use is based on the gross water use divided by the population. The District's per-capita water use during CY 2020 was 114 GPCD. The District's confirmed 2020 Water Use Target is 142 GPCD. The District's per-capita water use during CY 2020 meets the 2020 Water Use Target.
- The District has also demonstrated compliance with the 2020 Water Use Target by completing the SB X7-7 2020 Compliance Form (provided in Appendix H).

5.1 GUIDANCE FOR WHOLESALE SUPPLIERS

[CWC 10608.12.](#)

(I) "Urban wholesale water supplier," means a water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes.

The District is not a wholesale agency and is not required by DWR to complete Section 5.1.

5.2 SB X7-7 FORMS AND SUMMARY TABLE

The District previously calculated its "Baseline" water periods and a "2020 Water Use Target" in its 2015 Plan. There were two different Baseline periods identified (consisting of a "10-year Baseline" period and a "5-year Baseline" period). The average water use for



each of these two Baseline periods, expressed in gallons per capita per day (GPCD), represents the Baseline water use for each period. A 10-year Baseline period was identified by the District and information regarding the starting year, ending year, and average water use rate during this period is provided in Table 5-1. The District determined its 2020 Water Use Target by calculating 80 percent of the 10-year Baseline water use.

According to Section 10608.22 of the California Water Code, if an urban retail water supplier's 5-year Baseline period water use is greater than 100 GPCD, the calculated 2020 Water Use Target will need to be verified that there is a minimum reduction of 5 percent from the 5-year Baseline water use. A 5-year Baseline period was identified by the District and information regarding the starting year, ending year, and average water use rate during this period is provided in Table 5-1. The average water use rate during the identified 5-year Baseline period was greater than 100 GPCD. As a result, the District's calculated 2020 Water Use Target was compared with 95 percent of the average water use within the 5-year Baseline to determine if any adjustments or reductions were required. The comparison was used to confirm the District's 2020 Water Use Target (which represents the per capita water use target for 2020 pursuant to SB X7-7).

5.2.1 SB X7-7 VERIFICATION FORM (BASELINES AND TARGETS)

The District's service area has not changed (i.e. expansion or contraction) since the 2015 Plan was prepared. The District's 2020 Plan incorporates the Baseline water uses and 2020 Water Use Target calculated in the 2015 Plan. The District previously prepared standardized tables (SB X7-7 Verification Form) to demonstrate compliance with the Water Conservation Act of 2009 in its 2015 Plan, including compliance with the District's 2015 Interim Water Use Target. The District's SB X7-7 Verification Form has not been modified and is included as part of this 2020 Plan as Appendix G.



5.2.2 SB X7-7 COMPLIANCE FORM

The District's compliance with its 2020 Water Use Target is summarized in the following sections. The District has also demonstrated compliance with the 2020 Water Use Target by completing the SB X7-7 2020 Compliance Form (provided in Appendix H).

5.2.3 SB X7-7 VERIFICATION FORM

Summary information from the SB X7-7 Verification Form and from the SB X7-7 2020 Compliance Form is provided in Tables 5-1 and 5-2 below.

Table 5-1 Baselines and Targets Summary from SB X7-7 Verification Form

Submittal Table 5-1 Baselines and Targets Summary From SB X7-7 Verification Form <i>Retail Supplier or Regional Alliance Only</i>				
Baseline Period	Start Year *	End Year *	Average Baseline GPCD*	Confirmed 2020 Target*
10-15 year	1998	2008	150	142
5 Year	2003	2007	153	
<i>*All cells in this table should be populated manually from the supplier's SBX7-7 Verification Form and reported in Gallons per Capita per Day (GPCD)</i>				
NOTES:				



Table 5-2 2020 Compliance from SB X7-7 Compliance Form

Submittal Table 5-2: 2020 Compliance From SB X7-7 2020 Compliance Form <i>Retail Supplier or Regional Alliance Only</i>				
2020 GPCD			2020 Confirmed Target GPCD*	Did Supplier Achieve Targeted Reduction for 2020? Y/N
Actual 2020 GPCD*	2020 TOTAL Adjustments*	Adjusted 2020 GPCD* (Adjusted if applicable)		
114	0	114	142	Y
<i>*All cells in this table should be populated manually from the supplier's SBX7-7 2020 Compliance Form and reported in Gallons per Capita per Day (GPCD)</i>				
NOTES:				

5.2.4 REGIONAL UWMP/REGIONAL ALLIANCE

As discussed in Section 2.4, the District's 2020 Plan was not developed as part of a Regional Alliance. Information from the District's 2020 Plan is not required to be reported in a Regional Alliance report.

5.3 BASELINE AND TARGET CALCULATIONS FOR 2020 UWMPs

5.3.1 SUPPLIER SUBMITTED 2015 UWMP, NO CHANGE TO SERVICE AREA

The general requirements associated with determining the Baseline periods, Baseline water uses, and 2020 Water Use Target were previously provided by DWR. Based on the requirements, the District calculated the Baseline water uses and 2020 Water Use



Target in its 2015 Plan. The District's service area has not changed (i.e. expansion or contraction) since the 2015 Plan was prepared. The District's 2020 Plan incorporates the Baseline water uses and 2020 Water Use Target calculated in the 2015 Plan. The District's SB X7-7 Verification Form is included in Appendix G.

As discussed in Section 5.2.1, the District prepared standardized tables (SB X7-7 Verification Form) to demonstrate compliance with the Water Conservation Act of 2009. The District's SB X7-7 Verification Form is provided in Appendix G and includes Baseline water uses and the 2020 Water Use Target. A summary of the Baseline water uses and 2020 Water Use Target is provided below.

The California Water Code allows an urban water supplier to calculate up to a 15-year Baseline period if at least 10 percent of its 2008 retail water demands were met through recycled water deliveries within its service area, otherwise calculation of a 10-year Baseline period is required. The District's recycled water deliveries were less than 10 percent of its retail water demands during CY 2008. Consequently, a 10-year Baseline period was identified by the District and information regarding the starting year, ending year, and average water use rate during this period is provided in Table 5-1. Water systems could potentially identify their 2020 Water Use Target by calculating 80 percent of the 10-year Baseline water use.

According to Section 10608.22 of the California Water Code, if an urban retail water supplier's 5-year Baseline period water use is greater than 100 GPCD, the calculated 2020 Water Use Target will need to be verified that there is a minimum reduction of 5 percent from the 5-year Baseline water use. A 5-year Baseline period was identified by the District and information regarding the starting year, ending year, and average water use rate during this period is provided in Table 5-1. The average water use rate during the identified 5-year Baseline period was greater than 100 GPCD. As a result, the District's calculated 2020 Water Use Target was compared with 95 percent of the average water use within the 5-year Baseline period to determine if any adjustments or reductions



were required. The District's calculated 2020 Water Use Target (or 142 GPCD) was compared with the 95 percent of the average water use within the 5-year Baseline (or 145 GPCD) and it was determined that no adjustments or reductions were required. The District's confirmed 2020 Water Use Target is 142 GPCD and is summarized in Table 5-1.

5.4 METHODS FOR CALCULATING POPULATION AND GROSS WATER USE

5.4.1 SERVICE AREA POPULATION

CWC 10608.20.

(e) An urban retail water supplier shall include in its urban water management plan due in 2010 pursuant to Part 2.6 (commencing with Section 10610) the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.

(f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.

CWC 10644.

(a)(2) The plan... shall include any standardized forms, tables, or displays specified by the department.

A discussion regarding the District's compliance with the 2020 Water Use Target is provided in Section 5.5. Compliance with the 2020 Water Use Target is based on the total estimated population within the District's water service during CY 2020. The District reviewed the methodologies recommended by DWR to estimate the CY 2020 population. The population methodology used by the District in the 2020 Plan is provided below.

The District initially reviewed the available historical population within its service area for population growth trends. The District determined historical U.S. Census population within its service area using DWR's Population Tool (<https://wuedata.water.ca.gov/>). The District's



service area boundary was uploaded to DWR's Population Tool in a "KML" file format (i.e. Google Earth format). The KML file was originally created in a GIS shapefile format and converted into a KML format. The uploaded KML file represents the District's service area boundary from 1990 to present (2020). DWR's Population Tool utilized U.S. Census data from 1990, 2000, and 2010, along with the District's service area boundary, to estimate the population served by the District in the years 1990, 2000, and 2010.

The District estimated the 2020 population within its service area based on census block GIS data from the 2020 U.S. Census. Census blocks located within, or partially within, the City of Pico Rivera were identified. The corresponding populations within these whole or partial census blocks were totaled in order to estimate a 2020 population of approximately 22,051 within the District's service area. The District's CY 2020 population is presented in Table 3 of the SB X7-7 2020 Compliance Form.

5.4.2 GROSS WATER USE

CWC 10608.12.

(h) "Gross water use" means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:

- (1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier.*
- (2) The net volume of water that the urban retail water supplier places into long-term storage.*
- (3) The volume of water the urban retail water supplier conveys for use by another urban water supplier.*
- (4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.*

California Code of Regulations Title 23 Division 2 Chapter 5.1 Article 1, Section 596.

(a) An urban retail water supplier that has a substantial percentage of industrial water use in its service area is eligible to exclude the process water use of existing industrial water customers from the calculation of its gross water use to avoid a disproportionate burden on another customer sector.



Gross water use represents the total volume of water entering a distribution system (but excludes recycled water deliveries, water placed into long term storage, water conveyed to another supplier, water delivered for agricultural use, and process water if there is a substantial percentage used for industrial purposes) over a 12-month period. The District's annual gross water use amounts are based on the total amount of water entering the District's distribution system from its water supply sources (including groundwater production wells). The annual gross water use by the District during CY 2020 was 2,816 AF.

The annual gross water use amounts within the District for each year of the Baseline periods (discussed in Section 5.2) are provided in SB X7-7 Verification Form, Table 4 (Appendix G). A further discussion of the Baseline periods is provided in Section 5.2.

The District currently does not use indirect recycled water within its service area. The District is not required by DWR to complete SB X7-7 Verification Form, Table 4-B.

Industrial process water is not subtracted from the District's gross water use provided in SB X7-7 Verification Form, Table 4. The District is not required by DWR to complete SB X7-7 Verification Form, Table 4-C.1, Table 4-C.2, Table 4-C.3, Table 4-C.4, and Table 4-D.

5.5 2020 COMPLIANCE DAILY PER CAPITA WATER USE (GPCD)

CWC 10608.12.

(f) "Compliance daily per capita water use" means the gross water use during the final year of the reporting period, reported in gallons per capita per day.

CWC 10608.20.

(e) An urban retail water supplier shall include in its urban water management plan due in 2010... compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.



As discussed in Section 5.4.2, the annual gross water use by the District during CY 2020 was 2,816 AF. As discussed in Section 5.4.1, the estimated population within the District's service area for CY 2020 is 22,051. As a result, the District's per-capita water use during CY 2020 was 114 GPCD. The District's confirmed 2020 Water Use Target is 142 GPCD. The District's per-capita water use during CY 2020 meets the 2020 Water Use Target and is in compliance. The District has also demonstrated compliance with the 2020 Water Use Target by completing the SB X7-7 2020 Compliance Form (provided in Appendix H).

5.5.1 2020 ADJUSTMENTS FOR FACTORS OUTSIDE OF SUPPLIER'S CONTROL

CWC 10608.24.

(d)(1) When determining compliance daily per capita water use, an urban retail water supplier may consider the following factors:

(A) Differences in evapotranspiration and rainfall in the baseline period compared to the compliance reporting period.

(B) Substantial changes to commercial or industrial water use resulting from increased business output and economic development that have occurred during the reporting period.

(C) Substantial changes to institutional water use resulting from fire suppression services or other extraordinary events, or from new or expanded operations, that have occurred during the reporting period.

(2) If the urban retail water supplier elects to adjust its estimate of compliance daily per capita water use due to one or more of the factors described in paragraph (1), it shall provide the basis for, and data supporting, the adjustment in the report required by Section 10608.40.

Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use, Methodology 4.

This section discusses adjustments to compliance-year GPCD because of changes in distribution area caused by mergers, annexation, and other scenarios that occur between the baseline and compliance years.



The District has determined its compliance with the 2020 Water Use Target without adjusting its annual gross water use during CY 2020.

5.5.2 SPECIAL SITUATIONS

The District's 2020 Plan incorporates the Baseline water uses and 2020 Water Use Target calculated in the 2015 Plan. There were no special situations that required the District to recalculate the Baseline water uses and 2020 Water Use Target.

5.5.3 IF SUPPLIER DOES NOT MEET 2020 TARGET

The District's per-capita water use during CY 2020 meets the 2020 Water Use Target and is in compliance.

5.6 REGIONAL ALLIANCE

As discussed in Section 2.4, the District is also a participating agency in the GWMA's "Gateway Regional Water Conservation Alliance Report". The GWMA previously prepared a "Summary of Baseline and Compliance Urban per Capita Water Use Determination" in June 2021 to provide its participating agencies with an alternative way of calculating Baseline and Urban per Capita Water Use compliance as a region. In addition, the GWMA has prepared calculations to determine compliance with the regional 2020 Water Use Target. However, the District's 2020 Plan was not developed as part of a Regional Alliance. Information from the District's 2020 Plan was prepared individually, including the District's per-capita water use during CY 2020 and compliance with the 2020 Water Use Target.



CHAPTER 6

WATER SUPPLY CHARACTERIZATION

LAY DESCRIPTION – CHAPTER 6

WATER SUPPLY CHARACTERIZATION

Chapter 6 (Water Supply Characterization) of the District's 2020 Plan discusses and provides the following:

- The District's water supply sources include: groundwater pumped from the Central Basin and recycled water purchased from CBMWD.
- The District's main source of water supply is groundwater pumped from the Central Basin.
- A tabulation of the District's historical water supplies is provided in Section 6.1.
- A discussion regarding the District's groundwater supplies from the Central Basin is provided. Information regarding basin location, adjudication, management, water levels, water quality, water rights, and historical production is provided.
- A discussion regarding the District's recycled water supplies is provided. The District's recycled water supplies are purchased from CBMWD, which procures that recycled water from the Los Angeles County Sanitation Districts. The District uses recycled water for landscape irrigation in street medians, parks and schools within the District's service area.
- The District's proposed future projects to maximize its water supply resources are discussed.
- The District's "energy intensity" is discussed and represents the quantity of energy consumed, measured in kilowatt hours, divided by the volume of water, measured



in acre-feet over a one-year period. The total energy intensity associated with the District's water management processes was estimated during CY 2020.

In this Chapter, the District will identify and describe each of its sources of water supply. In addition, the District will describe the following:

- Management of each water supply source;
- Current provisions of a basin adjudication or Groundwater Sustainability Plan (GSP), as applicable, pertaining to management of groundwater supplies;
- Measures the District is taking to develop potential new sources of water supply (as applicable); and
- Opportunities for exchanges and transfers on a long- or short-term basis.

The characterization of the District's water supply sources will account for the anticipated availability during a normal year, a single dry year, a five consecutive year drought, along with projections through CY 2020.



6.1 WATER SUPPLY ANALYSIS OVERVIEW

CWC 10631.

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a), providing supporting and related information, including all of the following:

(1) A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.

(2) When multiple sources of water supply are identified, a description of the management of each supply in correlation with the other identified supplies

CWC 10631.

(h) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

The District's water supply sources include groundwater produced from the Central Basin and recycled water supplies purchased from CBMWD. The District's main sources of water supply is groundwater pumped from the Central Basin. A tabulation of the District's historical water supplies is provided below.



Calendar Year	System Water Supply Sources (AF)		Total
	Central Basin Groundwater	Recycled Water	
2011	3,212	4	3,216
2012	3,207	6	3,213
2013	3,309	6	3,315
2014	3,153	45	3,198
2015	2,755	39	2,794
2016	2,763	54	2,817
2017	2,822	52	2,874
2018	2,799	80	2,879
2019	2,662	60	2,722
2020	2,816	59	2,875

Source: Data provided by the District

6.1.1 SPECIFIC ANALYSIS APPLICABLE TO ALL WATER SUPPLY SOURCES

The section below provides a discussion of the following information to the extent practical:

- The District's existing and planned sources of water supply are identified;
- Each source of supply is quantified in five-year increments through CY 2045;
- The anticipated supply availability under normal, single dry, and five consecutive dry years, and any other water year conditions included in the Drought Risk Assessment (see Chapter 7) are described;
- The management of each water supply in correlation with other identified supplies is described.
- Information pertinent to the reliability analysis, including climate change effects, is considered.



The District historically has relied on groundwater supplies from the Central Basin and recycled water supplies purchased from CBMWD. The following descriptions summarize the District's sources of supply (detailed descriptions are provided in Section 6.2).

Existing and Planned Sources of Supply

Groundwater

The District has historically pumped groundwater from the Central Basin as described in Section 6.2.2. In addition, Section 6.2.2 provides a detailed discussion of the existing and planned supply of the groundwater, including a description of the management and reliability of those groundwater supplies. Table 6-8 summarizes the actual groundwater supplies for CY 2020. In addition, Table 6-9 summarizes the projected water supply, in five-year increments, through CY 2045 under varying water supply conditions.

Surface Water

The District does not use surface water supplies to meet its water demands.

Storm Water

The District has historically received groundwater from the Central Basin. Management and use of the stormwater runoff by WRD is crucial to groundwater management. However, the District currently does not have its own program to beneficially use stormwater runoff as a direct source of supply.

Wastewater and Recycled Water

The District has historically purchased recycled water supplies from CBMWD as described in Section 6.2.5. In addition, Section 6.2.5 provides a detailed discussion of the



existing and planned use of the recycled water, including a description of the management and reliability of those recycled water supplies. Table 6-8 summarizes the actual recycled water supplies for CY 2020. In addition, Table 6-9 summarizes the projected recycled water supply, in five-year increments, through CY 2045 under varying water supply conditions.

6.1.2 OTHER CHARACTERIZATION CONSIDERATIONS

A description of the District's water system along with a map of its service area is included in Chapter 3. In addition, the agencies which manage the water supplies used by the District are identified in Section 6.2.1 (imported water), 6.2.2 (groundwater), 6.2.3 (surface water), 6.2.4 (stormwater), and 6.2.5 (recycled water).

6.1.3 OPTIONAL PLANNING TOOL

As discussed in Section 4.2.5, DWR has created an optional "Planning Tool Worksheet" for water suppliers to review and assess monthly water use trends. However, DWR has deemed the tool as optional and the District is not required by DWR to use the tool. Section 6.1 provides a tabulation of the District's historical annual water uses for each water supply source. During the past 10 years, the District experienced a five consecutive year drought within its service area from CY 2011 to CY 2015. In addition, historical records indicate the District's annual water demands typically have been even greater prior to CY 2011. The District has been able to provide sufficient water supplies to its customers, including during long-term droughts and years with historically high water demands. In addition, the District has been able to provide water service to meet maximum day water demands for these years, including during the summer months. A further discussion regarding the reliability of the District's water supply sources is provided in Chapter 7.



6.2 NARRATIVE SECTIONS FOR SUPPLIER'S UWMP WATER SUPPLY CHARACTERIZATION

6.2.1 PURCHASED OR IMPORTED WATER

The District does not use imported water supplies to meet its water demands. The District's relies entirely on groundwater as its sole source of potable water supply. Although CBMWD purchases imported surface water from MWD, the District currently has no connection to CBMWD's treated surface water interties, as the nearest feeder is about two miles west of the District. The District does not currently have plans to construct a connection to receive imported water from CBMWD's system.



6.2.2 GROUNDWATER

CWC 10631.

(b)(4) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information:

(A) The current version of any groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720), any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management for basins underlying the urban water supplier's service area.

(B) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For a basin that has not been adjudicated, information as to whether the department has identified the basin as a high- or medium-priority basin in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to coordinate with groundwater sustainability agencies or groundwater management agencies listed in subdivision (c) of Section 10723 to maintain or achieve sustainable groundwater conditions in accordance with a groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720).

(C) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(D) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

CENTRAL BASIN

Central Basin - Sustainable Groundwater Management Act

The Central Basin is a subbasin of the Coastal Plain of Los Angeles Groundwater Basin pursuant to DWR Bulletin 118, Basin Number 4-11.04. Pursuant to the Sustainable



Groundwater Management Act of 2014 (SGMA), the Central Basin was named as an adjudicated groundwater basin and is exempt from the requirements of developing a Groundwater Sustainability Plan and subsequently was designated a very-low-priority basin in DWR's 2019 SGMA Basin Prioritization report. In compliance with SGMA, the Central Basin Watermaster (which is the Water Replenishment District of Southern California) submits its Annual Report to DWR.

Central Basin - Adjudication

On January 2, 1962, the Central and West Basin Water Replenishment District (now the Water Replenishment District of Southern California) filed Case No. 786,656 in the Superior Court, County of Los Angeles, naming more than 700 parties as defendants. It sought to adjudicate water rights of groundwater and regulate pumping from the Central Basin. By September 1962, a proposed agreement had been approved by a sufficient number of water producers (producers owning over 75 percent of the Assumed Relative Rights within Central Basin) to guarantee control over groundwater pumping in Central Basin. On September 28, 1962, the Court signed the "Order Pursuant to Stipulation and Interim Agreement and Petition for Order" and appointed the Department of Water Resources as Watermaster.

Subsequently, a stipulated judgment was drafted. Approval was received by public utility water companies and other producers representing well over 200,000 AF, or 75 percent, of the total rights within Central Basin. This was a prerequisite to filing the stipulated judgment with the Court. On May 17, 1965, the case went to trial before Judge Edmund M. Moor. Following testimony on engineering, geology, hydrology, and safe yield of Central Basin and arguments on water right entitlement, the case was continued to August 25, 1965. Shortly thereafter, Judge Moor appointed DWR as Watermaster. The



final Judgment was signed on October 11, 1965 and became effective on October 1, 1966.⁴

The Judgment was amended on March 21, 1980, to provide for a transition in the administrative year from a water year (October 1 to September 30) to a fiscal year (July 1 to June 30). Under the Judgment, this transition in turn contained a “short” administrative year of nine months (from October 1, 1980 to June 30, 1981). The administrative year starting July 1, 1981 was on a fiscal year basis.

The Judgment was again amended on July 19, 1985, modifying the annual budget (\$20 minimum assessment) and exchange pool provisions. The second amended Judgment of May 6, 1991 modified the carryover and overproduction provisions (to 20 percent of allowed pumping allocation or 20 AF, whichever is greater, from 10 percent of allowed pumping allocation or 10 AF), and defined drought carryover, and provided for exemptions for extractors of contaminated groundwater.

In December 2013, the Central Basin Judgment was amended (“Third Amended” Central Basin Judgment) to confirm the retirement of DWR as the Watermaster of Central Basin. The Judgment established three separate bodies to assist the Court in the administration and enforcement of the provisions and stipulations of the Judgment. The first body is the Administrative Body, which administers Watermaster accounting and financial reporting activities. The Water Replenishment District of Southern California was appointed by the Court for this role. The second body is the Water Rights Panel, which enforces issues related to groundwater production rights as defined by the Judgment. The Water Rights panel comprises of seven elected water rights holders within the Central Basin. The third administrative body is the Storage Panel, which reviews and approves groundwater storage efforts. The Storage Panel is comprised of the Water Rights Panel and the WRD

⁴ Central and West Basin Water Replenishment District, etc. v. Charles E. Adams, et al, Los Angeles County Case No. 786,656.



Board of Directors. A copy of the Central Basin Judgment, as amended, is provided in Appendix I.

The Court approved 2013 Judgment amendments also implemented a water storage program. The amendment states, "...a party may store up to 200 percent of the party's Allowed Pumping Allocation, if space is available." In addition, the amendments allow parties to convert unused Allowed Pumping Allocation to stored water and revised the amount of carryover to be equal to 100 percent of the party's Allowed Pumping Allocation minus the amount of carryover water set aside for storage, as noted above. The purpose of the storage program is to create an added reliability in water supply from the Central Basin. In addition, the amendments allow for transfer of water between Central Basin and West Basin by permitting parties with water rights in Central Basin to increase production in Central Basin, while another party decreases production in West Basin by the corresponding amount.

Under the Judgment, water rights are fixed and do not vary year to year. Water producers cannot exceed their water rights by more than 20 percent or 20 AF, whichever is greater, in any year and an adjustment is made the following year. In addition, water producers cannot carry over more than 20 percent or 20 AF, whichever is greater, of their water rights for use in the following year. In addition, the Central Basin Judgment includes an amendment which implemented a water storage program. A party may store up to 50 percent of the party's Allowed Pumping Allocation in an Individual Storage Account and 150 percent of the party's Allowed Pumping Allocation in a Community Storage Account if space is available. The amendments also allow parties to convert unused Allowed Pumping Allocation to stored water and revised the amount of carryover to be equal to 60 percent of the party's Allowed Pumping Allocation minus the amount of carryover water set aside for storage. The purpose of the storage program is to create an added reliability in water supply from the Central Basin.



Central Basin - Description

Central Basin is one of two groundwater basins in the Coastal Plain of Los Angeles County. It is comprised of Quaternary-age sediments (less than 1.8 million years old) of gravel, sand, silt, and clay that were deposited from the erosion of nearby hills and mountains, and from historical beaches and shallow ocean floors that covered the area in the past. Underlying these Quaternary sediments are basement rocks such as the Pliocene Pico Formation that generally do not provide sufficient quantities of groundwater for pumping. Separating the Central Basin from the West Coast Basin is the NIU, a series of discontinuous faults and folds that form a prominent line of northwest trending hills including the Baldwin Hills, Dominguez Hills, and Signal Hill.

Central Basin covers approximately 270 square miles and is bounded on the north by the Hollywood Basin and the Elysian, Repetto, Merced, and Puente Hills, to the east by the Los Angeles County/Orange County line, and to the south and west by the NIU. The location of the Central Basin is provided in Figure 3. DWR divided the Central Basin into four sections: the Los Angeles Forebay, the Montebello Forebay, the Whittier Area, and the Pressure Area. Pursuant to DWR Bulletin 118 (for Basin Number 4-11.04), the total storage capacity of the Central Basin is estimated at approximately 13,800,000 AF.

The aquifers of Central Basin received their water supply primarily from the surface and subsurface inflow of water from the San Gabriel Valley. The water originates as rainfall in the San Gabriel Mountains, the runoff from which is conveyed to the Los Angeles River, the Rio Hondo, and the San Gabriel River. The Los Angeles River enters Central Basin through the Los Angeles Narrows, crosses the Los Angeles Forebay Area, and proceeds south across Central Basin, exiting Central Basin through the Dominguez Gap in West Basin. The Rio Hondo, enters Central Basin at Whittier Narrows parallel to the San Gabriel River, proceeds southwesterly across the Montebello Forebay Area and joins the Los Angeles River midway across the Basin. The San Gabriel River also enters Central



Basin through the Whittier Narrows, crosses the Montebello Forebay, and runs south to the Pacific Ocean near Long Beach at the Orange County line.

As the Rio Hondo and San Gabriel River flow through the Upper San Gabriel Valley toward Whittier Narrows, much of their flow percolates into the Main Basin. This water crosses the Whittier Narrows and enters Central Basin as subsurface flow into the aquifers of Central Basin. At the same time, the surface flows of the Rio Hondo and the San Gabriel River percolate downward into the aquifers of Central Basin in the Montebello Forebay. In the Montebello Forebay, the underground aquifers merge and are unconfined, and thus are capable of receiving large quantities of water from percolation through the sand and gravel surface of the forebay area.

The Los Angeles Forebay area is also favorably situated for percolation from the flows of the Los Angeles River, but the Los Angeles Forebay has been largely eliminated as a source of freshwater replenishment to Central Basin, due to lining of the Los Angeles River channel and the impervious surface in the forebay area. In the Montebello Forebay area, by contrast, flood flows have been largely controlled through the construction of the Whittier Narrows Dam, and the river channels have not been lined in the area, so percolation still occurs.

Groundwater in the Central Basin provides a substantial portion of the water supply needed by residents and industries in the overlying area. Groundwater occurs in the pore spaces of the sediments in the basin. The major aquifers identified in Central Basin include the following, from shallowest to deepest: a) the Gaspur and semi-perched aquifers of the Holocene Alluvium Formation; b) the Exposition, Artesia, Gage, and Gardena aquifers of the Upper Pleistocene Lakewood Formation; c) the Hollydale, Jefferson, Lynwood, and Silverado aquifers of the Lower Pleistocene Upper San Pedro Formation; and d) the Sunnyside Aquifer of the Lower Pleistocene Lower San Pedro Formation.



WRD's Leo J. Vander Lans Advanced Water Treatment Facility (LVL) was built in 2003 and expanded in 2014. The facility is located in the City of Long Beach and currently produces about 8 MGD of advanced treated water for injection at the Alamitos Barrier in Long Beach. The LVL also injects tertiary treated recycled water from the Los Angeles County Sanitation District's Long Beach Water Reclamation Plant. By injecting the LVL's advanced treated water and effluent from the Long Beach Water Reclamation Plant, groundwater supply is replenished and seawater intrusion is prevented.

The WRD Board of Directors established the Water Independence Now program in 2003 to protect the security of the region's groundwater supplies. The WIN program is comprised of various projects that include expansions to existing water treatment facilities, spreading activities, and stormwater capture. The largest component of the WIN program is the Albert Robles Center for Water Recycling & Environmental Learning (formerly the Groundwater Reliability Improvement Program), which was completed in 2019. The purpose of the Albert Robles Center is to reduce demand for imported water at the Rio Hondo and San Gabriel Coastal Spreading Grounds by replacing imported water with treated recycled water. The Albert Robles Center includes ultrafiltration, reverse osmosis, and ultraviolet disinfection and advanced oxidation to treat recycled water by significantly reducing the total dissolved solids concentration.

Groundwater quality is monitored by WRD. Groundwater in the Central Basin is currently contaminated with natural metals such as arsenic, iron and manganese, Volatile Organic Chemicals (VOCs), including trichloroethylene (TCE) and perchloroethylene (PCE), 1,4-Dioxane, Perchlorate, and Per- and Poly-Fluoroalkyl Substances (PFAS). In addition, Total Dissolved Solids (TDS) concentrations exceed drinking water quality standards. Wellhead treatment is necessary in these areas to allow delivery of the groundwater for potable purposes.

As previously discussed, DWR divided the Central Basin into four sections: the Los Angeles Forebay, the Montebello Forebay, the Whittier Area, and the Pressure Area.



Below is a discussion of groundwater level changes, pursuant to WRD's 2020 Engineering Survey and Report.

- In the Los Angeles Forebay, the water level high was observed in 1938 with an elevation of approximately 70 feet above mean sea level (msl) and by 1962, the water levels had fallen by 180 feet to an elevation of 109 feet below msl due to over pumping and lack of recharge. Water levels have improved since then due to pumping rights adjudication and managed aquifer recharge. In 2019, the groundwater levels were at an elevation of 20.3 feet below msl.
- In the Montebello Forebay, the water level high was observed in 1942 with an elevation of approximately 137.8 feet above mean sea level and by 1958, the water levels had fallen by 117 feet to an elevation of 20.9 feet above msl due to over pumping and lack of recharge. Water levels have improved since then due to pumping rights adjudication and managed aquifer recharge. In 2019, the groundwater levels were at an elevation of 72.9 feet above msl.
- In the Pressure Area, the water level high was observed in 1935 at about 10 feet above msl when water levels began to continually decline until the observed low of about 120 feet below msl in 1961 due to over pumping and lack of recharge. Groundwater levels improved during the early 1960s due to replenishment operations. Between 1995 and 2007, there were 100-foot swings in water levels as a result of seasonal pumping from producers. Water levels have improved since then due to pumping rights adjudication and managed aquifer recharge. In 2019, the groundwater levels were at elevations between 75 and 91.1 feet below msl.



- Long-term hydrographs and records were not maintained for the Whittier Area; however, groundwater levels have been tracked from recently constructed monitoring wells.

Central Basin - Historical and Projected Basin Production

The District can produce groundwater from the Central Basin. The District currently produces from five active wells (Wells 4A, 5A, 8, 10 and 11) with a total capacity of approximately 7,900 gallons per minute (gpm). The District's current Allowed Pumping Allocation in the Central basin is 3,624 AFY. The District's production over the past five years has been tabulated in Section 6.1. Over the past five years, the District has produced 2,662 AFY to 2,822 AFY, with an average of 2,772 AFY from the Central Basin. The District's projected production from the Central Basin, over the next 25 years in five-year increments, is provided in Table 6-9.

Table 6-1 Groundwater Volume Pumped

Submittal Table 6-1 Retail: Groundwater Volume Pumped						
<input type="checkbox"/>	Supplier does not pump groundwater. The supplier will not complete the table below.					
<input type="checkbox"/>	All or part of the groundwater described below is desalinated.					
Groundwater Type <i>Drop Down List</i> <i>May use each category multiple times</i>	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
<i>Add additional rows as needed</i>						
Alluvial Basin	Central Basin	2,763	2,822	2,799	2,662	2,816
TOTAL		2,763	2,822	2,799	2,662	2,816
* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.						
NOTES:						



6.2.3 SURFACE WATER

The District does not use surface water supplies to meet its water demands.

6.2.4 STORMWATER

The District does not directly use stormwater to meet its water demands.

6.2.5 WASTEWATER AND RECYCLED WATER

CWC 10633.

The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:

(a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

(b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

(c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

(e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

(f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.

(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating



uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

Discussion of wastewater collection, treatment, and recycled water use is included in this chapter. Municipal recycled water is municipal wastewater that has been treated from a municipal wastewater facility to a specified quality to enable it to be used again for a beneficial purpose. Municipal wastewater must meet two requirements; it must be reused beneficially pursuant to Title 22 of the California Code of Regulations and it must be reused in accordance with a Regional Water Quality Control Board permit. Title 22 of the California Code of Regulations defines beneficial reuse of recycled water as “the use of recycled water that has been transported from the point of treatment or production to the point of use without an intervening discharge to water of the State.”

Recycled water is used within the District’s service area for landscape irrigation. The following sections provide a description of the District’s current recycled water use and its plans to expand the use of recycled water as a source of water supply over the next 25 years.

6.2.5.1 RECYCLED WATER COORDINATION

CWC 10633.

The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area...

The District is situated within the boundaries of CBMWD, which provides recycled water produced from Los Angeles County Sanitation Districts’ (LACSD) San Jose Creek Water Reclamation Plant (SJCWRP). CBMWD has developed a recycled water program within its service area to provide direct delivery of recycled water to serve non-potable demands,



thereby offsetting reliance on potable water supplies. The District has coordinated the preparation of its 2020 Plan with CBMWD.

6.2.5.2 WASTEWATER COLLECTION, TREATMENT, AND DISPOSAL

CWC 10633.

(a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

Wastewater generated in the vicinity of the District is treated by LACSD. The local sewers tie into LACSD's regional trunk sewers. The regional trunk sewer lines deliver wastewater to one or more water reclamation plants owned by LACSD for treatment. The water reclamation plants are not located within the District's service area. The water reclamation plants serving the District include LACSD'S Los Coyotes Water Reclamation Plant (LCWRP) and the Joint Water Pollution Control Plant (JWPCP). LACSD estimates approximately 60 gallons of wastewater is generated per person per day within LACSD's service area. Based on the District's 2020 population of 22,051 within its service area, the estimated volume of residential wastewater generated and collected in 2020 is approximately 1,485 AF, as shown in Table 6-2.

LCWRP, which began operation in 1970, has a current design capacity of 37.5 MGD and provides coagulated, filtered and disinfected tertiary effluent. LCWRP plant serves a population of approximately 370,000 people. The method of disposal when treated recycled water is not used (non-recycled) is discharge to the San Gabriel River and eventually flows to the ocean.

The JWPCP, which began operation in 1928, currently has a treatment capacity of about 300 MGD. The treatment level is primary and secondary treatment with disinfection. The JWPCP plant serves a population of approximately 3.5 million people. Solids collected in



primary and secondary treatment are processed in anaerobic digestion tanks where bacteria break down organic material and produce methane gas. Treated wastewater is ultimately disinfected prior to being discharged to the Pacific Ocean. Though highly treated, effluent from the JWPCP does not meet recycled water standards and is therefore not re-used for such purposes. However, all water discharged to the ocean is monitored to ensure compliance with applicable local, state, and federal standards for discharge water.

Table 6-2 Wastewater Collected Within Area in 2020

Submittal Table 6-2 Retail: Wastewater Collected Within Service Area in 2020						
<input type="checkbox"/>	There is no wastewater collection system. The supplier will not complete the table below.					
	Percentage of 2020 service area covered by wastewater collection system <i>(optional)</i>					
	Percentage of 2020 service area population covered by wastewater collection system <i>(optional)</i>					
Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? <i>Drop Down List</i>	Volume of Wastewater Collected from UWMP Service Area 2020 *	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? <i>Drop Down List</i>	Is WWTP Operation Contracted to a Third Party? <i>(optional)</i> <i>Drop Down List</i>
City of Pico Rivera	Estimated	150	Los Angeles County Sanitation Districts	Los Coyotes WRP	No	No
City of Pico Rivera	Estimated	1,335	Los Angeles County Sanitation Districts	JWPCP	No	No
Total Wastewater Collected from Service Area in 2020:		1,485				
* Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.						
NOTES:						



Table 6-3 Wastewater Treatment and Discharge within Service Area in 2020

Submittal Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020											
<input checked="" type="checkbox"/> No wastewater is treated or disposed of within the UWMP service area. The supplier will not complete the table below.											
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number (optional) ²	Method of Disposal <i>Drop down list</i>	Does This Plant Treat Wastewater Generated Outside the Service Area? <i>Drop down list</i>	Treatment Level <i>Drop down list</i>	2020 volumes ¹				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
Total							0	0	0	0	0

¹ Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.

² If the **Wastewater Discharge ID Number** is not available to the UWMP preparer, access the SWRCB CIWQS regulated facility website at <https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?InCommand=reset&reportName=RegulatedFacility>

NOTES:

6.2.5.3 RECYCLED WATER SYSTEM DESCRIPTION

CWC 10633.

(c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

Recycled water used within the District's service area is produced at LACSD's SJCWRP. Recycled water is used within the District's service area for landscape irrigation.

Additional transmission and distribution facilities would need to be constructed to deliver additional recycled water to customers within the District's service area. In June 2008, CBMWD prepared a "Recycled Water Master Plan Update" report which identified



potential recycled water customers within CBMWD's service area. The Recycled Water Master Plan Update report also provided details of a proposed Capital Improvement Program for the expanded recycled water system, including prioritization of projects and capital requirements. The Recycled Water Master Plan Update report identified approximately 359 AFY of total recycled water uses for landscape irrigation in highways, freeways, parks and schools within the District's service area.

6.2.5.4 POTENTIAL, CURRENT, AND PROJECTED RECYCLED WATER USES

CWC 10633.

(b) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use. A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

(e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

The District expects the use of recycled water in its service area to increase. As discussed previously, CBMWD's Recycled Water Master Plan Update report identified approximately 359 AFY of total recycled water uses for landscape irrigation in highways, freeways, parks and schools within the District's service area.



Table 6-4 Current and Projected Recycled Water Direct Beneficial Uses Within Service Area

Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area										
<input type="checkbox"/>	Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.									
Name of Supplier Producing (Treating) the Recycled Water:		Los Angeles County Sanitation District								
Name of Supplier Operating the Recycled Water Distribution System:		Central Basin Municipal Water District								
Supplemental Water Added in 2020 (volume) <i>Include units</i>		0								
Source of 2020 Supplemental Water		N/A								
Beneficial Use Type <i>Insert additional rows if needed.</i>	Potential Beneficial Uses of Recycled Water (Describe)	Amount of Potential Uses of Recycled Water (Quantity) <i>Include volume units¹</i>	General Description of 2020 Uses	Level of Treatment <i>Drop down list</i>	2020 ¹	2025 ¹	2030 ¹	2035 ¹	2040 ¹	2045 ¹ (opt)
Agricultural irrigation										
Landscape irrigation (exc golf courses)	Schools, Parks, City Landscape		Schools, Parks, City Landscape	Tertiary	59	61	61	61	61	61
Golf course irrigation										
Commercial use										
Industrial use										
Geothermal and other energy production										
Seawater intrusion barrier										
Recreational impoundment										
Wetlands or wildlife habitat										
Groundwater recharge (IPR)										
Reservoir water augmentation (IPR)										
Direct potable reuse										
Other (Description Required)										
Total:					59	61	61	61	61	61
2020 Internal Reuse										
¹ Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.										
NOTES:										



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

Submittal Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual		
<input type="checkbox"/>	Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below. If recycled water was not used in 2020, and was not predicted to be in 2015, then check the box and do not complete the table.	
Beneficial Use Type	2015 Projection for 2020 ¹	2020 Actual Use ¹
<i>Insert additional rows as needed.</i>		
Agricultural irrigation		
Landscape irrigation (exc golf courses)	52	59
Golf course irrigation		
Commercial use		
Industrial use		
Geothermal and other energy production		
Seawater intrusion barrier		
Recreational impoundment		
Wetlands or wildlife habitat		
Groundwater recharge (IPR)		
Reservoir water augmentation (IPR)		
Direct potable reuse		
Other (Description Required)		
Total	52	59
¹ Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.		
NOTE:		

6.2.5.5 ACTIONS TO ENCOURAGE AND OPTIMIZE FUTURE RECYCLED WATER USE

CWC 10633.

The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The



preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:

(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

As discussed in Section 6.2.5.3, CBMWD's Recycled Water Master Plan Update report identified approximately 359 AFY of total recycled water uses for landscape irrigation in highways, freeways, parks and schools within the District's service area. Being within the jurisdictional boundaries of CBMWD, the District has the advantage of receiving financial assistance for plumbing retrofits necessary to receive recycled water. CBMWD advances funds for the necessary plumbing retrofits, which are then reimbursed. In addition, CBMWD offers recycled water at a lower rate and the savings are passed on to District customers with non-potable water demands. CBMWD also promotes the use of recycled water within its system as a more reliable water source than imported water.

The District's recycled water is provided by CBMWD. The District does not have a recycled water program but CBMWD's recycled water program is available to customers of the District. Additional details on CBMWD's recycled water program are available in CBMWD's 2020 Plan which is incorporated by reference.

**Table 6-6 Methods to Expand Future Recycled Water Use**

Submittal Table 6-6 Retail: Methods to Expand Future Recycled Water Use			
<input type="checkbox"/>	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
Section 6.2.5.5	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use *
<i>Add additional rows as needed</i>			
Provide Recycled Water Incentives	Provides financial incentives to encourage recycled water use	On-going	2
Total			2
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.			
NOTES:			

6.2.6 DESALINATED WATER OPPORTUNITIES

CWC 10631.

(g) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

Central Basin

The average TDS concentrations for the Central Basin groundwater is less than its secondary Maximum Contaminant Level (MCL) of 1,000 mg/l, based on most recent available data in the District's groundwater wells. Consequently, the District has not needed to investigate the use of desalination to develop or reestablish a new long-term supply. However, there may be opportunities for use of desalinated ocean water as a



future potential water supply source, if needed, through coordination with other agencies that have ocean desalination programs.

6.2.7 WATER EXCHANGES AND TRANSFERS

CWC 10631.

(c) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

6.2.7.1 EXCHANGES

Pursuant to DWR's 2020 Final Guidebook, *"Water exchanges are typically water delivered by one water user to another water user, with the receiving water user providing water in return at a specified time or when the conditions of the parties' agreement are met. Water exchanges can be strictly a return of water on a basis agreed upon by the participants or it can include payment and the return of water."*

The District does not have any current or planned water exchanges.

6.2.7.2 TRANSFERS

Pursuant to DWR's 2020 Final Guidebook, *"The Water Code defines a water transfer as a temporary or long-term change in the point of diversion, place of use, or purpose of use due to a transfer, sale, lease, or exchange of water or water rights."*

Pursuant to the Central Basin Judgment (discussed in Section 6.2), parties to the Judgments are allowed to assign, transfer, license, or lease their water rights. The Judgment also allows for the transfer of stored water between parties. The District is able to utilize the transfer opportunities available for Central Basin water when necessary.



6.2.7.3 EMERGENCY INTERTIES

Emergency interties (or interconnections) are distribution system interconnections between water agencies for use during critical situations where one system or the other is temporarily unable to provide sufficient potable water to meet its water demands and/or fire protection needs. An emergency interconnection will allow a water system to continue serving water during critical situations such as local water supply shortages as a result of earthquakes, fires, prolonged power outages, and droughts.

The District has emergency interconnections with the City of Pico Rivera (one way to the District) that serve as short-term emergency exchange opportunities.

6.2.8 FUTURE WATER PROJECTS

CWC 10631.

(f) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use, as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in normal and single-dry water years and for a period of drought lasting five consecutive water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

The District obtains potable water from local groundwater production. Groundwater supplies will allow the District to provide sufficient water service currently, and in the future. Although the District has no plans for future water supply projects, the District will construct new groundwater production wells to replace existing wells when necessary. The District also plans to rehabilitate existing wells (including Well 4) as necessary. The District will continue to maintain its existing facilities, including groundwater production



wells, booster pumps, and reservoirs. In addition, the District plans to expand the use of recycled water within its service area as demand necessitates and where economically feasible.

Table 6-7 Expected Future Water Supply Projects or Programs

Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs						
<input type="checkbox"/>	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
<input checked="" type="checkbox"/>	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.					
Section 6.2.8	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other suppliers?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type <i>Drop Down List</i>	Expected Increase in Water Supply to Supplier* <i>This may be a range</i>
	<i>Drop Down List (y/n)</i>	<i>If Yes, Supplier Name</i>				
<i>Add additional rows as needed</i>						
Construct New Groundwater Wells	No		Install new and/or replacement wells as necessary	Ongoing	Average Year	2,000
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.						
NOTES:						



6.2.9 SUMMARY OF EXISTING AND PLANNED SOURCES OF WATER

CWC 10631.

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a), providing supporting and related information, including all of the following...

(b)(2) When multiple sources of water supply are identified, a description of the management of each supply in correlation with the other identified supplies.

(h) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

6.2.9.1 DESCRIPTION OF SUPPLIES

As discussed in Section 6.2, the District's water supply sources consist of treated groundwater supplies from the Central Basin (see Section 6.2.2), and recycled water (see Section 6.2.5). The actual quantities of the water supply sources available to the District during CY 2020 are summarized in Table 6-8. The reliable quantities of projected water supply sources available to the District in five-year increments through CY 2045 during normal or average years are summarized in Table 6-9. The reliability of these sources of supply are addressed in Section 7.2.3, including during normal years, single dry years, and five consecutive year droughts.

The order of use of the District's projected reliable water supplies from CY 2020 through CY 2045 in five-year increments is based on historical practices, water supply availability, and the cost of water. It is anticipated the District will initially use treated groundwater



produced from the Central Basin. At the same time the District will continue to use recycled water for non-potable demands.

6.2.9.2 QUANTIFICATION OF SUPPLIES

The actual quantities of the water supply sources available to the District during CY 2020 are summarized in Table 6-8. The reliable quantities of projected water supply sources available to the District in five-year increments through CY 2045 during average years are summarized in Table 6-9. The reliability of these sources of supply are addressed in Section 7.2.3, including during normal years, single dry years, and five consecutive year droughts.

The District's projected quantities of treated imported water supplies and/or local surface water supplies are based on historical long-term averages and available supplies during previous dry year conditions. The District's projected quantities of recycled water supplies to meet non-potable demands are based on historical long-term averages. The District's projected quantities of groundwater supplies from the Central Basin are based on meeting the remainder of the District's total water demands. Consequently, it is anticipated the District will have sufficient water supplies available to meet projected demands.



Table 6-8 Water Supplies - Actual

Submittal Table 6-8 Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2020		
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool		Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
Add additional rows as needed				
Groundwater (not desalinated)	Central Basin	2,816	Drinking Water	
Recycled Water	Central Basin Municipal Water District	59	Recycled Water	
Total		2,875		0
<i>*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i>				
NOTES:				

Table 6-9 Water Supplies - Projected

Submittal Table 6-9 Retail: Water Supplies — Projected											
Water Supply	Additional Detail on Water Supply	Projected Water Supply * Report To the Extent Practicable									
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUedata online submittal tool		2025		2030		2035		2040		2045 (opt)	
		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
		Add additional rows as needed									
Groundwater (not desalinated)	Central Basin	2,870		2,900		2,929		2,960		2,990	
	Central Basin										
Recycled Water	Municipal Water District	61		61		61		61		61	
Total		2,931	0	2,961	0	2,990	0	3,021	0	3,051	0
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.											
NOTES:											



6.2.10 SPECIAL CONDITIONS

The District considered the issues described below when developing its planned sources of water supply.

6.2.10.1 CLIMATE CHANGE EFFECTS

Climate change has the possibility of impacting the availability of planned water supplies, particularly during a drought period. Section 4.5 of this Plan provides a discussion regarding climate change effects on the District's various sources of supply.

6.2.10.2 REGULATORY CONDITIONS AND PROJECT DEVELOPMENT

The District has considered the implications of changing regulatory conditions and project development on the availability of planned water supplies. Section 1.4 provides a discussion the reduced reliance on imported water supplies and the proposed Carson recycled water project.

6.2.10.3 OTHER LOCALLY APPLICABLE CRITERIA

There are no locally applicable criteria which applies to the District.

6.3 SUBMITTAL TABLES COMPLETION USING THE OPTIONAL PLANNING TOOL

As discussed in Section 4.2.5, DWR has created an optional "Planning Tool Worksheet" for water suppliers to review and assess monthly water use trends. However, DWR has deemed the tool as optional and the District is not required by DWR to use the tool. Section 6.1 provides a tabulation of the District's historical annual water uses for each water supply source. During the past 10 years, the District experienced a five consecutive



year drought within its service area from CY 2011 to CY 2015. In addition, historical records indicate the District's annual water demands typically have been even greater prior to CY 2011. The District has been able to provide sufficient water supplies to its customers, including during long-term droughts and years with historically high water demands. In addition, the District has been able to provide water service to meet maximum day water demands for these years, including during the summer months. A further discussion regarding the reliability of the District's water supply sources is provided in Chapter 7.

6.4 ENERGY USE

CWC 10631.2.

(a) In addition to the requirements of Section 10631, an urban water management plan shall include any of the following information that the urban water supplier can readily obtain:

- (1) An estimate of the amount of energy used to extract or divert water supplies.*
- (2) An estimate of the amount of energy used to convey water supplies to the water treatment plants or distribution systems.*
- (3) An estimate of the amount of energy used to treat water supplies.*
- (4) An estimate of the amount of energy used to distribute water supplies through its distribution systems.*
- (5) An estimate of the amount of energy used for treated water supplies in comparison to the amount used for nontreated water supplies.*
- (6) An estimate of the amount of energy used to place water into or withdraw from storage.*
- (7) Any other energy-related information the urban water supplier deems appropriate.*

"Energy intensity" is defined as the quantity of energy consumed, measured in kilowatt hours (kWh), divided by the volume of water, measured in AF for a water management process over a one-year period. The information used to calculate the estimated energy



intensity associated with the District's water system is provided below. The energy intensity information is based on readily obtainable energy and water use data for the following water management processes: 1) extraction or diversion of water supplies; 2) placement into storage; 3) conveyance to distribution; 4) treatment; and 5) water system distribution.

The District has tabulated its energy intensity using readily obtainable energy consumption data obtained from monthly electricity bills from Southern California Edison (SCE) for the whole water system and the corresponding water use data obtained from available water meter readings. The District has reported the energy intensity associated with the water management processes which occur within its operational control. Because the District does not track individual energy usage for each water management process identified above, the District has estimated the energy intensity using the a "total utility approach" (i.e. sum of all water management processes). The total energy consumed was approximately 1,521,279 kWh during CY 2020. The total energy consumption reported excludes electricity usage for general administration (e.g. at the District's headquarters) which is not associated with any water management processes.

The total volume of water entering the potable water system was approximately 2,816 AF during CY 2020 and is consistent with the total volume of water provided in Table 4-1 (less recycled water supplies).

The total energy intensity associated with the District's water management processes is estimated at 540 kWh/AF. The energy intensity data and calculations based on the "total utility approach" are provided in Table O-1B below.

The District's water management processes do not include "consequential hydropower generation" where the energy generation is a direct consequence of water delivery (i.e. all water passing through the energy generation devices is delivered to users). The District's water management processes do not include "non-consequential hydropower



generation” where the energy generation is not a direct consequence of water delivery (i.e. energy could be generated even if no water was being delivered to water users). In addition, the District’s water management processes do not include any substantial “self-generated energy sources” including solar, wind, geothermal, biomass, co-generation, and diesel generator sources.



Table O-1B. Recommended Energy Reporting — Total Utility Approach

Urban Water Supplier:		<i>Pico Water District</i>		
Water Delivery Product (If delivering more than one type of product use Table O-1C)				
<i>Retail Potable Deliveries</i>				
Table O-1B: Recommended Energy Reporting - Total Utility Approach				
Enter Start Date for Reporting Period	1/1/2020	Urban Water Supplier Operational Control		
End Date	12/30/2020			
<input type="checkbox"/> Is upstream embedded in the values reported?		Sum of All Water Management Processes	Non-Consequential Hydropower	
<i>Water Volume Units Used</i>	<i>AF</i>	Total Utility	Hydropower	Net Utility
<i>Volume of Water Entering Process (volume unit)</i>		2816	0	2816
<i>Energy Consumed (kWh)</i>		1521279	0	1521279
<i>Energy Intensity (kWh/volume)</i>		540.2	0.0	540.2
Quantity of Self-Generated Renewable Energy				
0 kWh				
Data Quality (<i>Estimate, Metered Data, Combination of Estimates and Metered Data</i>)				
<i>Combination of Estimates and Metered Data</i>				
Data Quality Narrative:				
The total energy consumed was identified based on Southern California Edison (SCE) billing records and excludes electricity usage for general administration (which is not an identified water management process).				
Narrative:				
The total energy consumption includes energy associated with operating booster pumps to deliver water in the distribution system. Energy consumption is also associated with plant lighting and air conditioning, and operating the Supervisory Control and Data Acquisition (SCADA) system and chlorination injection pumps.				



CHAPTER 7

WATER SERVICE RELIABILITY AND DROUGHT RISK ASSESSMENT

LAY DESCRIPTION – CHAPTER 7

WATER SERVICE RELIABILITY AND DROUGHT RISK ASSESSMENT

Chapter 7 (Water Service Reliability and Drought Risk Assessment) of the District's 2020 Plan discusses and provides the following:

- CY 2020 represents an “average” or “normal” water year for the District in which the total amount of rainfall was similar to the historical average rainfall.
- A “single dry” year for the District was represented in CY 2017, in which the total amount of rainfall was below the historical average rainfall.
- A “five consecutive year drought” period for the District is represented from CY 2011 to CY 2015, where the total amount of rainfall during each of these years was less than the historical average rainfall.
- The District's current and projected water supplies available during normal years in five-year increments over the next 25 years are provided (through CY 2045) as shown on Table 7-2.
- The District's current and projected water supplies available during single dry years in five-year increments over the next 25 years are provided (through CY 2045) as shown on Table 7-3.
- The District's current and projected water supplies available during each year of a five consecutive year drought in five-year increments over the next 25 years are provided (through CY 2045) as shown on Table 7-4.
- The reliability of the District's water supply sources, including a review of water supply constraints, is provided. A single dry year or a five consecutive year drought



period will not compromise the District's ability to provide a reliable supply of water to its customers.

- A Drought Risk Assessment (DRA) is provided which includes an assessment of the District's water supply reliability over a five consecutive year drought period. The District's DRA assumes a five consecutive year drought from CY 2020 through CY 2025 and includes a review of water supplies, water uses, and water supply reliability for each water supply source during this period. The District's water system has experienced a prior five consecutive year drought with no limitation to its collective water supplies. Consequently, the District has the ability to enact varying water shortage levels (see Chapter 8) to help educate its customers to reduce their water consumption.

7.1 INTRODUCTION

This section of the District's UWMP describes the District's ability to meet retail customer water demands by analyzing a variety of factors which affect the District's water supply. This section assesses the District's water service reliability during average years, single dry years, and during a five consecutive year drought period to meet the water needs of its customers. This section also includes the discussion of a Drought Risk Assessment which provides a mechanism for the District to evaluate the risk to its water supply under a drought lasting for the next five consecutive years.



7.2 WATER SERVICE RELIABILITY ASSESSMENT

CWC 10635.

(a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total 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. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

Information regarding the reliability of the District's water supplies is based on the historical precipitation data in the Central Basin area. Historical annual precipitation in the Central Basin area is discussed in Section 3.3 and is based on historical data collected from Station 049660 (Whittier City Yard, California). Furthermore, Section 4.5 of this Plan notes that potential future climate change impacts may result in an increase in the average annual precipitation within the District's service area, thus indicating use of historical data is a reasonable and conservative approach. As indicated in Section 3.3, the historical average rainfall in the vicinity of the District's service area is 14.5 inches. CY 2020 represents an average or normal water year for the District in which the total amount of rainfall was similar to the historical average rainfall. A single dry year for the District was represented in CY 2017, in which the total amount of rainfall was below the historical average rainfall. A five consecutive year drought period for the District is represented from CY 2011 to CY 2015, where the total amount of rainfall during each of these years was less than the historical average rainfall. Table 7-1 summarizes these "base years" for average, single dry, and five consecutive year drought and provides the total amount of water supplies available to the District during those base years. The following discussion assesses the water service reliability of the District's water supply sources.



Water Service Reliability - Groundwater

Central Basin Groundwater Production

The Central Basin groundwater supplies are managed by the WRD, as discussed in Section 6.2.2. During a normal year (CY 2020), the District met about 98 percent of its total demands with supplies from the Central Basin. During a single dry year (CY 2017), the District met about 98 percent of its total demands with supplies from the Central Basin. During a five consecutive year drought multiple dry year period (CY 2011 to CY 2015), the District met between 99 and 100 percent of its total demands with supplies from the Central Basin.

Water Service Reliability Summary

Table 7-1 shows the water supplies during the base years (for average year, single dry year and a five consecutive year drought).

7.2.1 SERVICE RELIABILITY - CONSTRAINTS ON WATER SOURCES

CWC 10631.

(b)(1) A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.

The District's sources of supplies consist of groundwater from the Central Basin and recycled water supplies from CBMWD, as described in Section 6.2. Although all of these supplies are managed, the following constraints may occur which the District has considered in this reliability analysis.



7.2.2 SERVICE RELIABILITY - YEAR TYPE CHARACTERIZATION

7.2.2.1 TYPES OF YEARS

The District's base years for an average year, a single dry year, and a five consecutive year drought are discussed in Section 7.2 and are summarized in Table 7-1. As indicated in Chapter 6, the District's water supplies sources have been sufficient in meeting the District's historical water demands during an average year, a single dry year, and a five consecutive year drought. An average year was based on a historical year during the past 10 years with a total precipitation similar to the historical average precipitation in the vicinity of the District's service area. Because a single dry year or a five consecutive year drought period will not compromise the District's ability to provide a reliable supply of water to its customers, a single dry year in this Plan was selected based on one of the driest years during the past 10 years. The five consecutive year drought period was based on a period of five consecutive dry years during the past 10 years.

As indicated in Section 3.3, the historical average rainfall in the vicinity of the District's service area is 14.5 inches. CY 2020 represents an average or normal water year for the District in which the total amount of rainfall was similar to the historical average rainfall. A single dry year for the District was represented in CY 2017, in which the total amount of rainfall was less than the historical average rainfall. A five consecutive year drought period for the District is represented from CY 2011 and CY 2015, where the total amount of rainfall during each of these years was less than the historical average rainfall. Table 7-1 summarizes these "base years" for an average year, a single dry year and a five consecutive year drought period and provides the total amount of water supplies available to the District during those base years.



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

Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)			
Year Type	Base Year If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 2019-2020, use 2020	Available Supplies if Year Type Repeats	
		<input type="checkbox"/>	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		<input checked="" type="checkbox"/>	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available *	% of Average Supply
Average Year	2020	2,875	100%
Single-Dry Year	2017	2,874	100.0%
Consecutive Dry Years 1st Year	2011	3,216	111.9%
Consecutive Dry Years 2nd Year	2012	3,213	111.8%
Consecutive Dry Years 3rd Year	2013	3,315	115.3%
Consecutive Dry Years 4th Year	2014	3,198	111.3%
Consecutive Dry Years 5th Year	2015	2,794	97.2%
<p><i>Supplier may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If a Supplier uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.</i></p>			
<p>*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</p>			
NOTES:			

7.2.2.2 SOURCES FOR WATER DATA

The monthly historical average temperatures (including minimum and maximum), monthly historical average rainfall, and monthly ETo in the vicinity of the District's service area are discussed in Section 3.3. Historical climate information was obtained from the WRCC, DPW, and from DWR's CIMIS.



7.2.3 WATER SERVICE RELIABILITY – SUPPLY AND DEMAND COMPARISON

CWC 10635.

(a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total 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. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

The District primarily obtains its water supplies from groundwater wells located in the Central Basin. As discussed in Section 7.3 and shown in Table 7-2, Table 7-3, and Table 7-4, each of the District's water supply sources share the same base years. As previously discussed in Section 7.2.1, a single dry year or a five consecutive year drought period will not compromise the District's ability to provide a reliable supply of water to its customers.

As previously discussed in Section 4.2.6, the District's projected normal year water demands over the next 25 years, in five-year increments, were based on the District's 2020 Water Use Target of 142 GPCD for potable water demands. The ratio of total water supplies (including potable and recycled water supplies) available to the District during a historical average year in CY 2020 (or 2,875 AF) and during a historical single dry year in CY 2017 (or 2,874 AF) was used to estimate the District's projected water demands during single dry years. The ratio of water supplies available to the District during a historical average year in CY 2020 (or 2,875 AF) and a historical five consecutive year drought period from CY 2011 to CY 2015 (or 3,216 AF, 3,213 AF, 3,315 AF, 3,199 AF, and 2,794 AF, respectively) was used to estimate the District's projected water demands during a five consecutive year drought period. The District's projected dry year water supplies over the next 25 years were based on the minimum supplies needed by the



District to meet projected single-dry year demands. Table 7-2, Table 7-3, and Table 7-4 summarize the District's projected water demands and supplies over the next 25 years in five-year increments, including during normal years, single dry years, and a five consecutive year drought periods. These tables indicate the District can meet water demands during normal years, single dry years, and a five consecutive year drought periods over the next 25 years.

7.2.3.1 WATER SERVICE RELIABILITY – NORMAL YEAR

Table 7-2 summarizes the District's projected water demands and supplies over the next 25 years in five-year increments during normal years. Table 7-2 indicates the District can meet water demands during normal years over the next 25 years.

Table 7-2 Normal Year Supply and Demand Comparison

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 (Opt)
Supply totals (autofill from Table 6-9)	2,931	2,961	2,990	3,021	3,051
Demand totals (autofill from Table 4-3)	2,931	2,961	2,990	3,021	3,051
Difference	0	0	0	0	0
NOTES:					

7.2.3.2 WATER SERVICE RELIABILITY – SINGLE DRY YEAR

Table 7-3 summarizes the District's projected water demands and supplies over the next 25 years in five-year increments during single dry years. Table 7-3 indicates the District can meet water demands during single dry years over the next 25 years.



Table 7-3 Single Dry Year Supply and Demand Comparison

Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 (Opt)
Supply totals*	2,930	2,959	2,989	3,020	3,050
Demand totals*	2,930	2,959	2,989	3,020	3,050
Difference	0	0	0	0	0
<i>*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i>					
NOTES:					

7.2.3.3 WATER SERVICE RELIABILITY – FIVE CONSECUTIVE DRY YEARS

Table 7-4 summarizes the District's projected water demands and supplies over the next 25 years in five-year increments during five consecutive year drought periods. Table 7-4 indicates the District can meet water demands during five consecutive year drought periods over the next 25 years.



Table 7-4 Multiple Dry Years Supply and Demand Comparison

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	3,279	3,312	3,345	3,379	3,413
	Demand totals	3,279	3,312	3,345	3,379	3,413
	Difference	0	0	0	0	0
Second year	Supply totals	3,275	3,309	3,342	3,376	3,410
	Demand totals	3,275	3,309	3,342	3,376	3,410
	Difference	0	0	0	0	0
Third year	Supply totals	3,379	3,414	3,448	3,483	3,518
	Demand totals	3,379	3,414	3,448	3,483	3,518
	Difference	0	0	0	0	0
Fourth year	Supply totals	3,260	3,293	3,326	3,360	3,394
	Demand totals	3,260	3,293	3,326	3,360	3,394
	Difference	0	0	0	0	0
Fifth year	Supply totals	2,848	2,877	2,906	2,936	2,965
	Demand totals	2,848	2,877	2,906	2,936	2,965
	Difference	0	0	0	0	0
Sixth year (optional)	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.						
NOTES:						



7.2.4 DESCRIPTION OF MANAGEMENT TOOLS AND OPTIONS

CWC 10620.

(f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

As noted in Section 6.2.2, the Central Basin is managed by the WRD. During the period of management under the Judgment, significant drought events have occurred. In each drought cycle the Central Basin has been managed to maintain water levels. Therefore, based on historical and on-going management practices, the District will be able to rely on the Central Basin for adequate supply over the next 25 years under single dry years and a five consecutive year drought periods.

Section 6.2.2 provides a description of the management of groundwater resources in the Central Basin, as well as information on basin management. Chapter 6 also demonstrates the management structure of the Central Basin provides a reliable source of groundwater supply for the District during a normal year, a single-dry year and a five consecutive year drought. Historical data indicates the Central Basin has been well managed for the full period of the adjudication, resulting in a stable and reliable water supply. Basin management changes are discussed in Section 6.2.2, and include increased direct use of recycled water (see Section 6.5) and the planned use of treated recycled water for groundwater replenishment in the Central Basin to reduce the need to import water from other regions. Therefore, the groundwater supplies in the Central Basin are deemed reliable.



7.3 DROUGHT RISK ASSESSMENT

CWC 10635.

(b) Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following:

(1) A description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts five consecutive water years, starting from the year following when the assessment is conducted.

(2) A determination of the reliability of each source of supply under a variety of water shortage conditions. This may include a determination that a particular source of water supply is fully reliable under most, if not all, conditions.

(3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.

(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

The District's sources of supplies consist of groundwater from the Central Basin (which is managed by WRD), and recycled water supplies from CBMWD. The following discussion provides a Drought Risk Assessment which assesses the District's water supply reliability over a five consecutive year drought period. The District's DRA incorporates a five consecutive year drought from CY 2021 through CY 2025 and includes a review of water supplies, water uses, and water supply reliability.



7.3.1 DRA DATA, METHODS, AND BASIS FOR WATER SHORTAGE CONDITIONS

The District's DRA was prepared using historical production data from the District's water supply sources. The following assumptions were considered during the preparation of the District's DRA for each year of the five consecutive year drought.

- The five consecutive year drought period associated with the 2020 UWMP is based on five consecutive dry years from CY 2020 and CY 2025
- The projected water supplies available during each year of this five consecutive year drought are assumed to be identical to the water supplies produced during each year between CY 2011 and CY 2015 (which represents the most recent and historical five consecutive year drought).
- The projected demands during this five consecutive year drought are based on water demands from CY 2020 (a normal year) which were adjusted based on projected population over the next five years along with the ratio of the normal year demands to actual demands over each year of the most recent and historical five consecutive year drought period (from CY 2011 and CY 2015).
- The projected demands were compared to the projected supplies to identify potential water supply deficits which may require implementation of the Water Shortage Contingency Plan (discussed further in Chapter 8).

The following hypothetical methodologies were considered during the preparation of the District's DRA during for each year of the five consecutive year drought:

- Drought Year 1: The region had experienced an average to above average year of precipitation in the prior year. Water use in the prior year had been below average due to a reduce need for outdoor water use, the groundwater basin had



been replenished from above average local stormwater runoff, and imported water supplies were not restricted.

- Drought Year 2: The region experienced a second year of below average precipitation and runoff. Retail customers increase water use for outdoor irrigation to compensate for lack of precipitation. Groundwater and imported water supplies have not been impacted.
- Drought Year 3: The region experienced a third year of below average precipitation and runoff. Retail customers increase water use for outdoor irrigation to compensate for lack of precipitation. Groundwater and imported water supplies have not been impacted. However, there is an increased demand on groundwater supplies.
- Drought Year 4: The region experienced a fourth year of below average precipitation and runoff. Groundwater supplies have not been impacted. However, there is an increased demand on groundwater.
- Drought Year 5: Fifth year of below average precipitation and runoff. Groundwater supplies have not been impacted. However, there is an increased demand on groundwater.

7.3.2 DRA INDIVIDUAL WATER SOURCE RELIABILITY

The District's DRA incorporates a five consecutive year drought based on five consecutive dry years commencing in CY 2021. The quantity of water supplies available for each year during this five consecutive year drought period included in the District's DRA is assumed to be the same as the quantity of water supplies produced by the District (i.e. demands) during the most recent and historical five consecutive year drought which occurred from CY 2011 and CY 2015. Production data for those years have been tabulated in Section 6.1. The following describes the anticipated reliability of each water source for each year of the five consecutive year drought based on recent experience.



Groundwater

The District receives water supplies is from the Central Basin which is actively managed by WRD, as described in Section 6.2.2. The Central Basin is adjudicated; however, the District's water rights are fixed each year. Consequently, the District cannot produce in excess of its own water rights or rights it may have leased from others. In addition, the District can store water in the Central Basin which it may produce in future years. The quantity of groundwater used (and reliably available) during the most recent and historical five consecutive year drought period have been tabulated in Section 6.1. The District manages its water supply portfolio to optimize the water supplies available each year and to avoid a water supply shortage. The District also has the ability to systematically implement aspects of its Water Shortage Contingency Plan (see Chapter 8). As a result of these collective actions (and experience during prior consecutive five-year droughts), the District does not anticipate a water supply shortage.

Recycled Water

Customers within the District have access in certain locations near recycled water pipelines to the use of recycled water for approved purposes. CBMWD has a recycled water distribution system which it has developed over the years that allows the District to reduce demands on its potable water supplies as described in Section 6.2.5. The availability of recycled water supplies is not adversely impacted by drought conditions and are locally available.

The quantity of recycled water used during the most recent and historical five consecutive year drought period have been tabulated in Section 6.1. The quantity of recycled water available during each year of the most recent and historical five consecutive year drought is expected to be available during a future five consecutive year drought.



Summary

The District's water system has experienced a prior five consecutive year drought with no limitation to its collective water supplies. However, the cost of those water supplies may have increased based on the mix of supplies which are used. Consequently, the District has the ability to enact varying water shortage levels (see Chapter 8) to help educate its customers and provide an economic incentive for the retail customers to reduce their water consumption.

7.3.3 DRA TOTAL WATER SUPPLY AND USE COMPARISON

Gross water use for the projected five consecutive year drought is shown on Table 7-5. Section 7.3.2 describes the water source reliability for each source of supply the District will rely on during a five consecutive year drought. The annual quantities are the summed and are also provided on Table 7-5. However, for the purposes of the District's DRA, as a worst-case scenario, the District has considered no water supply augmentation (as indicated in Table 7-5) from its groundwater supplies. When necessary, the District can implement various water shortage levels of its Water Shortage Contingency Plan (as discussed in Chapter 8) in order to reduce its water demands. As shown in Table 7-5, assuming no additional water supply benefits will be available from groundwater supplies, the District will implement various stages of its Water Shortage Contingency Plan to balance water demands with available supplies during years 1, 2, 3, 4, and 5 of the projected five consecutive year drought.



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

Submittal Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b)	
2021	Total
Total Water Use	3,229
Total Supplies	3,216
Surplus/Shortfall w/o WSCP Action	(13)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	13
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%
2022	Total
Total Water Use	3,238
Total Supplies	3,213
Surplus/Shortfall w/o WSCP Action	(25)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	25
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	1%
2023	Total
Total Water Use	3,354
Total Supplies	3,315
Surplus/Shortfall w/o WSCP Action	(39)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	39
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	1%
2024	Total
Total Water Use	3,248
Total Supplies	3,198
Surplus/Shortfall w/o WSCP Action	(50)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	50
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	2%
2025	Total
Total Water Use	2,848
Total Supplies	2,794
Surplus/Shortfall w/o WSCP Action	(54)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	54
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	2%



7.3.4 OPTIONAL PLANNING TOOL WORKBOOK

DWR has deemed the “Planning Tool Worksheet” as optional and the District is not required by DWR to use the tool. The District has provided sufficient water supplies to its customers, including during long-term droughts and years with historically high water demands. The District has also been able to provide water service to meet maximum day water demands for these years, including during the summer months. The District obtains the majority of its water supplies from managed groundwater basins which are not subject to seasonal fluctuation. Consequently, an evaluation regarding water supplies on a monthly basis was not considered.



CHAPTER 8

WATER SHORTAGE CONTINGENCY PLAN

LAY DESCRIPTION – CHAPTER 8

WATER SHORTAGE CONTINGENCY PLAN

Chapter 8 (Water Shortage Contingency Plan) of the District's 2020 Plan discusses and provides the following:

- The District's Water Shortage Contingency Plan is a detailed approach which presents how the District intends to act, or respond, in the case of an actual water shortage contingency.
- Preparation of the District's "Annual Water Supply and Demand Assessment" (or Annual Assessment) is discussed. Commencing July 1, 2022, the District is required to submit the Annual Assessment. The Annual Assessment will include a review of the District's "unconstrained" water demands for the current year and for a potential upcoming single dry year. Unconstrained water demands represent the District's water demands prior to any "response actions" the District may invoke pursuant to the District's Water Shortage Contingency Plan.
- The District will manage water supplies to minimize the adverse impacts of water shortages. The District's plan for water usage during periods of shortage is designed to incorporate six standard water shortage levels corresponding to progressive ranges from up to a 10, 20, 30, 40, and 50 percent shortage, and greater than a 50 percent shortage.
- For each declared water supply shortage level, customers will be required to reduce their consumption by the percentage specified in the corresponding water supply shortage level.



- For each declared water supply shortage level, the District has established response actions to reduce demand on water supplies and to reduce any shortage gaps in water supplies. These demand reduction actions include irrigation and other outdoor use restrictions, and other water use prohibitions.
- The operational changes the District will consider in addressing water shortages on a short-term basis are discussed and include improved monitoring, analysis, and tracking of customer water usage to enforce demand reduction measures.
- The District's Emergency Response Plan is summarized. The Emergency Response Plan provides the management, procedures, and designated actions the District and its employees will implement during emergency situations (including catastrophic water shortages) resulting from natural disasters, system failures, and other unforeseen circumstances.
- The preparation of the District's seismic risk assessment and mitigation plan is discussed. The locations of earthquake faults in the vicinity of the District's water service area are provided.
- The effectiveness of the shortage response actions for each of the District's standard water shortage levels is presented. The District has been able to provide sufficient water supplies to its customers, including during long-term droughts and years with historically high water demands.
- The communication protocols implemented by the District when it declares any water shortage level are presented.
- The compliance and enforcement procedures associated with District's standard water shortage levels are presented.
- The legal authorities associated with District's standard water shortage levels are presented.
- The financial consequences associated with District's standard water shortage levels are presented.
- The District will evaluate the need for revising the Water Shortage Contingency Plan in order to resolve any water shortage gaps, as necessary. The steps



necessary for the District to adopt and amend its Water Shortage Contingency Plan are presented.

The following Water Shortage Contingency Plan includes references to Chapters and Sections from Pico Water District's 2020 Urban Water Management Plan:

8.1 WATER SUPPLY RELIABILITY ANALYSIS

CWC 10632.

(a)(1) The analysis of water supply reliability conducted pursuant to Section 10635.

The District's sources of supply were discussed in Section 6.2 of the 2020 UWMP and consist of groundwater from the Central Basin. In addition, the District provides recycled water purchased through CBMWD for irrigation instead of potable supplies. Recycled water is locally generated and is not impacted by drought conditions. The reliability of the various sources of supply are discussed in Chapter 7 of this UWMP.

8.2 ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT PROCEDURES

CWC 10632.

(a)(2) The procedures used in conducting an annual water supply and demand assessment that include, at a minimum, both of the following:

(A) The written decision-making process that an urban water supplier will use each year to determine its water supply reliability.

(B) The key data inputs and assessment methodology used to evaluate the urban water supplier's water supply reliability for the current year and one dry year, including all of the following:

(i) Current year unconstrained demand, considering weather, growth, and other influencing factors, such as policies to manage current supplies to meet demand objectives in future years, as applicable.



(ii) Current year available supply, considering hydrological and regulatory conditions in the current year and one dry year. The annual supply and demand assessment may consider more than one dry year solely at the discretion of the urban water supplier.

(iii) Existing infrastructure capabilities and plausible constraints.

(iv) A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment.

(v) A description and quantification of each source of water supply.

CWC 10632.1.

An urban water supplier shall conduct an annual water supply and demand assessment pursuant to subdivision (a) of Section 10632 and, on or before July 1 of each year, submit an annual water shortage assessment report to the department with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the supplier's water shortage contingency plan. An urban water supplier that relies on imported water from the State Water Project or the Bureau of Reclamation shall submit its annual water supply and demand assessment within 14 days of receiving its final allocations, or by July 1 of each year, whichever is later.

Commencing July 1, 2022, the District is required to submit an “Annual Water Supply and Demand Assessment” (Annual Assessment) in accordance with DWR’s guidance and requirements. The Annual Assessment will include a review of the District’s unconstrained water demands (i.e. water demands prior to any projected response actions the District may trigger under this Water Shortage Contingency Plan) for the current year and the upcoming (potential single dry) year. The District will also include information regarding anticipated shortages, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the District’s Water Shortage Contingency Plan.

For each Annual Assessment, the District plans to prepare a preliminary assessment which evaluates the adequacy of its water supplies for the current and upcoming years by April of each year. The preliminary assessment will include a review of water supplies for at least a single dry year.



The components of Annual Assessment consist of the following:

- A written decision-making process
- Key data inputs and assessment methodology

8.2.1 DECISION MAKING PROCESS

The District produces groundwater from the Central Basin as its primary source of water supply and that basin is managed on a fiscal year basis. Consequently, during the third quarter of each fiscal year the District will review its water demands from the initial six months along with the current groundwater basin conditions and local hydrology. This information will be used to help develop the Annual Assessment. A draft of the Annual Assessment will be circulated internally within the District for peer review and comment. Based on comments received, a redraft will be prepared and provided to the General Manager for final review in the Spring of each year. Subsequently, a final draft of the Annual Assessment will be provided to the District's Board of Directors for review and included in the agenda as part of a Board meeting such that it can be approved and any recommended specific shortage response actions may be enacted. The final Annual Assessment will be provided to DWR no later than July 1 of each year.

The Annual Assessments will be instrumental in providing guidance to the District for decisions regarding potential declarations of a water supply shortage and implementation of water reduction stages, instituting mandatory water restrictions, promoting water use efficiency and conservation programs, water rates and drought rate surcharges, and the necessity of pursuing alternative water supplies. This process will help ensure adequate water supplies resources are available to the District.



8.2.2 DATA METHODOLOGIES

The key data inputs and methodologies which will be evaluated by the District during the preparation of the preliminary assessment will include the following:

- 1) Evaluation Criteria: The locally applicable evaluation criteria used to prepare the Annual Assessment will be identified. The evaluation criteria will include, but is not limited to, an analysis of current local hydrology (including rainfall and groundwater levels), current water demands, a review of water system improvement plans which may impact infrastructure availability, and water quality regulations which may impact groundwater availability.
- 2) Water Supply: A description of each available water supply source will be provided. The descriptions will include a quantification of each available water supply source and will be based on review of current production capacities, historical production, Urban Water Management Plans, and prior water supply studies (including Water Supply Assessments and/or Master Plans).
- 3) Unconstrained Water Demand: The potential unconstrained water demands during the current year and the upcoming (potential single dry) year will be reviewed. The review will include factors such as weather, existing and projected land uses and populations, actual customer consumption and water use factors, monthly Urban Water Supplier Monthly Reports, existing water shortage levels (see Section 8.3), and existing water conservation ordinances (see Section 9.2.1).
- 4) Planned Water Use for Current Year Considering Dry Subsequent Year: The water supplies available to meet the demands during the current year and the upcoming (potential single dry) year will be considered and identified by each type of supply. The evaluation will include factors such as estimated water demands, weather, groundwater basin operating conditions, water quality results, existing available



pumping capacities, imported water allocations, contractual obligations, regulatory issues, use of emergency interconnections, and the costs associated with producing each water supply source.

- 5) Infrastructure Considerations: The capabilities of the water distribution system infrastructure to meet the water demands during the current year and the upcoming (potential single dry) year will be considered. Available production capacities (e.g. groundwater well capacities) and distribution system water losses (see Section 4.2.4) will be reviewed. In addition, capital improvement and replacement projects, as well as potential projects which may increase water system and production capacities (see Section 6.2.8), will be considered.
- 6) Other Factors: Additional local considerations, if any, which can affect the availability of water supplies will be described.

8.3 SIX STANDARD WATER SHORTAGE LEVELS

CWC 10632.

(a)(3)(A) Six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortage. Urban water suppliers shall define these shortage levels based on the suppliers' water supply conditions, including percentage reductions in water supply, changes in groundwater levels, changes in surface elevation or level of subsidence, or other changes in hydrological or other local conditions indicative of the water supply available for use. Shortage levels shall also apply to catastrophic interruption of water supplies, including, but not limited to, a regional power outage, an earthquake, and other potential emergency events.

(B) An urban water supplier with an existing water shortage contingency plan that uses different water shortage levels may comply with the requirement in subparagraph (A) by developing and including a cross-reference relating its existing categories to the six standard water shortage levels.



The District will manage water supplies prudently to minimize the adverse impacts of water shortages. The District's plan for water usage during periods of shortage is designed to incorporate six standard water shortage levels corresponding to progressive ranges from up to 10, 20, 30, 40, and 50 percent shortages and greater than a 50 percent shortage.

The District's Ordinance No. 62 ("An Ordinance of Pico Water District to Establish Water Use Efficiency Requirements and Water Supply Shortage Levels"), adopted in 2015, previously established four (4) water shortage levels. A copy of Ordinance No. 62 is provided in Appendix J. In accordance with the California Water Code in which urban water suppliers are required to define six standard water shortage level, the District has developed the crosswalk illustrated below that translated the District's previously established shortage levels to the mandated standard shortage levels.

Corresponding Relationships Between Supplier's 2015 Shortage Levels and the 2020 WSCP Mandated Shortage Levels

Established Level	Supply Condition/Shortage	2020 Standard Level	Shortage Level
1	10% - 15%	1	≤ to 10%
2	15% - 25%	2	10 to 20%
3	25% - 35%	3	20 to 30%
4	35% - 50%	4	30 to 40 %
		5	40 to 50 %
		6	> 50 %

Table 8-1 provides a description of the stages of action which may be triggered by a shortage in the District's water supply source, depending on the severity of the shortage and its anticipated duration.



Table 8-1 Water Shortage Contingency Planning Levels

Submittal Table 8-1 Water Shortage Contingency Plan Levels		
Shortage Level	Percent Shortage Range	Shortage Response Actions (Narrative description)
1	Up to 10%	<p>Upon the declaration by the District's Board of Directors of a Level 1 Water Supply Shortage condition, the District will implement the mandatory Level 1 conservation measures identified in this section.</p> <p>1.Limits on Watering Hours: During times of water shortage (as declared by the Board), watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 10:00 a.m. and 4:00 p.m.</p> <p>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 with five (5) days after written notification by the District unless other arrangements are made with the District.</p>
2	Up to 20%	<p>Upon the declaration by the District's Board of Directors of a Level 2 Water Supply Shortage condition, the District will implement the mandatory Level 2 conservation measures identified in this section.</p> <p>1. 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 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 on a schedule established and posted by the District.</p> <p>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 with seventy-two (72) hours of notification by the District unless other arrangements are made with the District.</p> <p>3. Other Prohibited Uses. The District may implement other prohibited water uses as determined by the District's Board of Directors, after written notice is provided to District customers.</p>
3	Up to 30%	<p>Upon the declaration by the District's Board of Directors of a Level 3 Water Supply Shortage condition, the District will implement the mandatory Level 3 conservation measures identified in this section.</p> <p>1.Additional Water Conservation Measures. In addition to the prohibited uses of water identified in Water Shortage Level 2, the following water conservation requirements apply during a declared Level 3 Water Supply Shortage.</p> <p>2.Watering Days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to two (2) days per week on a schedule established and posted by the District. 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) days per week on a schedule established and posted by the District.</p> <p>3. 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 with forty-eight (48) hours of notification by the District unless other arrangements are made with the District.</p> <p>4. 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.</p>



4	Up to 40%	Upon the declaration of a Level 4 Water Supply Shortage condition, the District will implement the mandatory Level 4 conservation measures identified in this section. 1. Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited 2. All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired with twenty-four (24) hours of notification by the District. 3. No New Potable Water Service 4. The District, in its sole discretion, may discontinue service to consumers who willfully violate provisions.
5	Up to 50%	A Level 5 condition exists when the District's Board of Directors declares a water shortage emergency and notifies its residents and businesses that a significant reduction in consumer demand is necessary to ensure sufficient supplies will be available to meet anticipated demands. Upon the declaration of a Level 5 Water Supply Shortage condition, the District will implement the mandatory conservation measures identified in Water Shortage Level 4.
6	>50%	A Level 6 condition exists when the District's Board of Directors declares a water shortage emergency and notifies its residents and businesses that a significant reduction in consumer demand is necessary to ensure sufficient supplies will be available to meet anticipated demands. Upon the declaration of a Level 6 Water Supply Shortage condition, the District will implement the mandatory conservation measures identified in Water Shortage Level 4.
NOTES:		

8.4 SHORTAGE RESPONSE ACTIONS

CWC 10632.

(a)(4) Shortage response actions that align with the defined shortage levels and include, at a minimum, all of the following:

(A) Locally appropriate supply augmentation actions.

(B) Locally appropriate demand reduction actions to adequately respond to shortages.

(C) Locally appropriate operational changes.

(D) Additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions.

(E) For each action, an estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the action.



8.4.1 DEMAND REDUCTION

A full listing of the restrictions/prohibitions associated with each shortage level is provided below.

Water Shortage Level 1

A Level 1 Water Supply Shortage exists when the District through its Board of Directors determines, that due to drought, a water supply shortage or a threatened water shortage exists and customer use reductions are necessary to comply with state requirements and to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the District's Board of Directors of a Level 1 Water Supply Shortage condition, the District will implement the mandatory Level 1 conservation measures identified in this section.

- A. Additional Water Conservation Measures. In addition to the existing prohibited uses of water identified in Water Use Efficiency Requirements & Prohibition Against Waste in District Ordinance No. 62, the following water conservation requirements apply during a declared Level 1 Water Supply Shortage.
- B. Limits on Watering Hours: During times of water shortage (as declared by the Board), watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 10:00 a.m. and 4:00 p.m. Pacific Standard Time or Pacific Daylight Time, as applicable, on any day, except for very short periods of time for the express purpose of adjusting or repairing an irrigation system.
- C. 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 with five (5) days after written notification by the District unless other arrangements are made with the District.



Water Shortage Level 2

A Level 2 Water Supply Shortage exists when the District through its Board of Directors determines, that due to drought, a water supply shortage or a threatened water shortage exists and customer use reductions are necessary to comply with state requirements and to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the District's Board of Directors of a Level 2 Water Supply Shortage condition, the District will implement the mandatory Level 2 conservation measures identified in this section.

- A. Additional Water Conservation Measures. In addition to the prohibited uses of water identified in Water Use Efficiency Requirements & Prohibition Against Waste in District Ordinance No. 62, and Water Shortage Level 1, the following water conservation requirements apply during a declared Level 2 Water Supply Shortage.
- B. 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 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 on a schedule established and posted by the District. 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 hours. This provision also does not apply to watering or irrigating for very short periods of time for express purpose of adjusting or repairing an irrigation system.
- C. 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 with seventy-two (72) hours of notification by the District unless other arrangements are made with the District.
- D. Other Prohibited Uses. The District may implement other prohibited water uses as determined by the District's Board of Directors, after written notice is provided to District customers.



Water Shortage Level 3

A Level 3 Water Supply Shortage exists when the District through its Board of Directors determines, that due to drought, a water supply shortage or a threatened water shortage exists and customer use reductions are necessary to comply with state requirements and to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the District's Board of Directors of a Level 3 Water Supply Shortage condition, the District will implement the mandatory Level 3 conservation measures identified in this section.

- A. Additional Water Conservation Measures. In addition to the prohibited uses of water identified in Water Use Efficiency Requirements & Prohibition Against Waste in District Ordinance No. 62 and Water Shortage Levels 1 and 2, the following water conservation requirements apply during a declared Level 3 Water Supply Shortage.
- B. Watering Days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to two (2) days per week on a schedule established and posted by the District. 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) days per week on a schedule established and posted by the District. 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 hours. This provision also does not apply to watering or irrigating for very short periods of time for express purpose of adjusting or repairing an irrigation system.
- C. 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 with forty-eight (48) hours of notification by the District unless other arrangements are made with the District.



- D. 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 the declaration of a supply shortage level under this ordinance.
- E. Limits on Filling Residential Swimming Pools & Spas: Re-filling of water constituting more than one foot of depth, and initial filling of, residential swimming pools or outdoor spas with potable water is prohibited.
- F. Other Prohibited Uses. The District may implement other prohibited water uses as determined by the District's Board of Directors, after written notice is provided to District customers.
- G. Mandatory Percentage Use Reductions. During a Level 3 Water Supply Shortage condition, all customers will be required to reduce water consumption by a percentage determined by the District's Board of Directors.

Water Shortage Level 4

- A. A Level 4 condition exists when the District's Board of Directors declares a water shortage emergency and notifies its residents and businesses that a significant reduction in consumer demand is necessary to ensure sufficient supplies will be available to meet anticipated demands. Upon the declaration of a Level 4 Water Supply Shortage condition, the District will implement the mandatory Level 4 conservation measures identified in this section.
- B. Additional Conservation Measures. In addition to the prohibited uses of water identified in District Ordinance No. 62, the following water conservation requirements apply during a declared Level 4 Water Supply Shortage.
- C. No Watering or Irrigating. Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited. This restriction shall not apply to the following categories of use unless the District's Board of Directors has determined that recycled water is available and may be lawfully applied to the use:



1. Maintenance of vegetation, including trees and shrubs, that are watered using a handheld bucket or similar container, hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or a very low-flow drip type irrigation system when no emitter produces more than two (2) gallons of water per hour subject to the hour restrictions in Shortage Level 1;
 2. Maintenance of existing landscape necessary for fire protection;
 3. Maintenance of existing landscape for soil erosion control;
 4. Maintenance of landscape within active public parks and playing fields, day care center, school grounds, cemeteries, and golf course greens, provided that such irrigation does not exceed two (2) days per week.
 5. Public works projects and actively irrigated environmental mitigation projects.
- D. **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 with twenty-four (24) hours of notification by the District unless other arrangements are made with the District.
- E. **No New Potable Water Service.** Upon declaration of a Level 4 Water Supply Shortage condition, no new potable water service shall be provided, no new temporary meters or permanent meters shall be provided, and no statements of immediate ability to serve or provide potable water service (such as, will serve letters, certificates, or letters of availability) shall be issued, except under the following circumstances:
1. A valid, unexpired building permit has already been issued for the project;
or
 2. The project is necessary to protect the public's health, safety and welfare;
or
 3. The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of the District.



4. This provision does not preclude the resetting or turn-on of meters to provide continuation of water service of the restoration of service that has been interrupted for a period of one year or less.
- F. Discontinue Service: The District, in its sole discretion, may discontinue service to consumers who willfully violate provisions of this section.
- G. Other Prohibited Uses. The District may implement other prohibited water uses as determined by the District's Board of Directors, after written notice is provided to District customers.

Water Shortage Level 5

- A. A Level 5 condition exists when the District's Board of Directors declares a water shortage emergency and notifies its residents and businesses that a significant reduction in consumer demand is necessary to ensure sufficient supplies will be available to meet anticipated demands. Upon the declaration of a Level 5 Water Supply Shortage condition, the District will implement the mandatory Level 5 conservation measures identified in this section.
- B. Additional Conservation Measures. In addition to the prohibited uses of water identified in District Ordinance No. 62, the following water conservation requirements apply during a declared Level 5 Water Supply Shortage.
- C. No Watering or Irrigating. Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited. This restriction shall not apply to the following categories of use unless the District's Board of Directors has determined that recycled water is available and may be lawfully applied to the use:
 1. Maintenance of vegetation, including trees and shrubs, that are watered using a handheld bucket or similar container, hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or a very low-flow drip type irrigation system when no emitter produces more than two (2) gallons of water per hour subject to the hour restrictions in Shortage Level 1;
 2. Maintenance of existing landscape necessary for fire protection;
 3. Maintenance of existing landscape for soil erosion control;



4. Maintenance of landscape within active public parks and playing fields, day care center, school grounds, cemeteries, and golf course greens, provided that such irrigation does not exceed two (2) days per week.
 5. Public works projects and actively irrigated environmental mitigation projects.
- D. **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 with twenty-four (24) hours of notification by the District unless other arrangements are made with the District.
- E. **No New Potable Water Service.** Upon declaration of a Level 5 Water Supply Shortage condition, no new potable water service shall be provided, no new temporary meters or permanent meters shall be provided, and no statements of immediate ability to serve or provide potable water service (such as, will serve letters, certificates, or letters of availability) shall be issued, except under the following circumstances:
1. A valid, unexpired building permit has already been issued for the project;
or
 2. The project is necessary to protect the public's health, safety and welfare;
or
 3. The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of the District.
 4. This provision does not preclude the resetting or turn-on of meters to provide continuation of water service or the restoration of service that has been interrupted for a period of one year or less.
- F. **Discontinue Service:** The District, in its sole discretion, may discontinue service to consumers who willfully violate provisions of this section.
- G. **Other Prohibited Uses.** The District may implement other prohibited water uses as determined by the District's Board of Directors, after written notice is provided to District customers.



Water Shortage Level 6

- A. A Level 6 condition exists when the District's Board of Directors declares a water shortage emergency and notifies its residents and businesses that a significant reduction in consumer demand is necessary to ensure sufficient supplies will be available to meet anticipated demands. Upon the declaration of a Level 6 Water Supply Shortage condition, the District will implement the mandatory Level 6 conservation measures identified in this section.
- B. Additional Conservation Measures. In addition to the prohibited uses of water identified in District Ordinance No. 62, the following water conservation requirements apply during a declared Level 6 Water Supply Shortage.
- C. No Watering or Irrigating. Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited. This restriction shall not apply to the following categories of use unless the District's Board of Directors has determined that recycled water is available and may be lawfully applied to the use:
 - 1. Maintenance of vegetation, including trees and shrubs, that are watered using a handheld bucket or similar container, hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or a very low-flow drip type irrigation system when no emitter produces more than two (2) gallons of water per hour subject to the hour restrictions in Shortage Level 1;
 - 2. Maintenance of existing landscape necessary for fire protection;
 - 3. Maintenance of existing landscape for soil erosion control;
Maintenance of landscape within active public parks and playing fields, day care center, school grounds, cemeteries, and golf course greens, provided that such irrigation does not exceed two (2) days per week.
 - 4. Public works projects and actively irrigated environmental mitigation projects.
- D. 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



with twenty-four (24) hours of notification by the District unless other arrangements are made with the District.

E. No New Potable Water Service. Upon declaration of a Level 6 Water Supply Shortage condition, no new potable water service shall be provided, no new temporary meters or permanent meters shall be provided, and no statements of immediate ability to serve or provide potable water service (such as, will serve letters, certificates, or letters of availability) shall be issued, except under the following circumstances:

1. A valid, unexpired building permit has already been issued for the project;
or
2. The project is necessary to protect the public's health, safety and welfare;
or
3. The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of the District.
4. This provision does not preclude the resetting or turn-on of meters to provide continuation of water service or the restoration of service that has been interrupted for a period of one year or less.

F. Discontinue Service: The District, in its sole discretion, may discontinue service to consumers who willfully violate provisions of this section.

G. Other Prohibited Uses. The District may implement other prohibited water uses as determined by the District's Board of Directors, after written notice is provided to District customers.

8.4.2 SUPPLY AUGMENTATION

The District does not plan to add a new source of water supply to address customer demands, but instead will consider increased supplies from existing sources. Table 8-3 reflects this approach and does not identify any new supplies. Instead, the District will focus on demand reduction measures in the event existing sources of supply are not



sufficient to meet customer demands. As discussed in Chapter 6, the District's sources of water supply include groundwater produced from the Central Basin and recycled water supplies purchased from CBMWD. As noted in Section 8.2, beginning July 1, 2022, the District will prepare and submit an Annual Assessment which will include a review of water supplies available to meet water demands for the current and upcoming years. If the District is currently in, or considers entering into, one of the standard water shortage levels identified in Section 8.3, the District will consider the water supply (augmentation) actions described below.



Table 8-2 Demand Reduction Actions

Submittal Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.</i>	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>For Retail Suppliers Only</i> <i>Drop Down List</i>
Add additional rows as needed				
1	Landscape - Limit landscape irrigation to specific times	Collective reduction from all Shortage Level 1 actions is up to 184 AF	During times of water shortage watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 10:00 a.m and 4:00 p.m. Pacific Standard Time	Yes
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Collective reduction from all Shortage Level 1 actions is up to 184 AF		Yes
2	Other	Collective reduction from all Shortage Level 2 actions is up to 369 AF	All actions under Shortage Level 1	Yes
2	Landscape - Limit landscape irrigation to specific days	Collective reduction from all Shortage Level 2 actions is up to 369 AF	Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to three (3) days per week.	Yes
2	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Collective reduction from all Shortage Level 2 actions is up to 369 AF		Yes
3	Other	Collective reduction from all Shortage Level 3 actions is up to 553 AF	All actions under Shortage Level 2	Yes
3	Landscape - Limit landscape irrigation to specific days	Collective reduction from all Shortage Level 3 actions is up to 553 AF		Yes
3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Collective reduction from all Shortage Level 3 actions is up to 553 AF		Yes
3	Water Features - Restrict water use for decorative water features, such as fountains	Collective reduction from all Shortage Level 3 actions is up to 553 AF		Yes
3	Water Features - Restrict water use for decorative water features, such as fountains	Collective reduction from all Shortage Level 3 actions is up to 553 AF		Yes
4	Other	Collective reduction from all Shortage Level 4 actions is up to 737 AF	All actions under Shortage Level 3	Yes
4	Landscape - Prohibit all landscape irrigation	Collective reduction from all Shortage Level 4 actions is up to 737 AF		Yes
4	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Collective reduction from all Shortage Level 4 actions is up to 737 AF		Yes
4	Other	Collective reduction from all Shortage Level 4 actions is up to 737 AF	No New Potable Water Service	Yes
5	Other	Collective reduction from all Shortage Level 5 actions is up to 921 AF	All actions under Shortage Level 4	Yes
6	Other	Collective reduction from all Shortage Level 6 actions is greater than 921 AF	All actions under Shortage Level 5	Yes
NOTES:				

**Table 8-3 Supply Augmentation and Other Actions**

Submittal Table 8-3: Supply Augmentation and Other Actions			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool</i>	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>
<i>Add additional rows as needed</i>			
1	Transfers	Not applicable (see Notes)	
2	Transfers	Not applicable (see Notes)	
3	Transfers	Not applicable (see Notes)	
4	Transfers	Not applicable (see Notes)	
5	Transfers	Not applicable (see Notes)	
6	Transfers	Not applicable (see Notes)	

NOTES: The District will consider increased production from the Central Basin using existing facilities to address increased demands. As noted on Table 8-2, the District plans to implement demand reduction measures in the event water supplies from existing sources are not sufficient to meet anticipated demands.

8.4.3 OPERATIONAL CHANGES

During a water supply shortage situation, the District will manage its water supply resources to provide sufficient water supplies capable of meeting the demands of its customers. Section 8.4.1 describes the District's standard water shortage levels and associated demand reduction measures. Section 8.4.2 describes the District's water supply sources and water supply augmentation actions available. The supply augmentation actions and demand reduction measures, when implemented, may potentially result in short-term operational changes which are necessary to allow the District to utilize all available water supply sources in response to water shortage situations.

As noted in Section 8.2, beginning July 1, 2022, the District will prepare and submit an Annual Assessment which will include a review of the water supplies available to meet water demands for the current and upcoming years. Preparation of the Annual Assessment will assist the District in determining any potential operational changes. In addition, the District's standard water shortage levels and the associated demand



reduction measures, in conjunction with the District's existing Demand Management Measures (discussed in Chapter 9), will be essential to the District in reducing water demands during any water shortage period. The operational changes the District will consider in addressing non-catastrophic water shortages on a short-term basis include the following:

- Improved monitoring, analysis, and tracking of customer water usage to enforce demand reduction measures
- Optimized production from existing available water supply sources
- Potential use of emergency supply sources, including emergency interconnections
- Potential blending of water supply resources
- Improved monitoring, maintenance, and repairs to reduce water distribution system losses

8.4.4 ADDITIONAL MANDATORY RESTRICTIONS

The mandatory restrictions which are implemented by the District to reduce customer demands are discussed in Section 8.4.1. There are no additional mandatory restrictions planned at this time.

8.4.5 EMERGENCY RESPONSE PLAN

Catastrophic water shortages are incorporated in the District's standard water shortage levels (identified in Section 8.3) and the associated demand reduction measures (described in Section 8.4.1). In addition to the water supply augmentation actions (Section 8.4.2) and potential operational changes (Section 8.4.3) which the District may consider in order to continue providing sufficient water supplies, the District will review and implement any necessary steps included in its "Emergency Response Plan".



As part of the “America’s Water Infrastructure Act of 2018”, community water systems serving a population greater than 3,300 people, including the District, are required to review and update their “Risk and Resilience Assessment” (RRA) and the associated “Emergency Response Plan” (ERP) every five (5) years. However, due to security concerns regarding the submitting of these reports, water systems are required to submit certifications to the United States Environment Protection Agency (USEPA), from March 31, 2020 and December 30, 2021, confirming the current RRA and ERP have been reviewed and updated.

The District’s RRA, prepared in 2021, evaluates the vulnerabilities, threats, and consequences from potential hazards to the District’s water system. The District prepared its RRA (which is incorporated by reference) by evaluating the following items:

- Natural hazards and malevolent acts (i.e., all hazards);
- Resilience of water facility infrastructure (including pipes, physical barriers, water sources and collection, treatment, storage and distribution facilities, and electronic, computer and other automated systems);
- Monitoring practices;
- Financial systems (e.g., billing systems);
- Chemical storage and handling; and
- Operation and maintenance.

The District’s RRA evaluated a series of potential malevolent acts, natural hazards, and other threats in order to estimate the potential “monetized risks” (i.e. associated economic consequences to both the water system and surrounding region, and the likelihood of occurrence) associated with the District’s water facility assets. The cost-effectiveness of implementing potential countermeasures to reduce risks was also reviewed.



The District's ERP, which is currently being prepared and will be completed in 2021, provides the management, procedures, and designated actions the District and its employees will implement during emergency situations (including catastrophic water shortages) resulting from natural disasters, system failures and other unforeseen circumstances. The District's ERP will provide the guidelines for evaluating an emergency situation, procedures for activating an emergency response, and details of the different response phases in order to ensure that customers receive a reliable and adequate supply of potable water. The scope of the ERP includes emergencies which directly affect the water system and the ability to maintain safe operations (such as a chlorine release, and earthquake or a threat of contamination). The ERP will also incorporate the results of District's RRA and includes the following:

- Strategies and resources to improve resilience, including physical and cybersecurity
- Plans and procedures for responding to a natural hazard or malevolent act
- Actions and equipment to lessen the impact of a natural hazard or malevolent act
- Strategies to detect natural hazards or malevolent act

The District will review the ERP for procedures regarding the utilization of alternative water supply sources in response to water supply shortages, including during the standard water shortage levels. The District will also review applicable procedures described in the ERP regarding any necessary temporary shutdown of water supply facilities, including appropriate regulatory and public notifications.

8.4.6 SEISMIC RISK ASSESSMENT AND MITIGATION PLAN

CWC 10632.5.

(a) In addition to the requirements of paragraph (3) of subdivision (a) of Section 10632, beginning January 1, 2020, the plan shall include a seismic risk assessment and mitigation plan to assess the vulnerability of each of the various facilities of a water system and mitigate those vulnerabilities.



(b) An urban water supplier shall update the seismic risk assessment and mitigation plan when updating its urban water management plan as required by Section 10621.

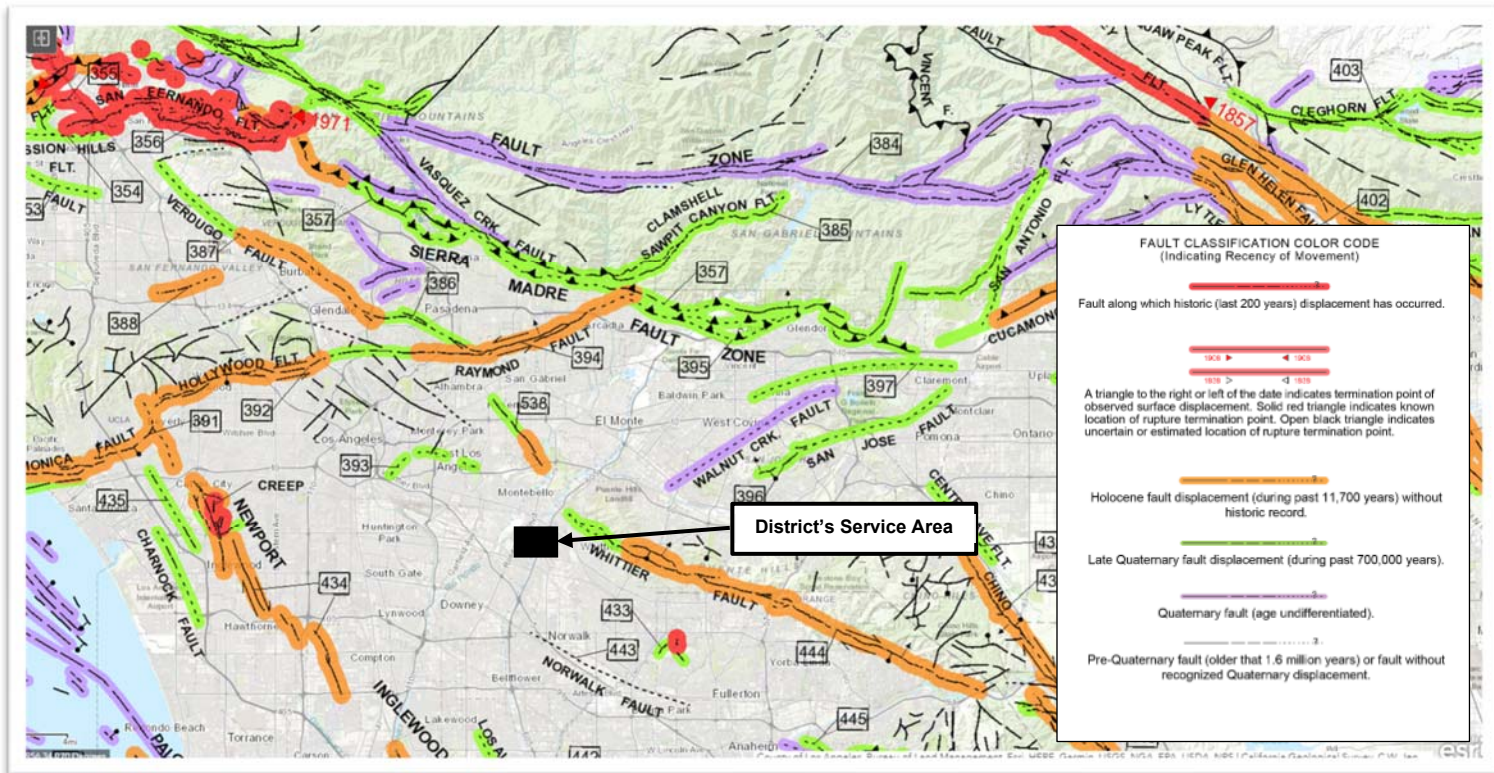
(c) An urban water supplier may comply with this section by submitting, pursuant to Section 10644, a copy of the most recent adopted local hazard mitigation plan or multihazard mitigation plan under the federal Disaster Mitigation Act of 2000 (Public Law 106-390) if the local hazard mitigation plan or multihazard mitigation plan addresses seismic risk.

The County of Los Angeles prepared a “All-Hazards Mitigation Plan” in 2019 which identified methods to assess significant natural hazards (including earthquakes) affecting areas throughout Los Angeles County, and the mitigation strategies necessary to reduce risks, including seismic risk. The County’s All-Hazards Mitigation Plan is provided in Appendix K.

The California Geological Survey has published the locations of numerous faults which have been mapped in the Southern California region. Although the San Andreas fault is the most recognized and is capable of producing an earthquake with a magnitude greater than 8 on the Richter scale, some of the lesser-known faults have the potential to cause significant damage. The locations of these earthquake faults in the vicinity of the District’s water service area are provided in the figure below. The faults that are located in close proximity to and could potentially cause significant shaking in the District’s water service area include the San Andreas fault, the Walnut Creek fault, the Whittier fault, and the Norwalk fault.



Location of Earthquake Faults

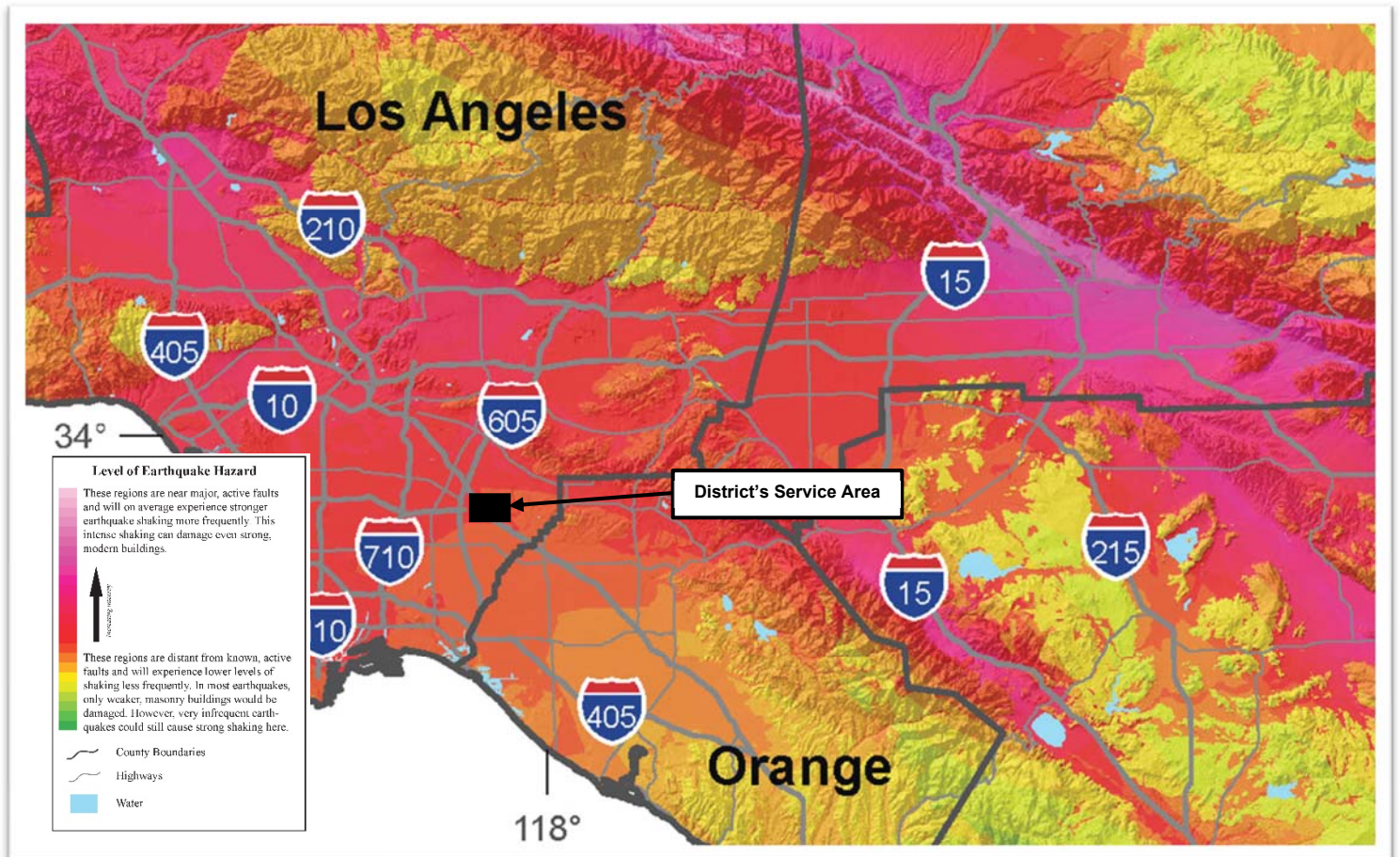


Source: <https://maps.conservation.ca.gov/cgs/fam/App/>

The following figure provides the relative intensity of ground shaking in the vicinity of the District's service area from anticipated future earthquakes. The locations of relatively long-period (1.0 second) earthquake shaking, including the District's service area, are provided. Long-period shaking affects tall, relatively flexible buildings, but also correlates with earthquake damage. The shaking potential is calculated based on the level of ground motion that has a 2 percent chance of being exceeded in 50 years (or the level of ground-shaking with an approximate 2,500-year average repeat time). As discussed in Section 8.4.5, the District's Emergency Response Plan will provide the management, procedures, and designated actions the District and its employees will implement during emergency situations resulting from natural disasters, including during earthquakes, to ensure that customers receive a reliable and adequate supply of potable water.



Earthquake Shaking Potential



Source: "Earthquake Shaking Potential for California", 2016, California Geological Survey and United States Geological Survey

8.4.7 SHORTAGE RESPONSE ACTION EFFECTIVENESS

The effectiveness of the shortage response actions for each of the standard water shortage levels identified in Section 8.3 is evident in the District's historical ability to meet its customer's water demands in response to a water supply shortage. In addition, the District imposes water consumption regulations and restrictions, and supports local agencies in efforts to enforce regulations and prohibitions on water use. The effectiveness



of each of the District's shortage response actions, in order to reduce any potential gaps between supply and demand, has been quantified in the expected demand reduction provided in Table 8-2 and Table 8-3.

Section 6.1 provides a tabulation of the District's historical annual water demands for each water supply source. During the past 10 years, the District experienced a five consecutive year drought within its service area from CY 2011 to CY 2015. Throughout this extended dry year period, the District's annual water production ranged from 2,794 to 3,315 AF, with an average of approximately 3,147 AF. In addition, historical records indicate the District previously produced a maximum of up to 3,315 AF during CY 2013. The District has been able to provide sufficient water supplies to its customers, including during long-term droughts and years with historically high water demands. In addition, the District has been able to provide water service to meet maximum day water demands for these years, including during the summer months.

The District's water demands during the most recent five years (from CY 2016 to CY 2020) averaged approximately 2,833 AFY. Due to conservation efforts and demand management measures (discussed in Chapter 9), the District's recent water demands have been less than its historical water demands, including during long-term droughts. The District's projected water demands (during normal, single dry, and multiple dry years) are provided in Section 7.2.3 and are anticipated to incorporate similar reductions in water use rates as a result of the shortage response actions, ongoing conservation efforts, and demand management measures. Because the District's projected water demands are similar to its historical water demands, it is anticipated the District will be able to continue providing sufficient water supplies to its customers to meet projected water demands, including during long-term droughts. In addition, as discussed in Section 8.4.1, based on historical and on-going management practices, the District will be able to continue relying on its water supply sources from the Central Basin for adequate supply augmentation in response to each of the standard water shortage levels identified in Section 8.3.



Based on the District's ability in meeting water demands during past water supply shortages, adopted water shortage levels, adjusted operating safe yields, and long-term droughts, it is anticipated that the District will be able to continue providing sufficient water supplies to its customers during any of its standard water shortage levels. Although adequate supplies are anticipated, the cost of those water supplies may become incrementally more expensive. The District will enact varying levels of its water shortage contingency plan to encourage retail customers to reduce water consumption and at the same time reduce the need to use the more expensive water supplies. Notwithstanding, the effectiveness of each of the District's shortage response actions, in order to reduce any potential gaps between supply and demand, has been quantified in the expected demand reduction provided in Table 8-2 and Table 8-3. The effectiveness of the District's shortage response actions is based on the District's water demands prior to 2015 (unconstrained demands). The District reduced its water demands in 2015 in response to the Governor's April 1, 2015 Executive Order B-29-15 which mandated statewide reduction in water use of 25 percent. The District's actual water demand reduction during this period was used to estimate the extent of water use reductions for the District's Water Shortage Levels. The District's Water Shortage Levels 1, 2, 3, 4, 5, and 6 are expected to reduce water demands by up to 10%, 20%, 30%, 40%, 50%, and greater than 50%, respectively.



8.5 COMMUNICATION PROTOCOLS

CWC 10632.

(a)(5) Communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding, at a minimum, all of the following:

(A) Any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1.

(B) Any shortage response actions triggered or anticipated to be triggered by the annual water supply and demand assessment described pursuant to Section 10632.1.

(C) Any other relevant communications.

Commencing July 1, 2022, the District is required to submit an Annual Assessment in accordance with DWR's guidance and requirements. The Annual Assessment will provide information on the District's anticipated shortage, triggered response actions, compliance and enforcement actions, and communication actions, as discussed in Section 8.2. The District may use the Annual Assessment as a method of declaring the appropriate water shortage level.

The District will evaluate the projected supply and demand for water by its customers and shall recommend to the Board of Directors the extent of the conservation required by the customers of the District. The Board of Directors will discuss the appropriate phase of water conservation to be implemented, modified, or rescinded. The District will publish information regarding the adoption of any resolution declaring a water shortage level in a daily newspaper of general circulation and provide such information to customers by mail, electronically and on the District's website. The mandatory conservation requirements shall become effective 10 days after the date the applicable level is declared. The information provided will include the declared shortage level, response action associated with each shortage level, and any other relevant information relating to the resolution.



8.6 COMPLIANCE AND ENFORCEMENT

CWC 10632.

(a)(6) For an urban retail water supplier, customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions as determined pursuant to Section 10632.2.

Violations of any provision of District Ordinance 62 and of the WSCP shall be considered an unauthorized use of water and subject to penalties as set forth. In addition, persistent violations (i.e., after four violations in any twelve (12) calendar month period) may result in the disconnection of water service to a property.

Penalties for failure to comply with any provisions of Ordinance 62 are as follows, provided, however, that the District's General Manager shall have the discretion to waive any such penalty if the violating customer provides information or documentation that justifies such a waiver:

1. First Violation: The District will issue a written notice of non-compliance and deliver a copy of the WSCP by mail.
2. Second Violation: For a second violation within the preceding twelve (12) calendar months, the District will issue a final written notice of non-compliance.
3. Third Violation: A third violation within the preceding twelve (12) calendar months is punishable by a fine not to exceed one hundred dollars (\$100).
4. Fourth Violation: A fourth violation within the preceding twelve (12) calendar months is punishable by a fine not to exceed two hundred dollars (\$200).
5. Fifth and Subsequent Violations: A fifth violation, and any subsequent violation, within the preceding twelve (12) calendar months is punishable by a fine not to exceed five hundred dollars (\$500) per violation.



In addition to any fines, the District may install a water flow restrictor device of approximately one gallon per minute capacity for services up to one and one-half inch in size and comparatively sized restrictors for larger services after providing written notice to the customer of intent to install a flow restrictor for a minimum of forty eight (48) hours prior to such installation.

Individuals receiving a Notice of Violation (NOV) may appeal the NOV to the District by filing a written notice of appeal within ten (10) days of receiving the NOV and addressing their letter of appeal. The General Manager will review the request and make a finding on the appeal. If the General Manager denies the appeal, then he will provide his finding to the resident and inform them that if they wish to have their appeal considered by the District's Board of Directors, they must submit a letter addressed to the Board President and the General Manager will then provide all documents for the board to consider at the next regularly scheduled Board Meeting. While the appeal is being considered, all water charges are to be paid in full, and only the water wasting penalties will be placed on hold.

8.7 LEGAL AUTHORITIES

CWC 10632.

(a)(7)(A) A description of the legal authorities that empower the urban water supplier to implement and enforce its shortage response actions specified in paragraph (4) that may include, but are not limited to, statutory authorities, ordinances, resolutions, and contract provisions.

(B) A statement that an urban water supplier shall declare a water shortage emergency in accordance with Chapter 3 (commencing with Section 350) of Division 1.

(C) A statement that an urban water supplier shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.

CWC Division 1, Section 350

The governing body of a distributor of a public water supply, whether publicly or privately owned and including a mutual water company, shall declare a water shortage emergency condition to prevail within the area served by such distributor 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.

In the event that the demand of water consumers cannot be satisfied without depleting a substantial amount of water supply needed for human consumption, sanitation, and fire protection, the District shall declare a water shortage emergency. The District shall coordinate with any city or county within its service area for possible declaration of a local emergency.

The District adopted Ordinance No.62, establishing a Water Use Efficiency Requirements and Water Supply Shortage Levels (Appendix J).

8.8 FINANCIAL CONSEQUENCES OF WSCP

CWC 10632.

(a)(8) A description of the financial consequences of, and responses for, drought conditions, including, but not limited to, all of the following:

(A) A description of potential revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(B) A description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(C) A description of the cost of compliance with Chapter 3.3 (commencing with Section 365) of Division 1.

The District maintains financial operating reserves, which may be used for water system expenditures to make up for shortfalls in water revenue. In order to mitigate the financial impacts of a water shortage, the District has established an Emergency Fund, which allows the District to operate at 75 percent of its normal operating revenue. This fund will



be used to stabilize rates during periods of water shortage or disasters affecting the water supply, and will decrease the need to make drastic rate changes during prolonged or severe water shortages.

8.9 MONITORING AND REPORTING

CWC 10632.

(a)(9) For an urban retail water supplier, 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.

The District's mechanisms to determine reductions in water use include daily production and distribution record review, and water meter auditing. Daily production and distribution records are monitored, enabling the District staff to determine if reduction goals are being met. The District's customers are alerted to actual water use increases or decreases. The District performs water meter auditing and monitoring of excessive water use for high volume users.

8.10 WSCP REFINEMENT PROCEDURES

CWC 10632.

(a)(10) 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 District's Water Shortage Contingency Plan has been prepared as an adaptive management plan. As discussed in Section 8.9, the District will monitor and report on the implementation of the Water Shortage Contingency Plan. The District will review the



implementation results for any current or potential shortage gaps between water supplies and demands. The District will evaluate the need for revising the Water Shortage Contingency Plan in order to resolve any shortage gaps, as necessary. The District will consider the following potential revisions in the event of a potential shortage gap:

- Implementation of additional public outreach, education, and communication programs (in addition to the programs discussed in Chapter 9).
- Implementation of more stringent water use restrictions under the standard water shortage levels (discussed in Section 8.4.1)
- Implementation of stricter enforcement actions and penalties (discussed in Section 8.6)
- Improvements to the water supply augmentation responses (discussed in Section 8.4.2), as well as any associated operational changes (discussed in Section 8.4.3) which may be required
- Incorporation of additional actions recommended by District staff or other interested parties

The District will use the monitoring and reporting data to evaluate the ability for these potential revisions to resolve any shortage gaps which may occur within the standard water shortage levels.

This Water Shortage Contingency Plan is adopted as part of the District's 2020 Urban Water Management Plan adoption process discussed in Section 10.3. It is anticipated the District will review, revise, and adopt an updated Water Shortage Contingency Plan as part of preparing its 2025 Urban Water Management Plan as necessary. However, the District will continue to review the monitoring and reporting data, and if needed, update the Water Shortage Contingency Plan more frequently. Any updates to the District's Water Shortage Contingency Plan will include a public hearing and adoption process by the District's Board (see Section 8.12).



8.11 SPECIAL WATER FEATURE DISTINCTION

CWC 10632.

(b) For purposes of developing the water shortage contingency plan pursuant to subdivision (a), an urban water supplier shall analyze and define water features 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.

The District's Water Shortage Contingency Plan defines "decorative water features" as water features which are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, but excluding pools and spas. In general, there are additional health and safety considerations in the water supplied to pools and spas compared to decorative water features. As a result, the District's Water Shortage Contingency Plan has reviewed the response actions, enforcement actions, and monitoring and reporting programs separately for decorative water features and for pools and spas, as applicable.

8.12 PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY

CWC 10632.

(a)(c) The urban water supplier shall make available the water shortage contingency plan prepared pursuant to this article to its customers and any city or county within which it provides water supplies no later than 30 days after adoption of the water shortage contingency plan.

The District's Water Shortage Contingency Plan is adopted as part of the District's 2020 Urban Water Management Plan adoption process discussed in Chapter 10. The process for adopting the District's Water Shortage Contingency Plan includes the following:



- The District will conduct a public hearing and make the Water Shortage Contingency Plan available for public inspection.
- The District will provide notification of the time and place of the public hearing to any city or county in which water is provided.
- The District will publish notice of public hearing in a newspaper once a week, for two successive weeks (with at least five days between publication dates).
- The District's Board will adopt the 2020 Urban Water Management Plan and the Water Shortage Contingency Plan
- As part of submitting the 2020 Urban Water Management Plan to DWR, the District will also submit the Water Shortage Contingency Plan (electronically through DWR's online submittal tool) within 30 days of adoption and by July 1, 2021. The District will submit a copy of the Water Shortage Contingency Plan to the California State Library and to any city or county in which water is provided within 30 days of adoption. In addition, the District will make the Water Shortage Contingency Plan available for public review within 30 days of adoption.

If there are any subsequent amendments required, the process for adopting an amended Water Shortage Contingency Plan includes the following:

- The District will conduct a public hearing and make the amended Water Shortage Contingency Plan available for public inspection.
- The District's Board will adopt the amended Water Shortage Contingency Plan
- The District will submit the amended Water Shortage Contingency Plan to DWR (electronically through DWR's online submittal tool) within 30 days of adoption

Additional information regarding the adoption, submittal, and availability of the District's Water Shortage Contingency Plan (and 2020 Urban Water Management Plan) is provided in Chapter 10.



CHAPTER 9

DEMAND MANAGEMENT MEASURES

LAY DESCRIPTION – CHAPTER 9

DEMAND MANAGEMENT MEASURES

Chapter 9 (Demand Management Measures) of the District's 2020 Plan discusses and provides the following:

- The District has implemented "Demand Management Measures" to reduce its water demands and achieve its water use targets (discussed in Chapter 5)
- The District's Demand Management Measures include adoption of an ordinance to prevent water waste.
- The District's Demand Management Measures include metering of all customer connections, including separate metering for single-family residential, commercial, industrial, large landscape and institutional/governmental facilities.
- The District's Demand Management Measures include public education and outreach programs regarding water conservation.
- The District's Demand Management Measures include various actions to assess and manage water distribution system losses.
- Additional Demand Management Measures including rebate, conservation, and educational programs are discussed.
- A summary of the Demand Management Measures the District has implemented over the past five (5) years is provided. The District met the 2020 Water Use Target (discussed in Chapter 5) through the implementation of these Demand Management Measures.



9.1 DEMAND MANAGEMENT MEASURES FOR WHOLESALE SUPPLIERS

CWC 10631.

(e) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1)(B) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:

(ii) Metering.

(iv) Public education and outreach.

(vi) Water conservation program coordination and staffing support.

(vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.

(2) For an urban wholesale water supplier, as defined in Section 10608.12, a narrative description of the items in clauses (ii), (iv), (vi), and (vii) of subparagraph (B) of paragraph (1), and a narrative description of its distribution system asset management and wholesale supplier assistance programs.

The District is not a wholesale agency and is not required by DWR to complete Section 9.1.



9.2 EXISTING DEMAND MANAGEMENT MEASURES FOR RETAIL SUPPLIERS

CWC 10631.

(e) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1)(A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measures that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

(B) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:

(i) Water waste prevention ordinances.

(ii) Metering.

(iii) Conservation pricing.

(iv) Public education and outreach.

(v) Programs to assess and manage distribution system real loss.

(vi) Water conservation program coordination and staffing support.

(vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.

9.2.1 WATER WASTE PREVENTION ORDINANCES

As discussed in Chapter 8, the District's Ordinance No. 62 (See Appendix J), passed by the Board of Directors on June 3, 2015, identifies various water waste restrictions and prohibitions for the four water supply shortage levels. As discussed in Section 8.4.1, measures to prevent water waste include landscape irrigation requirements during specified hours and days, laundry options at lodging establishments, restaurant requirements regarding dish water spray valves and serving drinking water upon request only, requirements regarding use of recirculated water in decorative water features,



prohibition of washing down hard or paved surfaces, limitations to washing vehicles, and requirements to repair leaks and breaks within a specified time period.

9.2.2 METERING

CWC 526.

(a) Notwithstanding any other provision of law, an urban water supplier that, on or after January 1, 2004, receives water from the federal Central Valley Project under a water service contract or subcontract... shall do both of the following:

(1) On or before January 1, 2013, install water meters on all service connections to residential and nonagricultural commercial buildings... located within its service area.

CWC 527.

(a) An urban water supplier that is not subject to Section 526 shall do both of the following:

(1) Install water meters on all municipal and industrial service connections located within its service area on or before January 1, 2025.

The District is fully metered for all customer sectors, including separate meters for single-family residential, multi-family residential, commercial, and industrial users. Furthermore, within the District if there is new development, each facility is individually metered.

The District began a meter replacement program in 2008 to replace manually read meters to a new more advanced Automatic Meter Reading System (AMR) technology that allowed staff to read the meters remotely. The District is spreading the cost of converting all manual read meters with AMR meters over a number of years.

9.2.3 PUBLIC EDUCATION AND OUTREACH

The District provides water conservation information to its customers regarding useful water conservation practices and any updated mandatory water use reductions and restrictions.



In coordination with MWD and CBMWD, a variety of water conservation public information programs are available to the public within the District. MWD's water education programs provide free teacher workshops, classroom materials, field trips, and class instruction to schools, including water conservation related education programs. More than 20,000 people viewed student artwork from MWD's "Water is Life" Student Art and Calendar program, which stresses the importance of water conservation. MWD has an education resources website promoting its Science-Technology-Engineering-Arts-Math (STEAM) programs for kindergarten through college aged students. The website hosts downloadable curriculum regarding water's critical role in society.

CBMWD offer a variety of water education programs such as outreach booths at community events, creating classroom curriculum, bottled water donations, speaking engagements, workshops, and educational tours. In addition, CBMWD's fun and informative water education program features Max the Water Dog, a water conservation superhero that visits community events to promote water conservation practices.

The District customers can also receive public information about water conservation through CBMWD's various public information programs. CBMWD offers educational information through its website, an interactive Blog, and various publication materials. CBMWD also raises awareness about water conservation by integrating social marketing strategies with existing programs.

9.2.4 PROGRAMS TO ASSESS AND MANAGE DISTRIBUTION SYSTEM REAL LOSS

The District strives to repair all leaks in a timely manner and to make sure all District meters are working. District staff attempts to respond to all emergency calls within 30 minutes. As discussed in Chapter 8, if a leak, break, or other malfunction is detected by



a customer, the customer has a limited timeframe after receiving notification in which to fix the problem, unless other arrangements have been made with the District.

The District was established in 1926 and has infrastructure constructed throughout its years of existence which the District's Board recognizes that it must replace. The District is committed to replacing all pipelines that are four-inch diameter and smaller with eight-inch diameter mains or larger. This replacement will reduce distribution leaks associated with older pipelines, and improve distribution system flow and fire protection. The District utilizes its 2008 Water System Master Plan to prioritize capital improvement projects, as well as taking advantage of combining projects with developer funded projects to help defray some of the construction costs.

The District conducts a meter testing program on commercial meters 3-inches or greater. As discussed in Section 9.2.2., the District is converting all its manual read meters with AMR meters. AMR meters have the ability to store water usage data internally and transmit the data through radio waves to District staff. This information is then provided to District billing staff to create the water bill. AMR technology allows District staff to accurately and more efficiently collect and review meter information, including information indicating potential water leaks.

9.2.5 WATER CONSERVATION PROGRAM COORDINATION AND STAFFING SUPPORT

The District has a water conservation committee that has been established to investigate and promote its conservation programs. In addition, CBMWD employs a full-time Management Analyst who promotes conservation programs that are available to the District's customers. CBMWD's program started in 2003. The conservation coordinator employed by CBMWD promotes CBMWD's water conservation programs and works directly with cities and water agencies like the District on enhancing water conservation efforts. In addition, CBMWD's water conservation coordinator does research on water



management practices and looks for federal, state and local funding programs that CBMWD, cities or retail water purveyors may utilize. Additional information about CBMWD's water conservation coordinator is provided in its 2020 Plan, which is incorporated by reference.

9.2.6 OTHER DEMAND MANAGEMENT MEASURES

MWD provides funding to its member agencies for locally administered conservation programs including rain barrel distribution, turf replacement programs, sustainable landscape irrigation programs, customer water use messaging, as well as residential water surveys. The District also provides information to its customers about various programs available from CBMWD and MWD.

The District participates in CBMWD's high-efficiency toilet (HET), and high-efficiency clothes washer (HECW) rebate programs and will continue to do so in the future. Customers in the District's service area can participate in CBMWD's Landscape Rotating Nozzles, Weather Based Irrigation Controller, and Soil Moisture Sensor System program that offers rebates through MWD's regional rebate program. In addition, CBMWD's Turf program offers rebates through MWD's program for replacement of the irrigated area with drought tolerant landscaping.

CBMWD also offers landscape classes to residences within its service area, including the District, to teach residents about water conservation and to reduce urban runoff. Additional information on CBMWD's water conservation programs is available in CBMWD's 2020 Plan, which is incorporated by reference.

The District plans to continue implementation of the programs described above to promote water conservation.



9.3 REPORTING IMPLEMENTATION

9.3.1 IMPLEMENTATION OVER THE PAST FIVE YEARS

CWC 10631.

(e) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) (A) ...a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years.

The District is committed to implementing water conservation programs and works collaboratively with CBMWD to provide water conservation programs for its customers. As a sub-agency of CBMWD, the District's customers have the benefit of participating in CBMWD's conservation efforts. The highlights of DMM implementation over the past five years are described below.

As discussed in Section 9.2.1, the District's Ordinance No. 62 (See Appendix J), passed by the Board of Directors on June 3, 2015, identifies various water waste restrictions .

As discussed in Section 9.2.2, the District metered all customer connections, including separate metering for single-family residential, multi-family residential commercial, industrial, large landscape and institutional/governmental facilities during the past five years. Furthermore, if there was new development within the District, each facility was individually metered. Service charges for the District are based on the customers' connection size.

As discussed in Section 9.2.3, the District in coordination with MWD and CBMWD, offer a variety of water conservation public information programs available to the public.



As discussed in Section 9.2.4, the District conducts meter testing on commercial meters 3-inches or greater. The District continues to convert all its manual read meters with AMR meters. AMR technology allows District staff to accurately and more efficiently collect and review meter information, including information indicating potential water leaks.

As described in Section 9.2.5, the District has a water conservation committee that has been established to investigate and promote its conservation programs. In addition, CBMWD's water conservation coordinator promotes conservation programs that are available to the residents of the District.

As described in Section 9.2.6, the District participates in MWD's regional rebate program, which is available to the District's residential and commercial customers. There are rebates available for indoor plumbing, including high efficiency clothes washers and toilets. Rebates are also available for outdoor plumbing include those for weather-based irrigation controllers, rotating sprinkler nozzles, and replacement of irrigated lawn with drought tolerant plants or other approved landscape options. The District's commercial customers are offered plumbing, landscaping, HVAC, and medical and dental equipment rebates.

9.3.2 IMPLEMENTATION TO ACHIEVE WATER USE TARGETS

CWC 10631.

(e)(1)(A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measures that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

The Demand Management Measures implemented by the District are discussed in Section 9.2. Descriptions regarding the nature and extent of these Demand Management Measures implemented by the District over the past five years are discussed in Section



9.3. The District will continue to implement these Demand Management Measures and other water conservation programs and work collaboratively with Central Basin Municipal Water District to provide water conservation programs for its customers.

As discussed in Section 5.5, the District's per-capita water use during CY 2020 was 114 GPCD. The District's confirmed 2020 Water Use Target is 142 GPCD. The District's per-capita water use during CY 2020 meets the 2020 Water Use Target and is in compliance. The District met the 2020 Water Use Target through the implementation of the Demand Management Measures discussed in Section 9.2. Continued implementation of these Demand Management Measures will assist the District in meeting water use targets and objectives.

9.4 WATER USE OBJECTIVES (FUTURE REQUIREMENTS)

DWR is currently developing Water Use Objectives pursuant to AB 1668 and SB 606. Beginning in 2024, water agencies, including the District, are required to begin reporting compliance of their Water Use Objectives consisting of indoor residential water use, outdoor residential water use, commercial, industrial and institutional, irrigation with dedicated meters, water loss, and other unique local uses. The District plans to meet its Water Use Objectives through continued implementation of the Demand Management Measures discussed in Section 9.2.



CHAPTER 10

PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

LAY DESCRIPTION – CHAPTER 10

PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

Chapter 10 (Plan Adoption, Submittal, and Implementation) of the District's 2020 Plan discusses and provides the following:

- The steps the District has performed to adopt and submit its 2020 Plan are detailed
- The steps the District has performed to adopt and submit its Water Shortage Contingency Plan are detailed
- The District coordinated the preparation of its 2020 Plan with the City of Pico Rivera and the County of Los Angeles. The District notified these agencies at least sixty (60) days prior to the public hearing of the preparation of the 2020 Plan and invited these agencies to participate in the development of the 2020 Plan.
- The District provided a notice of the public hearing to the same agencies regarding the time, date, and place of the public hearing.
- The District published a newspaper notification of the public hearing, once a week for two successive weeks
- The District conducted a public hearing to discuss and adopt the District's 2020 Plan and District's Water Shortage Contingency Plan.
- Within 30 days of adoption, the District submitted the 2020 Plan and Water Shortage Contingency Plan to the California Department of Water Resources.
- Within 30 days of adoption, the District submitted all data tables associated with the 2020 Plan to the California Department of Water Resources.



- Within 30 days of adoption, the District submitted a copy of the 2020 Plan to the State of California Library.
- Within 30 days of adoption, the District submitted a copy of the 2020 Plan (and Water Shortage Contingency Plan) to the County of Los Angeles Registrar-Recorder/ Clerk's office and the District's Office.
- Within 30 days after submittal of the 2020 Plan to the California Department of Water Resources, the District made the 2020 Plan (including the Water Shortage Contingency Plan) available at the District's Office and on the District's website.
- The steps the District will perform to amend the 2020 Plan and/or the Water Shortage Contingency Plan, if necessary, are provided.

10.1 INCLUSION OF ALL 2020 DATA

The data provided in the District's 2020 Plan and the Water Shortage Contingency Plan is provided on a calendar year basis (as discussed in Section 2.5).

10.2 NOTICE OF PUBLIC HEARING

The District's public hearing notification process for its 2020 Plan and the Water Shortage Contingency Plan is discussed below.



10.2.1 NOTICE TO CITIES AND COUNTIES

CWC 10621.

(b) Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

CWC 10642.

...The urban water supplier shall provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies. Notices by a local public agency pursuant to this section shall be provided pursuant to Chapter 17.5 (commencing with Section 7290) of Division 7 of Title 1 of the Government Code. A privately owned water supplier shall provide an equivalent notice within its service area...

10.2.1.1 60 DAY NOTIFICATION

As discussed in Section 2.6.2., the District coordinated the preparation of the 2020 Plan with cities and county within which the District provides water supplies, at least sixty (60) days prior to the public hearing of the preparation of the 2020 Plan and invited them to participate in the development of the Plan. A copy of the notification letters sent to these agencies is provided in Appendix D.

10.2.1.2 NOTICE OF PUBLIC HEARING

The District provided a notice of the public hearing to the City of Pico Rivera and the County of Los Angeles. The notice includes the time and place of the public hearing. To ensure that the Plan and the Water Shortage Contingency Plan were available for review, the District placed a copy of the draft 2020 Plan and the draft Water Shortage Contingency Plan at the District's Office and made a copy available for review on its website. Copies of the notice of the public hearing are provided in Appendix D.



10.2.1.3 SUBMITTAL TABLES

Table 10-1 summarizes the agencies which were provided notifications by the District.

Table 10-1 Notification to Cities and Counties

Submittal Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Pico Rivera	Yes	Yes
County Name <i>Drop Down List</i>	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Los Angeles County	Yes	Yes
NOTES:		



10.2.2 NOTICE TO THE PUBLIC

CWC 10642.

...Prior to adopting either, the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon. Prior to any of these hearings, notice of the time and place of the hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies.

Government Code 6066.

Publication of notice pursuant to this section shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. The period of notice commences upon the first day of publication and terminates at the end of the fourteenth day, including therein the first day.

The District encouraged the active involvement of the population within its service area prior to and during the preparation of the Plan. Pursuant to Section 6066 of the Government Code, the District published a notice of public hearing in the newspaper during the weeks of October 7, 2021 and October 13, 2021. A notice of public hearing was also provided to the District's office and was posted throughout the District's service area and on the District's website. A copy of the published notice is provided in Appendix D. To ensure the draft 2020 Plan and the draft Water Shortage Contingency Plan were available for review, the District placed a copy at the District's Office and made a copy available for review on its website.



10.3 PUBLIC HEARING AND ADOPTION

CWC 10642.

...Prior to adopting either, the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon.

CWC 10608.26.

(a) In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:

(1) Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.

(2) Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.

(3) Adopt a method, pursuant to subdivision (b) of Section 10608.20, for determining its urban water use target.

10.3.1 PUBLIC HEARING

Prior to adopting the draft 2020 Plan and the draft Water Shortage Contingency Plan, the District held a public hearing on October 20, 2021 which included input from the community regarding the District's draft 2020 Plan and the draft Water Shortage Contingency Plan. As part of the public hearing, the District adopted a method to determine of its water use targets through selection of Target Method 3 (see Section 5.2.1 and Appendix G). In addition, the District considered the economic impacts of meeting these water use targets; including measures described in Section 8.8.



10.3.2 ADOPTION

CWC 10642.

... After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing or hearings.

Following the public hearing, the District adopted both the draft 2020 Plan and the draft Water Shortage Contingency Plan (included in Chapter 8). A copy of the resolution adopting the 2020 Plan and the Water Shortage Contingency Plan is provided in Appendix M.

10.4 PLAN SUBMITTAL

CWC 10621.

(e) Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.

CWC 10644.

(a) (1) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption.

CWC 10635.

(c) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.

The District's submittal process for its 2020 Plan and the Water Shortage Contingency Plan is discussed below.



10.4.1 SUBMITTING A UWMP AND WATER SHORTAGE CONTINGENCY PLAN TO DWR

Within 30 days of adoption of the 2020 Plan by the Board of Directors, the District submitted the adopted 2020 Plan (including the Water Shortage Contingency Plan) to DWR. The 2020 Plan and Water Shortage Contingency Plan were submitted through DWR's "Water Use Efficiency (WUE) Data Portal" website.

DWR developed a checklist which was used by the District to assist DWR with its determination that the District's 2020 Plan has addressed the requirements of the California Water Code. The District has completed the DWR checklist by indicating where the required CWC elements can be found within the District's 2020 Plan (See Appendix C).

10.4.2 ELECTRONIC DATA SUBMITTAL

CWC 10644.

(a)(2) The plan, or amendments to the plan, submitted to the department ...shall be submitted electronically and shall include any standardized forms, tables, or displays specified by the department.

Within 30 days of adoption of the 2020 Plan, the District submitted all data tables associated with the 2020 Plan through DWR's "Water Use Efficiency Data Portal" website.

10.4.3 SUBMITTING A UWMP, INCLUDING WSCP, TO THE CALIFORNIA STATE LIBRARY

Within 30 days of adoption of the 2020 Plan by the District, a copy (CD or hardcopy) of the 2020 Plan was submitted to the State of California Library. A copy of the letter to the



State Library will be maintained in the District's file. The 2020 Plan will be mailed to the following address if sent by regular mail:

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

The 2020 Plan will be mailed to the following address if sent by courier or overnight carrier:

California State Library
Government Publications Section
Attention: Coordinator, Urban Water Management Plans
900 N Street
Sacramento, CA 95814

10.4.4 SUBMITTING A UWMP TO CITIES AND COUNTIES

Within 30 days of adoption of the 2020 Plan (including the Water Shortage Contingency Plan) by the District, a copy of the 2020 Plan was submitted to the County of Los Angeles Registrar / Recorder's office and the District's office. A copy of the letter to the County of Los Angeles will be maintained in the District's file.



10.5 PUBLIC AVAILABILITY

CWC 10645.

(a) Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

(b) Not later than 30 days after filing a copy of its water shortage contingency plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

Within 30 days after submittal of the 2020 Plan to DWR, the District made the 2020 Plan (including the Water Shortage Contingency Plan) available at the District's office during normal business hours and on the District's website.

10.6 NOTIFICATION TO PUBLIC UTILITIES COMMISSION

CWC 10621.

(c) An urban water supplier regulated by the Public Utilities Commission shall include its most recent plan and water shortage contingency plan as part of the supplier's general rate case filings.

The District is not regulated by the California Public Utilities Commission.



10.7 AMENDING AN ADOPTED UWMP OR WATER SHORTAGE CONTINGENCY PLAN

CWC 10621.

(d) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

CWC 10644.

(a)(1) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

The District's amendment process for its 2020 Plan is discussed below.

10.7.1 AMENDING A UWMP

If the District amends the adopted 2020 Plan, the amended Plan will undergo adoption by the Board of Directors. Within 30 days of adoption, the amended Plan will then be submitted to DWR, the State of California Library, the County of Los Angeles Registrar / Recorder's office, and the District's office.



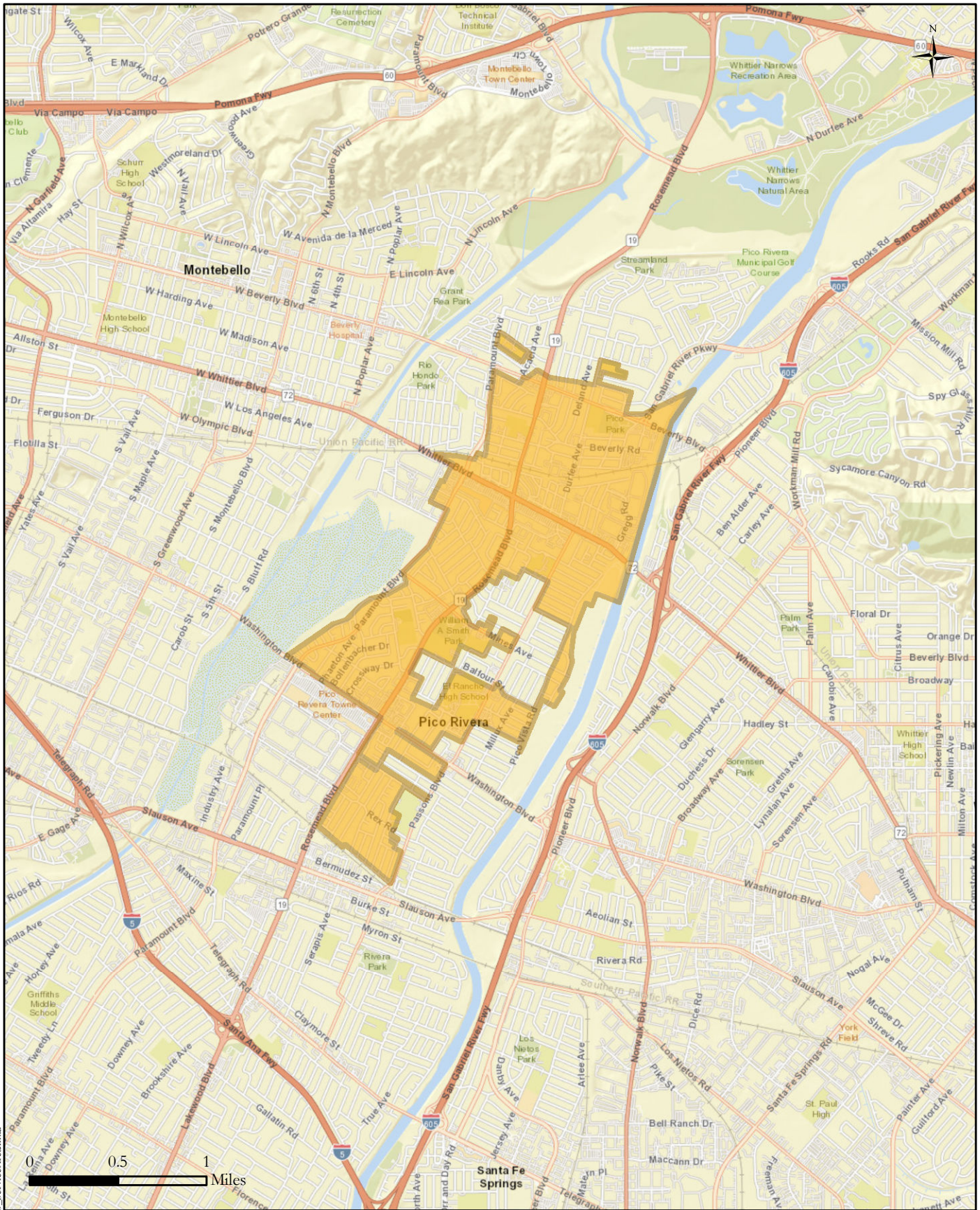
10.7.2 AMENDING A WATER SHORTAGE CONTINGENCY PLAN

CWC 10644.

(b) If an urban water supplier revises its water shortage contingency plan, the supplier shall submit to the department a copy of its water shortage contingency plan prepared pursuant to subdivision (a) of Section 10632 no later than 30 days after adoption, in accordance with protocols for submission and using electronic reporting tools developed by the department.

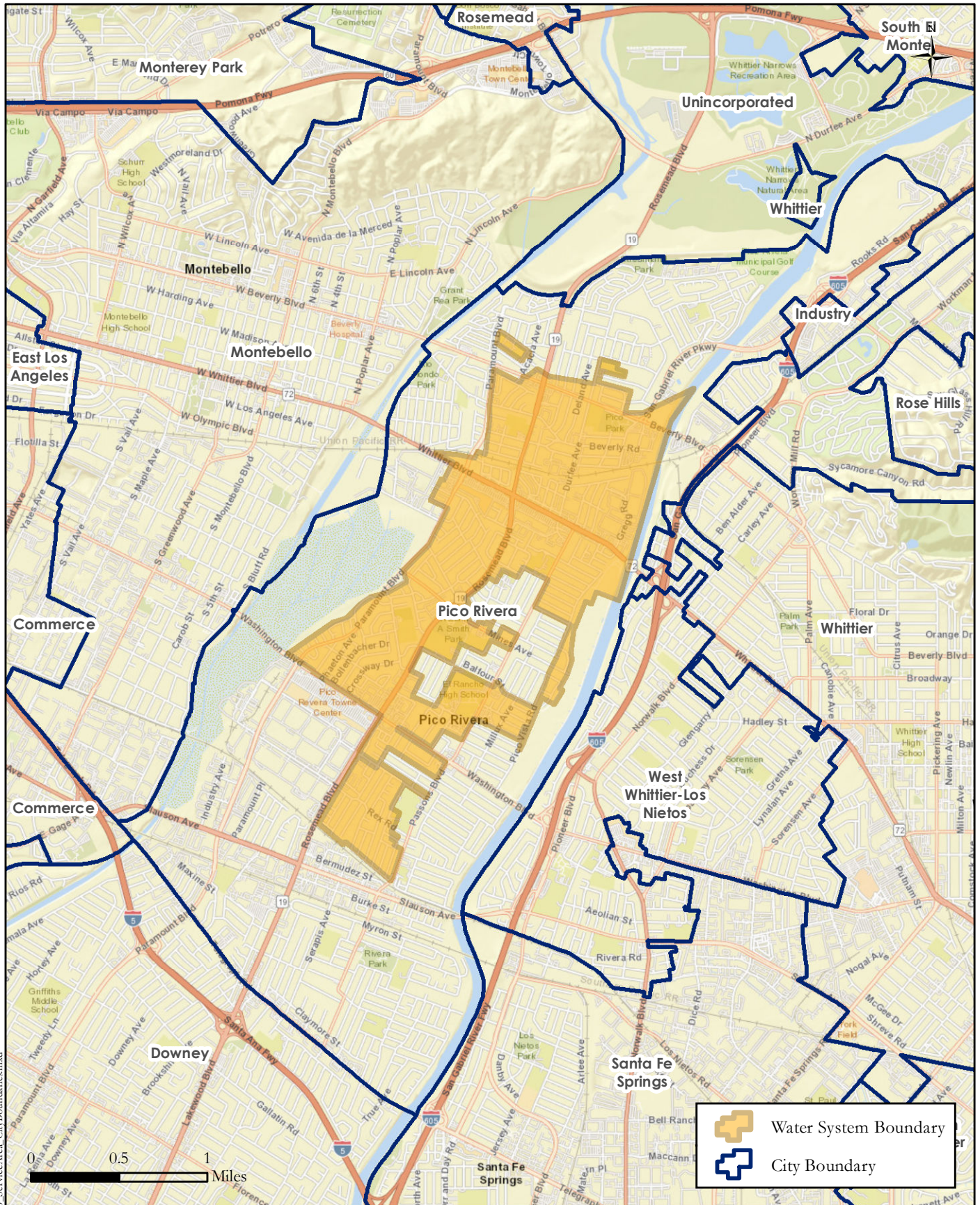
If the District amends the adopted 2020 Plan (including the Water Shortage Contingency Plan), the amended Plan (and Water Shortage Contingency Plan) will undergo adoption by the Board of Directors. Within 30 days of adoption, the amended Plan (and Water Shortage Contingency Plan) will then be submitted to DWR, the State of California Library, the County of Los Angeles Registrar / Recorder's office, and the District's office.

FIGURE 1



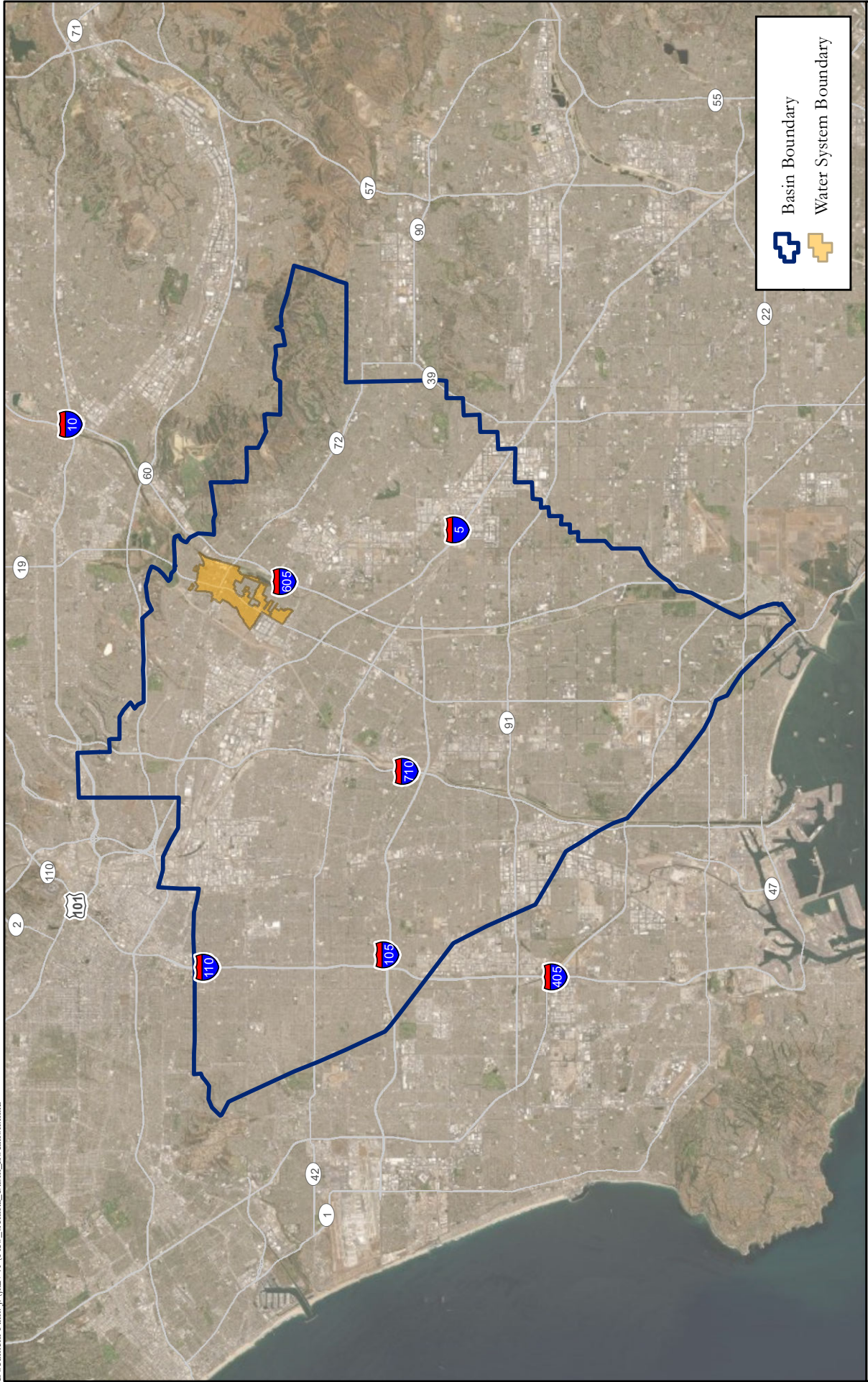
PICO WATER DISTRICT WATER SERVICE AREA

FIGURE 2

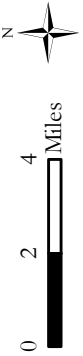


PICO WATER DISTRICT WATER SERVICE AREA AND CITY BOUNDARIES

FIGURE 3



Basin Boundary
Water System Boundary



PICO WATER DISTRICT
CENTRAL BASIN LOCATION

