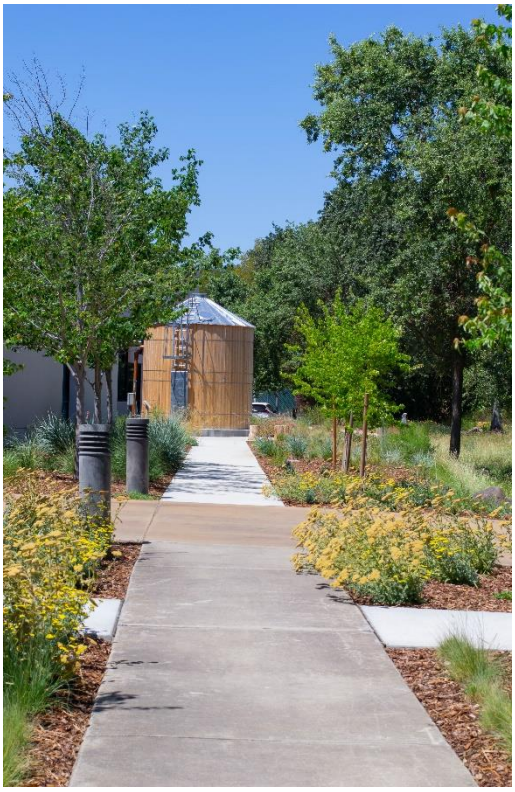
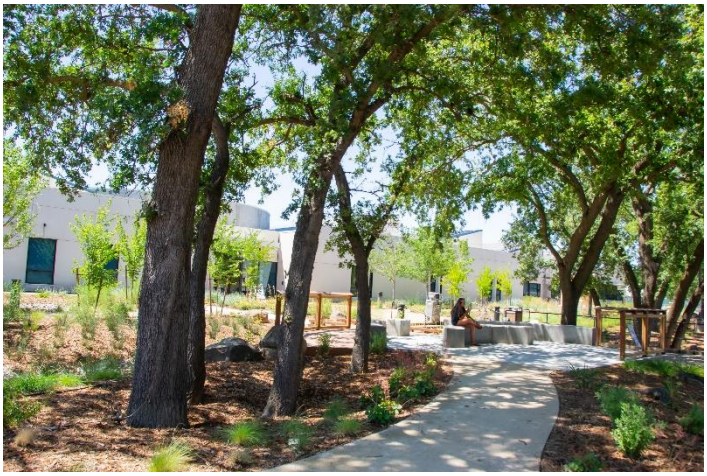
FINAL REPORT | JUNE 2021

City of Sacramento
2020 Urban Water Management Plan





JOINTLY PREPARED BY

City of SACRAMENTO

WEST YOST
Water. Engineered.

2020 Urban Water Management Plan

Prepared for

City of Sacramento

Project No. 038-60-19-53

Project Manager: Elizabeth Drayer, PE	06-30-21 Date
QA/QC Review: Brenda Estrada, PE	06-30-21 Date

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FINAL REPORT | JUNE 2021

Table of Contents

Table of Contents

Table of Contents

Table of Contents

Table of Contents

Table of Contents

LIST OF TABLES

Table of Contents

Table of Contents

Table of Contents

Table of Contents

LIST OF FIGURES

LIST OF APPENDICES

Table of Contents

LIST OF ACRONYMS AND ABBREVIATIONS

°F	Degrees Fahrenheit
µg/L	Micrograms per Liter
2016 LHMP	2016 Sacramento Countywide Local Hazard Mitigation Plan Update
AB	Assembly Bill
Act	Urban Water Management Planning Act
ADWF	Average Dry Weather Flow
AF	Acre-feet
AFB	Air Force Base
AFY	Acre-feet of Water per Year
AMI	Advanced Metering Infrastructure
ARBS	American River Basin Study
AWIA	America's Water Infrastructure Act
AWSDA	Annual Water Supply and Demand Assessment
AWWA	American Water Works Association
Basin	American River Basin
Cal Am	California American Water Company
CalWEP	California Water Efficiency Partnership
CAP	Climate Action Plan
CCR	Consumer Confidence Report
CDoF	California Department of Finance
cfs	Cubic Feet per Second
CIMIS	California Irrigation Management Information System
City	City of Sacramento
Cogen	Cogeneration Facility
County	Sacramento County
Cr 6	Hexavalent Chromium
CSS	Combined Sewer System
CUWCC	California Urban Water Conservation Council
CWC	California Water Code
CWTP	Combined Wastewater Treatment Plant
DBP	Disinfection By-Product
DCE	Cis-1,2-Dichloroethene
DDW	Division of Drinking Water
DMM	Demand Management Measures
DOF	California Department of Finance
DOU	Department of Utilities
DRA	Drought Risk Assessment
DWR	California Department of Water Resources
DWR Guidebook	Department of Water Resources' 2020 Urban Water Management Plan Guidebook
DWR Methodologies	DWR Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use (2016)
EAFWTP	E.A. Fairbairn Water Treatment Plant

ETo	Evapotranspiration
FVWC	Fruitridge Vista Water Company
GHG	Greenhouse Gas Emissions
GMP	Groundwater Management Plan
GPCD	Gallons per Capita per Day
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
kWh	kilowatt hour
Legislature	California State Legislature
MAF	Million Acre-Feet
MCL	Maximum Contaminant Level
MGD	Million Gallons per Day
MTBE	Methyl Tert-Butyl Ether
NAICS	North American Industry Classification System
NDMA	N-Nitrosodimethylamine
PCE	Tetrachloroethene
POU	Place of Use
PSA	Purveyor Specific Agreement
psi	Pounds per Square Inch
RHNP	Regional Housing Needs Plan
RRA	Risk and Resilience Assessment
RUWMP	Regional Urban Water Management Plan
RWA	Regional Water Authority
RWFS	January 2015 Recycled Water Feasibility Study
SACOG	Sacramento Area Council of Governments
SASD	Sacramento Area Sewer District
SB	Senate Bill
SB X7-7	Senate's Seventh Extraordinary Session of 2009
SCC	Sacramento City Code
SCGA	Sacramento Central Groundwater Authority
SCWA	Sacramento County Water Agency
Settlement Contract	Water Rights Settlement Contract
SGA	Sacramento Groundwater Authority
SGMA	Sustainable Groundwater Management Act of 2014
SMWA	Sacramento Metropolitan Water Authority
SOI	Sphere of Influence
SPA	Sacramento Power Authority
SRWTP	Sacramento River Water Treatment Plant
SRWWTP	Sacramento Regional Wastewater Treatment Plant
SSA	South Service Area
SSS	Separated Sewer System
SSWD	Sacramento Suburban Water District

SWRCB	State Water Resources Control Board
TAF	Thousand Acre-feet
Target	2020 Urban Water Use Target
TCE	Trichloroethene
UARP	SMUD Upper American River Project
UCERF III	Uniform California Earthquake Rupture Forecast
URWS	Urban Retail Water Suppliers
USBR	United States Bureau of Reclamation
UWMP	Urban Water Management Plan
WEP	Water Efficiency Program
WFA	January 2000 Water Forum Agreement
WRCC	Western Regional Climate Center
WRF	Water Reclamation Facility
WSCP	Water Shortage Contingency Plan
WTP	Water Treatment Plant

Executive Summary

INTRODUCTION

An Urban Water Management Plan (UWMP) helps water suppliers assess the availability and reliability of their water supplies and current and projected water use to help ensure reliable water service under different conditions. This water supply planning is especially critical for California currently, as climate change is resulting in changes in rainfall and snowfall which impact water supply availability and development is occurring throughout the State resulting in increased needs for reliable water supplies. The Urban Water Management Planning Act (Act) requires larger water suppliers that provide water to urban users (whether directly or indirectly) to develop UWMPs every five years. UWMPs evaluate conditions for the next 20 years, so these regular updates ensure continued long-term planning.

Since the City of Sacramento (City) provides water service directly to more than 3,000 connections, it is required to prepare a UWMP.

This Executive Summary serves as a Lay Description of the City's UWMP, as required by California Water Code §10630.5.

CALIFORNIA WATER CODE REQUIREMENTS

The California Water Code documents specify requirements for California water suppliers. The Act is included in the California Water Code and specifies the required elements of a UWMP, including discussing the City's water system and facilities, calculating how much water its customers use (i.e., water demand) and how much the City can supply, and detailing how the City would respond during a drought or other water supply shortage. Also, a UWMP must describe what specific coordination steps were taken to prepare, review, and adopt the plan.

The Act has been revised over the years. The Water Conservation Act of 2009 (also known as SB X7-7) required retail water agencies to establish water use targets for 2015 and 2020 that would result in statewide water savings of 20 percent by 2020. In 2020, retail agencies are required to report on their compliance with SB X7-7.

The 2012 to 2016 drought led to further revisions to the Act under the 2018 Water Conservation Legislation to improve water supply planning for long-term reliability and resilience to drought and climate change. Changes presented by the legislation include:

- Five Consecutive Dry-Year Water Reliability Assessment: Analyze water supply reliability for five consecutive dry years over the planning period of this UWMP (see Chapter 7).
- Drought Risk Assessment: Assess water supply reliability from 2021 to 2025, assuming that the next five years are dry years (see Chapter 7).
- Seismic Risk: Identify the seismic risk to the water supplier's facilities and have a plan to address the identified risks; the region's Local Hazard Mitigation Plan may address this requirement (see Chapter 8).
- Energy Use Information: Include reporting on the amount of electricity used to obtain, treat, and distribute water if data is available (see Chapter 6).

- Water Shortage Contingency Plan (WSCP): Update the water supplier's plan to include an annual process for assessing potential gaps between planned supply and demands; conform with the State's standard water shortage levels (including a shortage level greater than 50 percent) for consistent messaging and reporting; and provide water shortage responses that are locally appropriate (see Chapter 8).
- Lay Description: Provide a lay description of the findings of the UWMP; this Executive Summary serves as the Lay Description for this 2020 UWMP.

The major components of the City's 2020 UWMP, including its findings, are summarized below.

CITY OF SACRAMENTO WATER SERVICE AREA AND FACILITIES

The City's water facilities produce, treat, store, and deliver drinking water to its retail and wholesale customers. The City's retail water customers are located predominantly within the corporate limits of the City and foreseeable future expansions of the City limits. The City's retail water service area covers an area of approximately 101 square miles (64,425 acres). The City also serves a small number of customers outside the City limits in an adjacent, unincorporated portion of Sacramento County, but does not serve a small portion of residents inside the City limits who receive their water from Sacramento Suburban Water District (SSWD). The population of these two areas are roughly equivalent. In addition, the Sacramento Power Authority's (SPA) Cogeneration (Cogen) Facility is located outside of the City limits and currently receives potable water from the City and recycled water through a partnership with the Regional Sanitation District. Wholesale water service is where the City serves water from the City's entitlements to other agencies. The City's current wholesale customers include Sacramento County Water Agency, Sacramento Suburban Water District, and California American Water Company. The City also wheels water to Sacramento County Water Agency Zone 40. Wheeling service is where the City diverts, treats, and conveys water to another agency using that agency's water supply entitlements.

The City treats surface water diverted from the Sacramento and American Rivers with two water treatment facilities: the Sacramento River Water Treatment Plant and the E.A. Fairbairn Water Treatment Plant. The City also produces water from its groundwater wells throughout its water service area. The City operates an extensive network of water pipelines, tanks, and pumping facilities to deliver that drinking water to its retail and wholesale customers.

CITY OF SACRAMENTO WATER USE CHARACTERIZATION

The City anticipates population growth and future planned development in its water service area, which would increase their demand for water. Thorough and accurate accounting of current and future water demands is critical for the City's planning efforts. To continue delivering safe and reliable drinking water, the City must know how much water its customers currently use and how much they expect to use in the future.

Based on the anticipated growth, the City's retail water use is expected to increase by approximately 32 percent by 2045. The City expects to continue to deliver water to its current wholesale customers and by 2030, to deliver water to new wholesale customers.

CITY OF SACRAMENTO WATER SUPPLIES

The City has the following existing water supplies:

- Surface water diverted from the Sacramento River, which is treated at the Sacramento Water Treatment Plant
- Surface water diverted from the American River, which is treated at the E.A. Fairbairn Water Treatment Plant
- Groundwater pumped from City-owned and operated wells from the underlying North American and South American subbasins

To reliably meet current and future water demands, the City is evaluating several projects to increase the long-term water treatment capacities. The first project the City is considering is the expansion of the Sacramento River Water Treatment Plant. The second project the City is considering is RiverArc project, which is proposed to be a new regional water treatment plant that could benefit the greater Sacramento area.

In addition to considering the Sacramento River Water Treatment Plant expansion or the RiverArc Water Treatment Plant projects, the City's on-going Water Master Plan Update recommends for the City to continue to plan for the rehabilitation of the E.A. Fairbairn Water Treatment Plant and the retrofit of the existing intake at the Sacramento Water Treatment Plant. The City's Groundwater Master Plan recommended for the City to expand its groundwater program.

CONSERVATION TARGET COMPLIANCE

In accordance with SB X7-7, the City must meet a per capita water use target of 225 gallons per person per day by 2020 for its water service area. Looking at the City's water service area population and water use in 2020, the City met and exceeded its water conservation target with a per capita water use of 169 gallons per person per day.

WATER SERVICE RELIABILITY AND DROUGHT RISK ASSESSMENT

The California Water Code requires water suppliers to evaluate their water service reliability by examining the impact of drought on their water supplies and comparing those reduced supplies to water demands. Specifically, agencies should calculate their water supplies during a single dry year and five consecutive dry years using historical records.

The City is well-positioned to withstand the effects of a single dry year and a five-year drought at any period between 2025 and 2045. The City's drought risk was specifically assessed between 2021 and 2025, assuming that the next five years are dry years. In each case, water supplies comfortably exceed water demands. This remains true whether the drought occurs in 2021, 2045, or any year between.

WATER SHORTAGE CONTINGENCY PLAN

A WSCP describes an agency's plan for preparing and responding to water shortages. The City updated its WSCP to include its process for assessing potential gaps between planned water supply and demands for current year and the next potentially dry year. It aligned its water service area's water shortage levels with the State for consistent messaging and reporting and planned for locally appropriate water shortage responses. The WSCP may be used for foreseeable and unforeseeable events. The updated WSCP is adopted concurrently with this UWMP by separate resolution so that it may be updated as necessary to adapt to changing conditions.

UWMP PREPARATION, REVIEW AND ADOPTION

The City developed this 2020 UWMP in coordination with its current wholesale customers. While preparing its UWMP, City notified other stakeholders (e.g., Sacramento County and the general public) of its preparation, its availability for review, and the public hearing prior to adoption. The City encouraged community participation in the development of the 2020 UWMP using newspaper advertisements and web-based communication. These public notices included the time and place of the public hearing, as well as the location where the plan would be available for public inspection.

The public hearing provided an opportunity for the City's water users and the general public to become familiar with the 2020 UWMP and ask questions about the City's water supply, its continuing plans for providing a reliable, safe, high-quality water supply, and its plans to address potential water shortages. Following the public hearing, the Sacramento City Council adopted the 2020 UWMP on June 29, 2021. A copy of the adopted Plan was provided to the Department of Water Resources and is available on the City's website: www.cityofsacramento.org.

CHAPTER 1
Introduction

This chapter provides an introduction and overview of the City of Sacramento (City) 2020 Urban Water Management Plan (UWMP) including the importance and extent of the City's water management planning efforts, changes since the preparation of the City's 2015 UWMP, and the organization of the City's 2020 UWMP. This 2020 UWMP has been prepared jointly by City staff and West Yost.

1.1 INTRODUCTION

The Urban Water Management Planning Act (Act) was originally established by Assembly Bill (AB) 797 on September 21, 1983. Passage of the Act was recognition by state legislators that water is a limited resource and a declaration that efficient water use and conservation would be actively pursued throughout the state. The primary objective of the Act is to direct "urban water suppliers" to develop a UWMP which provides a framework for long-term water supply planning, and documents how urban water suppliers are carrying out their long-term resource planning responsibilities to ensure adequate water supplies are available to meet existing and future water demands. A copy of the current version of the Act, as incorporated in Sections 10610 through 10657 of the California Water Code, is provided in Appendix A of this plan.

1.2 IMPORTANCE AND EXTENT OF CITY'S WATER MANAGEMENT PLANNING EFFORTS

The purpose of the UWMP is to provide a planning tool for the City for developing and delivering municipal water supplies to the City's water service area. This UWMP provides the City with a water management action plan for guidance as water supply and demand conditions change.

Further, changes to the Act since 2015 require updates to the City's previously updated and adopted Water Shortage Contingency Plan (WSCP). The WSCP is part of this UWMP and provides a plan for response to various water supply shortage conditions.

The City has had a long history of providing clean and reliable water to its customers. The City's UWMP is a comprehensive guide for planning for a safe and adequate water supply.

1.3 CHANGES FROM 2015 UWMP

The Act has been modified over the years in response to the State's water shortages, droughts and other factors. A significant amendment was made in 2009, after the 2007 to 2009 drought, and as a result of the Governor's call for a statewide 20 percent reduction in urban water use by the year 2020. This was the Water Conservation Act of 2009, also known as Senate Bill (SB) Seven of the Senate's Seventh Extraordinary Session of 2009 (SB X7-7). This act required agencies to establish water use targets for 2015 and 2020 that would result in statewide water savings of 20 percent by 2020. The 2012 to 2016 drought led to further amendments to the California Water Code (CWC) to improve on water supply planning for long-term reliability and resilience to drought and climate change.

Summarized below are the major additions and changes to the CWC since the City's 2015 UWMP was prepared:

- **Five Consecutive Dry-Year Water Reliability Assessment:** The California State Legislature (Legislature) modified the dry-year water reliability planning from a "multi-year" time period to a "drought lasting five consecutive water years" designation. This statutory change requires the urban water supplier to analyze the reliability of its water supplies to meet its water use over an extended drought period. This requirement is addressed in the water use assessment presented in Chapter 4, the water supply analysis presented in Chapter 6, and the water reliability determinations in Chapter 7 of this plan. (CWC §10635(a))
- **Drought Risk Assessment:** The Legislature created a new UWMP requirement for drought planning because of the significant duration of recent California droughts and the predictions about hydrologic variability attributable to climate change. The Drought Risk Assessment (DRA) requires the urban water supplier to assess water supply reliability over a five-year period from 2021 to 2025 that examines water supplies, water uses, and the resulting water supply reliability under a reasonable prediction for five consecutive dry years. The DRA is discussed in Chapter 7 based on the water use information in Chapter 4, the water supply analysis is presented in Chapter 6, and the water reliability determinations are discussed in Chapter 7 of this plan. (CWC §10635(b))
- **Seismic Risk:** The Water Code now requires urban water suppliers to specifically address seismic risk to various water system facilities and to have a mitigation plan. Water supply infrastructure planning is correlated with the regional hazard mitigation plan associated with the urban water supplier. The City's seismic risk is discussed in Chapter 8 of this plan. (CWC §10632.5)
- **Energy Use Information:** The Water Code now requires Suppliers to include readily obtainable information on estimated amounts of energy for their water supply extraction, treatment, distribution, storage, conveyance, and other water uses. The reporting of this information was voluntary in 2015. The City's energy use information is provided in Chapter 6 of this plan. (CWC §10631.2)
- **Water Loss Reporting for Five Years:** The Water Code added the requirement to include the past five years of water loss audit reports as part of this UWMP. The City's water loss reporting is provided in Chapter 4 of this plan. (CWC §10608.34)
- **Water Shortage Contingency Plan:** In 2018, the Legislature modified the UWMP laws to require a WSCP with specific elements. The WSCP is a document that provides the urban water supplier with an action plan for a drought or catastrophic water supply shortage. Although the new requirements are more prescriptive than previous versions, many of these elements have long been included in WSCPs, other sections of UWMPs, or as part of the urban water supplier's standard procedures and response actions. Many of these actions were implemented by the urban water suppliers during the last drought to successfully meet changing local water supply challenges. The WSCP is used by the California Department of Water Resources (DWR), the State Water Board, and the Legislature in addressing extreme drought conditions or statewide calamities that impact water supply availability. The City's WSCP is discussed in Chapter 8 of this plan and included as an appendix to this plan. (CWC §10632)

- **Groundwater Supply Coordination:** In 2014, the Legislature enacted the Sustainable Groundwater Management Act to address groundwater conditions throughout California. CWC now requires 2020 UWMPs to be consistent with Groundwater Sustainability Plans in areas where those plans have been completed by Groundwater Sustainability Agencies. This requirement is addressed in Chapter 6 of this plan. (CWC §10631(b)(4))
- **Lay Description:** The Legislature included a new statutory requirement for the urban water supplier to include a lay description of the fundamental determinations of the UWMP, especially regarding water service reliability, challenges ahead, and strategies for managing reliability risks. This section of the UWMP could be viewed as a go-to synopsis for new staff, new governing members, customers, and the media, and it can ensure a consistent representation of the Supplier's detailed analysis. The lay description is included in the Executive Summary of this plan. (CWC §10630.5)
- **Water Loss Management:** The Legislature included a requirement for urban water suppliers to report on their plan to meet the water loss performance standards in their 2020 UWMPs. This requirement is addressed in the Demand Management Measures presented in Chapter 9 of this plan. (CWC §10608.34(a) (1))

1.4 PLAN ORGANIZATION

This 2020 UWMP contains the appropriate sections and tables required per CWC Division 6, Part 2.6 (Urban Water Management Planning Act), included in Appendix A of this 2020 UWMP, and has been prepared based on guidance provided by DWR in their *2020 Urban Water Management Plan Guidebook* (DWR Guidebook).

This 2020 UWMP is organized into the following chapters:

- Chapter 1: Introduction
- 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

This 2020 UWMP also contains the following appendices of supplemental information and data related to the City's 2020 UWMP:

- Appendix A: Legislative Requirements
- Appendix B: DWR 2020 Urban Water Management Plan Tables
- Appendix C: DWR 2020 Urban Water Management Plan Checklist
- Appendix D: Agency and Public Notices
- Appendix E: Distribution System Water Loss Audits
- Appendix F: SB X7-7 Compliance Form
- Appendix G: Water Forum Agreement – Purveyor Specific Agreement
- Appendix H: Recycled Water Feasibility Study Executive Summary
- Appendix I: Principles of Agreement for Recycling Water Program
- Appendix J: Water Shortage Contingency Plan
- Appendix K: Sacramento City Code Chapter 13.04 Water Service System
- Appendix L: 2019 Water Efficiency Report
- Appendix M: Water Conservation Program Information
- Appendix N: UWMP and WSCP Adoption Resolutions

Furthermore, this 2020 UWMP contains all the tables recommended in the DWR Guidebook, both embedded into the UWMP chapters where appropriate and included in Appendix B.

DWR's Urban Water Management Plan Checklist, as provided in the DWR Guidebook, has been completed by West Yost to demonstrate the plan's compliance with applicable requirements. A copy of the completed checklist is included in Appendix C.

CHAPTER 2
Plan Preparation

This chapter describes the preparation of the City's 2020 UWMP and Water Shortage Contingency Plan, including the basis for the preparation of the plan, individual or regional planning, fiscal or calendar year reporting, units of measure, and plan coordination and outreach.

2.1 BASIS FOR PREPARING A PLAN

The Act requires every "urban water supplier" to prepare and adopt a UWMP, to periodically review its UWMP 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 per year (AFY).

The City is both a water retailer and a water wholesaler and manages Water System CA3410020. As shown in Table 2-1, in 2020, the City provided water to 142,946 customer connections and supplied 100,483 AF of water in 2020 to wholesale and retail customers. Therefore, the City is required to prepare a UWMP. The City's last UWMP, the 2015 UWMP, was adopted by the City Council on June 21, 2016. This 2020 UWMP updates the 2015 UWMP and the City's WSCP.

Table 2-1. Public Water Systems (DWR Table 2-1 Retail)

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 *
Add additional rows as needed			
CA3410020	Sacramento, City of	142,946	100,483
	TOTAL	142,946	100,483
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Units are in acre-feet (AF). Volume includes wholesale and retail deliveries. The number of municipal connections does not include fire service connections.			

2.2 REGIONAL PLANNING

As described in Section 2.3 below, the City has prepared this 2020 UWMP on an individual reporting basis, not part of a regional planning process.

2.3 INDIVIDUAL OR REGIONAL PLANNING AND COMPLIANCE

This 2020 UWMP has been prepared on an individual reporting basis covering only the City's service area (see Table 2-2). The City does not participate in a regional alliance, and it has not prepared a Regional Urban Water Management Plan (RUWMP). As described below in Section 2.5, the City has notified and coordinated planning and compliance with appropriate regional agencies and constituents.

Table 2-2. Plan Identification (DWR Table 2-2)

Select Only One	Type of Plan		Name of RUWMP or Regional Alliance *if applicable* (select from drop down list)
☑	**Individual UWMP**		
	☐	Water Supplier is also a member of a RUWMP	
	☐	Water Supplier is also a member of a Regional Alliance	
☐	**Regional Urban Water Management Plan (RUWMP)**		

2.4 FISCAL OR CALENDAR YEAR AND UNITS OF MEASURE

The City is a water wholesaler and a water retailer. The City's 2020 UWMP has been prepared on a calendar year basis, with the calendar year starting on January 1 and ending on December 31 of each year. Water use and planning data for the entire calendar year of 2020 has been included. The water volumes in this 2020 UWMP are reported in units of AF.

The City's reporting methods for this 2020 UWMP are summarized in Table 2-3.

Table 2-3. Supplier Identification (DWR Table 2-3)

Type of Supplier (select one or both)	
☑	Supplier is a wholesaler
☑	Supplier is a retailer
Fiscal or Calendar Year (select one)	
☑	UWMP Tables are in calendar years
☐	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
Units of measure used in UWMP * (select from drop down)	
Unit	AF
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*	
NOTES: Units are in acre-feet (AF).	

2.5 COORDINATION AND OUTREACH

This section includes a discussion of the City's inter-agency coordination and coordination with the general public. The Act requires the City to coordinate the preparation of its UWMP and updates to its WSCP with other appropriate agencies and all departments within the City, including other water suppliers that share a common source, water management agencies, and relevant public agencies. These agencies, as well as the public, participated in the coordination and preparation of this 2020 UWMP, and are summarized below.

2.5.1 Wholesale and Retail Coordination

The City does not rely upon a wholesale agency for water supply. Therefore, Table 2-4 is intentionally blank.

Table 2-4. Retail Water Supplier Information Exchange (DWR Table 2-4 Retail)

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
NOTES: The City does not rely upon a wholesale agency for water supply.

In 2020, the City provided wholesale water service to four agencies: Sacramento County Water Agency (SCWA), Sacramento Suburban Water District (SSWD), California American Water Company (Cal Am), and Natomas Unified School District. Also, as part of a groundwater substitution transfer, in 2018 the City received water from SSWD, and in 2020 the City received water from SSWD and SCWA. In accordance with CWC Section 10631, as shown in Table 2-5, the City provided water supply information to the agencies that currently receive or may receive wholesale water supplies in the future. Similarly, the City obtained water demand projections from those agencies in five-year increments, from 2020 to 2045.

Table 2-5. Wholesale Water Supplier Information Exchange (DWR Table 2-4 Wholesale)

☐	Supplier has informed more than 10 other water suppliers of water supplies available in accordance with Water Code Section 10631. Completion of the table below is optional. If not completed, include a list of the water suppliers that were informed.
2-4	**Provide page number for location of the list.**
☑	Supplier has informed 10 or fewer other water suppliers of water supplies available in accordance with Water Code Section 10631. **Complete the table below.**
Water Supplier Name	
Add additional rows as needed	
Sacramento County Water Agency	
Sacramento Suburban Water District	
Golden State Water Company	
Del Paso Manor Water District	
California American Water Company	
Tokay Park	
Florin County Water District	
Natomas Unified School District	

2.5.2 Coordination with Other Agencies and the Community

The City actively encourages community participation in water management activities and specific water-related projects. The City's public participation program includes providing and obtaining input from the community through mailings, public meetings, and web-based communication. The City's website describes on-going projects and posts announcements of planned rate increases to fund these water projects.

As part of the 2020 UWMP and WSCP update, the City facilitated a public review period. Public noticing, pursuant to Section 6066 of the Government Code, was conducted prior to commencement of a public comment period. Public hearing notices are included in Appendix D of this plan. During the public comment period, the Draft UWMP, which includes an updated WSCP, was made available on the City's website and at City offices, library, and City Hall.

The City also coordinated the preparation of this 2020 UWMP and WSCP with several agencies, including relevant public agencies that utilize the same water supplies. These agencies included the following:

- Sacramento County Water Agency
- Regional Water Authority
- Sacramento Groundwater Authority
- Sacramento Central Groundwater Authority
- California American Water Company
- Sacramento Suburban Water District

- Sacramento Regional County Sanitation District
- Rio Linda/Elverta Community Water District
- Del Paso Manor Water District
- Natomas Central Mutual Water Company
- Florin County Water District
- Tokay Park Water District
- Golden State Water Company
- City of West Sacramento

The public hearing conducted on June 29, 2021 provided an opportunity for all City water users and the general public to become familiar with the UWMP and WSCP and ask questions about the City's water supply, in addition to the City's continuing plans for providing a reliable, safe, high-quality water supply.

2.5.3 Notice to Cities and Counties

CWC Section 10621 (b) requires agencies to notify the cities and counties to which they serve water at least 60 days in advance of the public hearing that the plan is being updated and reviewed. In February 2021, a notice of preparation was sent to the cities and counties and other stakeholders to inform them of the UWMP and WSCP update process and schedule, and to solicit input for the 2020 UWMP and updated WSCP. The notifications to cities and counties, the public hearing notifications, and the public hearing and adoption are discussed in Chapter 10.

CHAPTER 3
System Description

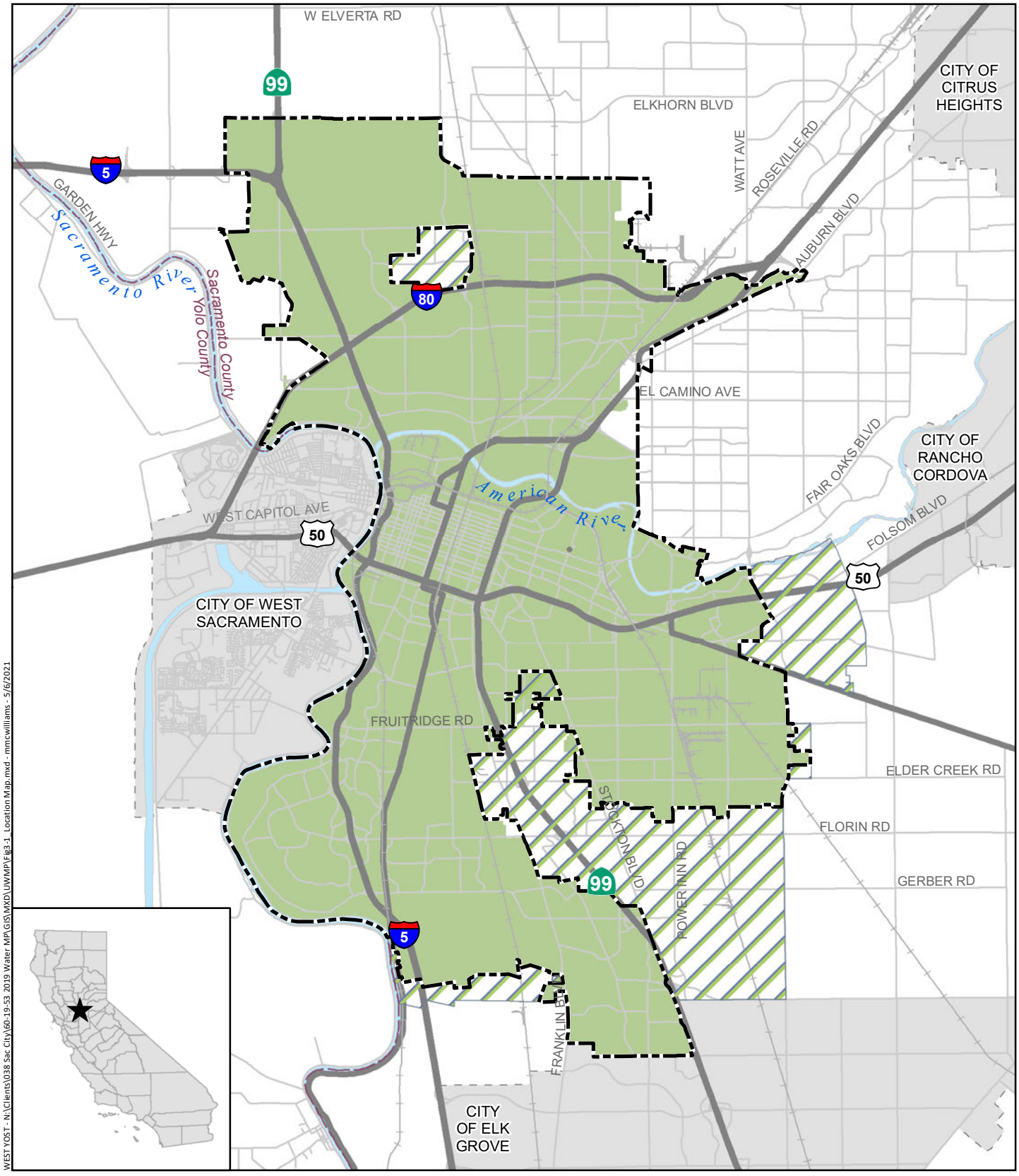
This chapter provides a description of the City's water system and service area. This includes a description of the water system facilities, climate, population, and housing within the City's service area.

3.1 GENERAL DESCRIPTION

The City is the capital of California and the seat of Sacramento County (County). The City is located in the Central Valley of California, which is surrounded by the Sierra Nevada Mountains to the east, coastal ranges to the west, Klamath Mountains to the North, and is oriented in a north-south direction. The City encompasses approximately 101 square miles (Dyett & Bhatia, 2019) and is located at the confluence of the Sacramento and American Rivers that meet on the western boundary of the City. The Sacramento River flows south from Lake Shasta, while the American River flows west from the Sierra Nevada Mountains. As shown on Figure 3-1, the City limits span the area north of the City of Elk Grove, west of the City of Rancho Cordova, east of the Sacramento River, and south of Placer and Sutter Counties. Figure 3-1 also displays the retail water service area and sphere of influence (SOI).

The City was founded in 1849 with a population of 9,087 people, and in 1920, voters adopted a City Charter (municipal constitution) and a City Council-City Manager form of government; this form of government is still in use today. The City's current population is approximately 510,931[1]. The City's Department of Utilities (DOU) is responsible for providing and maintaining water, sewer collection, storm drainage and flood control services for residents and businesses within the City's water service area.

[1] 2020 data from State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties and State, 2011 – 2020 with 2010 Census Benchmark*. Sacramento, California, May 2020.



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City of Sacramento Limits

City of Sacramento Retail Water Service Area

Sphere of Influence

N

0 1.25 2.5

Miles

WEST YOST

Figure 3-1

Location Map

City of Sacramento
2020 UWMP

3.2 SERVICE AREA BOUNDARY

In this section, the City's retail service area and the wholesale agencies receiving water supply from (or providing water to) the City are described.

3.2.1 Retail Service Area

The City's retail water customers are located within the corporate limits of the City of Sacramento and foreseeable future expansions of the City limits. The City's retail water service area covers an area of approximately 101 square miles (64,425 acres)[2]. The City reported that it is approximately 99 percent metered as of December 31, 2020. The system is responsible for delivering treated water to residential, commercial, and irrigation customers in the City's retail water service area. The City also serves a small number of customers outside the City limits in an adjacent, unincorporated portion of the County, but does not serve a small portion of residents inside the City limits who receive their water from SSWD. The population of these two areas are roughly equivalent. In addition, the Sacramento Power Authority's (SPA's) Cogeneration (Cogen) Facility is located outside of the City limits and currently receives potable water from the City and recycled water through a partnership with the Regional Sanitation District.

Ground surface elevations generally range from about 5 feet above sea level east of the Sacramento River to approximately 75 feet above sea level in the northeast part of the service area. Soils within the City consist of unconsolidated clay, silt, and sand that resulted from floodplain deposits. The City is within the reclaimed flood plain of the Sacramento River.

The City has multiple surface water entitlements, consisting of five appropriative water right permits issued by the State Water Resources Control Board (SWRCB), pre-1914 rights and a water rights settlement contract with the United States Bureau of Reclamation (USBR). These water rights allow the City to divert water from the Sacramento and American Rivers. A description of the City's surface water rights is included in Chapter 6.

The City's authorized Place of Use (POU) for the Sacramento River includes all the land within the City limits. The POU for the American River supply includes the City limits and also defined areas adjacent to the City that includes portions of service areas of other water purveyors. The City's POU for each surface water source is shown on Figure 3-2.

[2] Based on current City limits (as of June 2019) per 2040 General Plan Draft Technical Background Report dated September 2019.

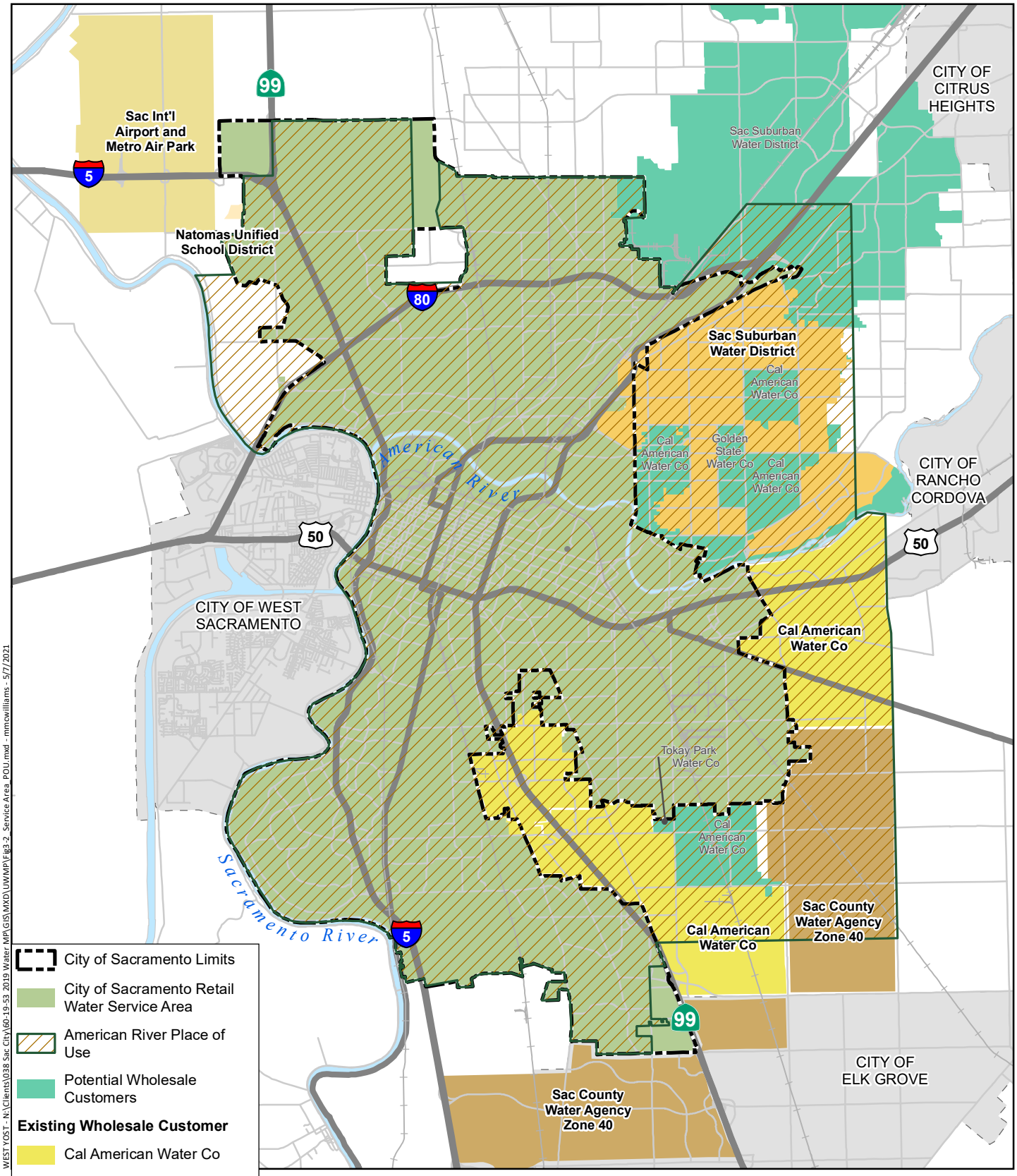

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Figure 3-2

Service Area, Limits, and Places of Use

City of Sacramento
2020 UWMP

3.2.2 Wholesale Service Area

Wholesale water service is where the City serves water from the City's entitlements to other agencies. The City's water rights and supply facilities provide regional benefits by making water available for the benefit of areas within the POU for each surface water source. The City currently delivers wholesale water to four customers (SCWA, SSWD, Cal Am and the Natomas Unified School District) through several turnouts that border the City's retail service area. The wholesale customers are shown on Figure 3-2 and described below. The total existing population served by the City's wholesale customers is estimated to be 617,200.

In general, wheeling service is where the City diverts, treats, and conveys water to another agency using that agencies' water supply entitlements. The City treats and wheels water to the Sacramento County Water Agency Zone 40.

The City uses the same surface water treatment facilities, groundwater wells, storage tanks, pumping facilities, and distribution/transmission pipelines described in Section 3.3 and shown on Figure 3-3 to deliver water to wholesale and wheeling customers.

3.2.2.1 Sacramento County Water Agency

SCWA was formed in 1952 by a special legislative act of the State of California and is governed by a Board of Directors. SCWA uses a combination of surface water, groundwater, and recycled water as its sources of water supply.

The City has two connections to serve SCWA. One connection located near [redacted] at the southern boundary of the City serves the Zone 40 service area. A second connection located in [redacted] at the western edge of the City serves the Sacramento International Airport and Zone 50 Metro Air Park.

In addition to wholesale water service, the City wheels water for SCWA. The City treats and delivers SCWA water from the Sacramento River to serve a portion of SCWA's Zone 40 service area. Wheeled water is diverted and conveyed through the City's water system using SCWA's water entitlements. Wheeled water volumes are not included as a demand in this UWMP.

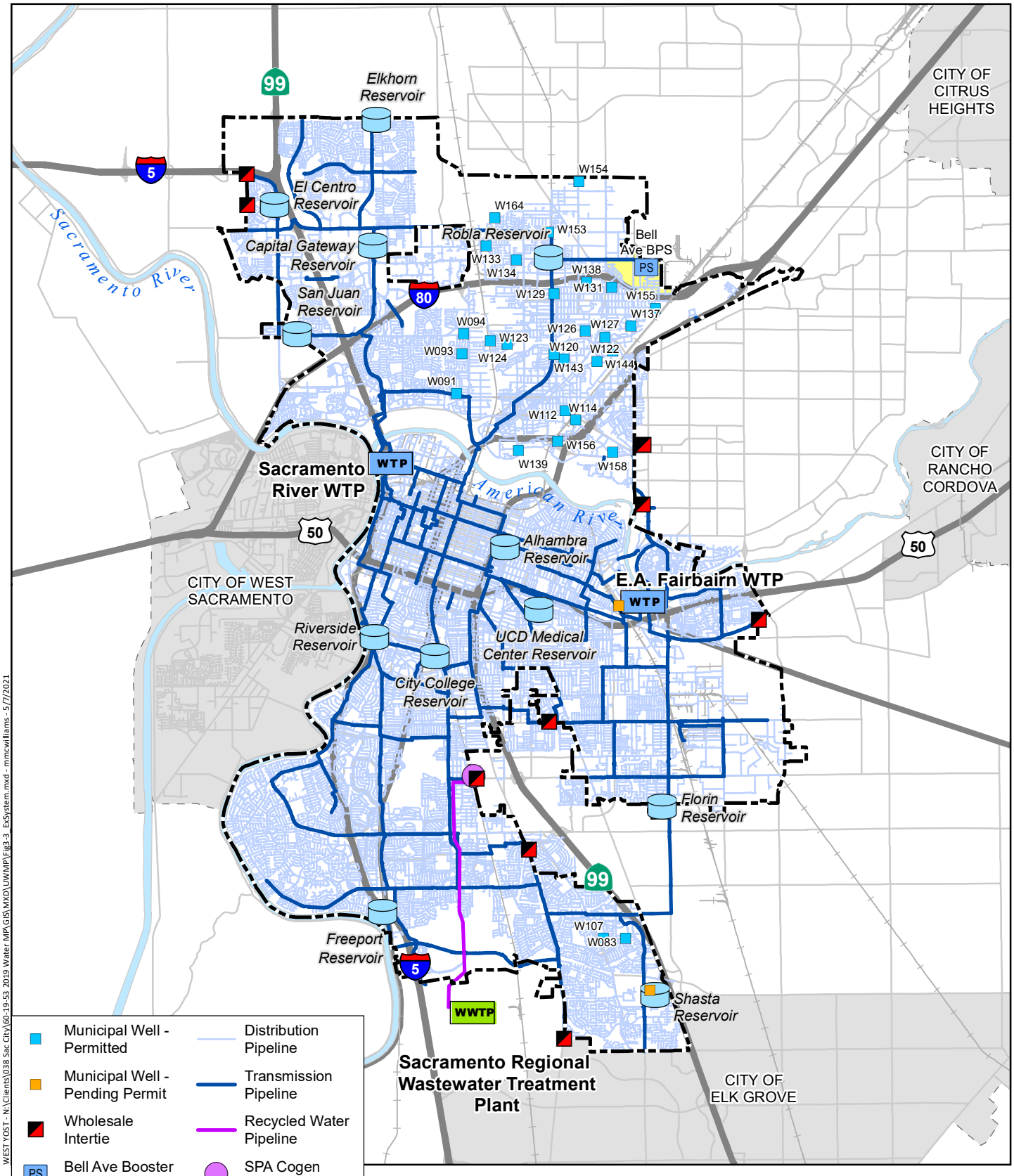
Also, in 2020, the City received water from SCWA as part of a groundwater substitution transfer.

3.2.2.2 Sacramento Suburban Water District

SSWD is made up of four service areas within the County. SSWD uses a combination of surface water and groundwater as its sources of water supply. In 2004, the City entered into an agreement with SSWD to supply up to 20 million gallons per day (MGD) (22,400 AFY) of American River water supply plus up to 10 MGD of additional water. The amount of water available to SSWD is impacted by the hydrologic conditions in the American River and is reduced during dry conditions. SSWD has been receiving wholesale water from the City for its South Service Area (SSA) located within the American River POU since 2007.

Also, in 2018 and 2020, the City received water from SSWD as part of a groundwater substitution transfer.

The City has a total of seven interties with SSWD. One main intertie is used to convey water between the agencies; this main intertie is located near [redacted] and [redacted] at the eastern boundary of the City. The other interties are for emergency use only.



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Notes:

1. Municipal wells with pending permit includes one well at the EAFWTP and two wells at the Shasta Storage facility.

Figure 3-3

Water Treatment and Distribution System

City of Sacramento
2020 UWMP

3.2.2.3 California American Water Company

Cal Am is a wholly-owned subsidiary of the American Water Works Company. Cal Am was incorporated into American Water Works Company under California law in 1966. Three of the service areas lie within the American River POU: Arden, Parkway, and Suburban Rosemont. Cal Am uses a combination of groundwater and wholesale purchases as its water supply.

In 1997, the City entered into a wholesale agreement for the Parkway service area. In 2010, the agreement was modified to include both firm and non-firm capacity. The modified agreement includes a firm capacity of 2.3 MGD (2,580 AFY) and a non-firm capacity of 3.46 MGD (3,880 AFY) during off-peak periods (October 15th through May 14th), and can be delivered to any of the three services areas within the American River POU.

In 2019, Cal Am acquired the Fruitridge Vista Water Company (FVWC) which was formed in 1953 by the Cook family to serve water to homeowners in an unincorporated area south of the City in the County. The City had a wholesale agreement with FVWC which has now been transferred to Cal Am-Fruitridge. The Cal Am-Fruitridge service area is considered substantially built out with approximately 95 percent of the service area developed. Cal Am-Fruitridge uses primarily groundwater for supply with wholesale water as a supplemental supply source. The City's agreement with Cal Am-Fruitridge allows the purchase of 3.24 MGD (3,630 AFY) firm capacity which is subject to reductions under certain hydrologic conditions.

The City has five existing connections to serve Cal Am as follows:

- At the intersection of [redacted] and [redacted] to serve Cal Am's Parkway service area
- At the terminal end of a 24-inch diameter transmission main in [redacted] to serve the Rosemont service area
- At [redacted] near the western boundary of the Cal Am-Fruitridge service area
- Near the intersection of [redacted] and [redacted] to serve the Cal Am-Fruitridge service area
- At the intersection of [redacted] and [redacted] to serve Cal Am's Arden service area

3.2.2.4 Natomas Unified School District

As of July 2019, the City entered into an agreement with Natomas Unified School District to wholesale a small amount of water to serve the Paso Verde K-8 school located outside but adjacent to the City limits.

3.3 WATER SYSTEM DESCRIPTION

The City is responsible for delivering treated water to residential, commercial, and irrigation customers. The City's distribution system consists of two surface water treatment facilities, two pressure zones, groundwater wells, storage tanks, pumping facilities, and distribution/transmission pipelines. Each of these components are discussed in more detail below, and the locations of the major facilities are shown on Figure 3-3.

3.3.1 Surface Water Supply and Treatment Facilities

The City treats surface water diverted from the Sacramento and American Rivers with two water treatment facilities: the Sacramento River Water Treatment Plant (SRWTP) and the E.A. Fairbairn Water Treatment Plant (EAFWTP). The locations of the water treatment plants are shown on Figure 3-3.

3.3.1.1 Sacramento River Water Treatment Plant

The SRWTP located just east of Interstate 5 and south of Richards Boulevard, treats water that is pumped from the Sacramento River about one-half mile downstream of the American River confluence (Figure 3-3). The SRWTP began operation in 1924 with an initial capacity of 32 MGD. Expansions and modifications completed by the City since the 1920's have increased the diversion capacity to 160 MGD which is also the permitted capacity for the SRWTP. The City is permitted to operate the plant at 160 MGD in the summer months and 120 MGD in the shoulder months. However, summer operations can be impacted by unusually low river levels which potentially reduce capacity of the plant to 135 MGD in the summer months. The City is currently evaluating further expansion of the SRWTP to increase the diversion and treatment capacity to 310 MGD.

3.3.1.2 E.A. Fairbairn Water Treatment Plant

The EAFWTP is located on the south bank of the lower American River, approximately seven miles upstream from its confluence with the Sacramento River (Figure 3-3). Construction of the EAFWTP was completed in 1964 with various improvements completed over the years. The plant was designed to be expanded in stages to an ultimate treatment capacity of 404 MGD. The EAFWTP is currently rated at a diversion capacity of 200 MGD, with a permitted treatment capacity of 160 MGD (80 MGD for Basins 1 and 2, and 80 MGD for Basins 3 and 4). However, the EAFWTP is unable to operate reliably at capacity due to the poor condition of some of the plant facilities, and due to environmental agreements that frequently limit diversions during summer months, and other reduced rates during different parts of the year due to water rights agreements, as discussed in further detail in Chapter 6. Therefore, the current reliable capacity of the EAFWTP during peak demand periods is 80 MGD, with the ability to operate at up to 100 MGD, but only for short periods of time.

3.3.2 Groundwater Wells

The City currently has 26 permitted wells in the North American Subbasin and 2 permitted wells in the South American Subbasin; however, only 23 of these wells are operated on a regular basis to supply municipal water. The City's well inventory also includes 22 operational irrigation/park supply wells, and three recently completed, but as of yet not permitted wells, two at Shasta and one at EAFWTP. The total pumping capacity of the wells is about 23 MGD. Assuming that only 60 to 90 percent of the wells are available at any given time, the total pumping capacity is about 14 to 20 MGD. As of 2020, the average age of the City's active potable wells is about 60 years old with the oldest well at 76 years old. Well locations are shown on Figure 3-3.

3.3.3 Storage Tanks

The City currently has seventeen storage facilities: twelve storage reservoirs are located throughout the City, and five finished water clearwells that are located at the water treatment plants (two at EAFWTP and three at SRWTP). The cumulative distribution storage reservoir capacity is 49 million gallons (MG). The clearwell reservoirs located at EAFWTP and SRWTP have a combined capacity of approximately 45 MG.

The locations of the twelve storage tanks located throughout the City and the locations of the two water treatment plants are shown on Figure 3-3.

3.3.4 Pumping Facilities

The City currently operates eighteen (18) high lift service pumps at the SRWTP and EAFWTP and has capacity to add an additional six (6) high lift service pumps at the EAFWTP. The locations of the booster pump facilities are shown on Figure 3-3. All of the storage reservoirs have pump stations to deliver water to the residents and businesses as water demands vary. The City maintains one additional booster pump station to serve water in a small separated pressure zone in the northeast part of the City.

3.3.5 Distribution and Transmission Pipelines

The City maintains approximately 1,800 miles of transmission and distribution system mains ranging in size from 2 to 72 inches in diameter; only 415 miles are of pipeline sizes 12 inches in diameter or larger. Approximately 70 percent of the City's system consists of 6-inch and 8-inch diameter pipelines. The City has one dedicated recycled water pipeline that delivers recycled water from the Sacramento Regional Wastewater Treatment Plant to the Sacramento Power Authority Cogeneration Facility, as shown on Figure 3-3 and further discussed in Chapter 6.

3.3.6 Pressure Zones

Two pressure zones exist in the City. High service pumps at each of the treatment plants pump water directly into the distribution system, creating a pressure zone that encompasses the majority of the City. The second pressure zone is a small area in the northeast portion of the City. On average the City maintains approximately 45 pounds per square inch (psi) throughout its system with a minimum pressure threshold of 30 psi.

3.4 SERVICE AREA CLIMATE

The climate of the City's retail and wholesale service areas are typical of the Sacramento Valley. The winters are moist with mild temperatures, while the summers are hot and dry. As shown in Table 3-1, precipitation averages approximately 17 inches per year, while average temperatures range from a low of around 36 degrees Fahrenheit (°F) to a high of around 93°F. Average evapotranspiration (ETo) is based on data for Station 131 (Fair Oaks) obtained from the California Irrigation Management Information System (CIMIS) website. Rainfall and temperature data is based on data for Sacramento Executive Airport Station obtained from the Western Regional Climate Center (WRCC) website. The historical climate characteristics affecting water management in the City's service area are shown in Table 3-1.

Table 3-1. Monthly Average Climate Data Summary

Month	Standard Monthly Average ETo, inches	Average Total Precipitation, inches[(b)]	Average Temperature, degrees Fahrenheit	
			Maximum	Minimum
January	1.12	3.56	53.5	37.8
February	1.78	3.07	59.9	41.0
March	3.24	2.44	64.6	43.1
April	4.52	1.17	71.4	45.9
May	6.35	0.5	79.9	50.7
June	7.44	0.18	87.2	55.4
July	7.91	0.03	92.7	58.2
August	7.03	0.06	91.5	57.8
September	5.14	0.25	87.7	55.8
October	3.36	0.93	77.7	50.2
November	1.61	2.04	63.7	42.6
December	1.04	3.02	53.8	35.8
Totals	**50.54**	**17.24**	**73.6**	**48.1**

Source: California Irrigation Management Information System (CIMIS) data for Fair Oaks Station 131 (downloaded February 8, 2021).
Source: Western Regional Climate Center (www.wrcc.dri.edu) data for Sacramento Executive Airport Station 047630 (period of record: November 10, 1941 to June 9, 2016)

The American River Basin Study (ARBS) is a joint effort between the USBR and six local area non-federal cost partners including Placer County Water Agency (contracting lead), the cities of Folsom, Roseville, and Sacramento, El Dorado County Water Agency, and the Regional Water Authority to further refine the assessment of water supplies and demands in the American River Basin. The ARBS evaluates several potential climate change scenarios which may impact the region's water supplies and water demands. Key ARBS findings with respect to climate change impacts to temperature, precipitation/snowpack, and runoff are as follows:

- Surface air temperatures are projected to increase steadily, with summer temperature increasing by approximately 7.2°F by the end of the 21st Century, and winter temperature increasing by 4.9°F. Projections of daily maximum and minimum temperatures suggest similar seasonal trends. Maximum temperatures are projected to increase more than minimum temperatures during all seasons, with the largest increase of 7.3°F during the summer months.

- Annual precipitation projections show no change over the 21st Century. Approximately half of the projections indicate an increase in annual precipitation and half indicate a decrease, highlighting the large uncertainty in future precipitation over this region. Although lacking clear trend in projected annual precipitation, by the end of the 21st Century, average fall and spring precipitation is expected to decrease, with winter and summer precipitation increasing. Large variability is also expected in winter and fall precipitation. Snowpack will likely decline due to warming.
- Runoff is expected to increase during winter months. Projections indicate a pronounced shift in the distribution of runoff from May and June to earlier in the season (December to March), implying a shift in precipitation from snow to rainfall and/or earlier snowmelt. Peak runoff may shift by more than a month earlier by mid- to late-century. Spring runoff will decrease due to reduced winter snowpack.

Additional discussion on potential climate change impacts to the City's water demands and water supplies is provided in Chapters 4, 6, and 7 of this plan.

3.5 SERVICE AREA POPULATION AND DEMOGRAPHICS

The City's water service population is described below, along with demographics that may affect water management and planning.

3.5.1 Retail Service Area Population

As described above, the City provides water service to most of the area within the City limits, except a small number of City residents who receive their water from SSWD. The City also serves a small number of customers outside of the City limits in an adjacent, unincorporated portion of the County. The population of these two areas are roughly equivalent. Because the retail service area boundary and the City boundary are contiguous by at least 95 percent, the City estimates its service area population using California Department of Finance (CDoF) data. The City's current (2020) service area population is 510,931.

Land use planning within the City is undertaken by the City's Community Development Department. The City adopted its 2035 General Plan in March 2015. The 2035 General Plan provides a framework for the City's vision and guiding principles for development within the City for a planning horizon to 2035.

Projections of future population within the City's service area and sphere of influence for the years 2025 and 2035 are based on the 2035 General Plan. Projected population for 2040 was obtained from the City's 2015 UWMP. The 2040 population is based on the continued growth rate from the 2035 General Plan population projections plus the Natomas Joint Vision Study Area. To obtain population projections to 2045, an assumption of a continued growth rate within the current service area and sphere of influence consistent with the 2035 General Plan and 2040 population projection was used. The areas outside of the City's SOI are currently anticipated to be served by the County. Figure 3-1 shows the City's SOI. The City's current and projected service area populations are shown in Table 3-2.

Table 3-2. Retail Population – Current and Projected (DWR Table 3-1 Retail)

Population Served	2020	2025	2030	2035	2040	2045*(opt)*
	510,931	566,038	603,209	640,381	695,830	745,319

NOTES:
2020 data from State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties and the State , 2011-2020 with 2010 Census Benchmark* — Sacramento, California, May 2020.
2025 – 2035 projected population from the City's 2035 General Plan.
2040 projected population is based on a continuous growth rate plus the Natomas Joint Vision Study Area.
2045 projected population estimated using growth rate of previous projections.
Opt, the abbreviation for optional, is used in this table and subsequent tables throughout this UWMP.

3.5.2 Wholesale Service Area Population

The City's wholesale current and projected service area population through 2040 is from the City's 2015 UWMP. The 2045 projected wholesale population was estimated by using the growth rate from the previous projections. The wholesale population numbers summarized in Table 3-3 represent the population for wholesale customer's entire service areas. Therefore, the information shown includes population outside the American River POU.

Table 3-3. Wholesale Population – Current and Projected (DWR Table 3-1 Wholesale)

Population Served	2020	2025	2030	2035	2040	2045*(opt)*
	617,200	669,000	725,200	787,100	828,500	887,600

NOTES: Projected wholesale population for 2020 through 2040 is from the City's 2015 UWMP. 2045 projected wholesale population estimated using growth rate of previous projections.

3.5.3 Retail Service Area Social, Economic, and Demographics

The CWC now requires the inclusion of service area socioeconomic information as part of the system description in UWMPs. However, differences in household water use across sociodemographic groups in the City has not been studied. Therefore, the following social, economic, and demographic information is being provided to comply with the new regulation. The information was derived from the US Census

Bureau's profile of Sacramento for 2014-2018 and is assumed to sufficiently apply to the City's water service area and the water service areas of its wholesale customers.[3]

- The average number of people per household in the five-year period analyzed was 2.66
- The median household income in Sacramento was $58,456, while 18.3 percent of all individuals and 24.6 percent of youth under the age of 18 lived in poverty
- The average unemployment rate was 8 percent
- The owner-occupied housing unit rate was 48 percent, with a median home value of $313,400
- The median gross rent was $1,179 per month
- The median age was 34.4 years
- Of persons 25 years or older in Sacramento, 84.7 percent had earned at least a high school diploma or equivalent and 32.6 percent had earned a bachelor's degree or higher
- Of persons under 65 years of age, 8.3 percent had a disability
- Of the non-institutionalized civilian population, 6.9 percent did not have health insurance
- Almost 92 percent of households had a computer, and 83.2 percent had a broadband internet subscription
- By race/ethnicity, 47.2 percent of people were White, 13.4 percent were Black, 0.8 percent were American Indian or Alaska Native, 18.9 percent were Asian, 1.7 percent were Hawaiian Native or Pacific Islander, 11 percent were another race, and 7 percent were two or more races. Of the total population in Sacramento, 28.7 percent of people were Hispanic or Latino and 71.3 percent were non-Hispanic or non-Latino
- Of Sacramento residents, 22.6 percent were foreign born, and 38.2 percent of people age five years and older spoke a language other than English at home

3.6 LAND USES WITHIN SERVICE AREA

The Sacramento Area Council of Governments (SACOG) projects that the County, as a whole, will continue to experience growth in jobs, housing, and population.[4] Land use that may impact water supply planning for the City's service area are discussed below.

3.6.1 Land Uses Within Retail Service Area

Existing land use within the City of Sacramento is summarized in Table 3-4. Total land use within the City is 52,242 acres, excluding rights-of-way. The City is currently approximately 86 percent developed.

[3] United States Census Bureau, American Community Survey, 2014-2018 ACS 5-Year Data Profile for Sacramento, CA.

[4] Sacramento Area Council of Governments, November 2019. *2020 Metropolitan Transportation Plan/Sustainable Communities Strategy*. https://www.sacog.org/post/adopted-2020-mtpscs.

Table 3-4. Existing Land Uses		
Land Use	Acres	Percent of City Area
Residential	23,278	45
Commercial, Office, and Mixed Use	4,048	8
Industrial	4,800	9
Public/Institutional	4,380	8
Open Space/Recreational	5,806	11
Other[(a)]	2,932	5
Vacant	6,998	14
Total	**52,242**	**100**

Source: 2040 General Plan, Draft Technical Background Report (Table 2-7), September 2019. Totals exclude rights-of-way.

(a) Other land uses include utilities, agricultural, miscellaneous, and parking.

These existing land uses are further described as follows:

- Residential land uses represent the largest land use category in the City limits, at 45 percent of total land use, with single family residential uses accounting for 84 percent of the residential land use.
- Commercial, office, and mixed uses are about 8 percent of the land within the City limits, with retail/commercial uses making up 4 percent. Commercial and office uses are typically along corridors, while office uses are often in office parks.
- Industrial uses account for 9 percent of the total land use and are located throughout the City, often near transportation infrastructure, such as freeways and rail lines.
- Public/Institutional uses account for 8 percent of the land use. These include State and local government uses in and around the Downtown area. Other public uses, such as schools, educational facilities, and other public and community facilities are distributed throughout the City.
- Open space and recreational uses, 11 percent of the land use total, includes public parks, paths and trails, sports facilities, and drainage and flood control areas.
- Other land uses, approximately 5 percent of the total, include utilities, agricultural, miscellaneous, and parking.
- Vacant land accounts for approximately 14 percent of all land use.

The City is currently in the process of updating its General Plan which will help guide future growth in the City. The City is anticipating future growth to occur in 59 Opportunity Areas around the City and has estimated growth for these areas in terms of anticipated new dwelling units and jobs. The City has projected the future growth to include approximately 70,000 new dwelling units and approximately 77,000 new jobs. Approximately 92 percent of future dwelling unit growth and 89 percent of future jobs is expected to occur within the Opportunity Areas. The remaining 8 percent of future dwelling unit growth and 11 percent of future job growth is expected to occur throughout the City. Table 3-5 provides a summary of the anticipated future growth in the City. Figure 3-4 shows the location of the 59 Opportunity Areas the City identified.

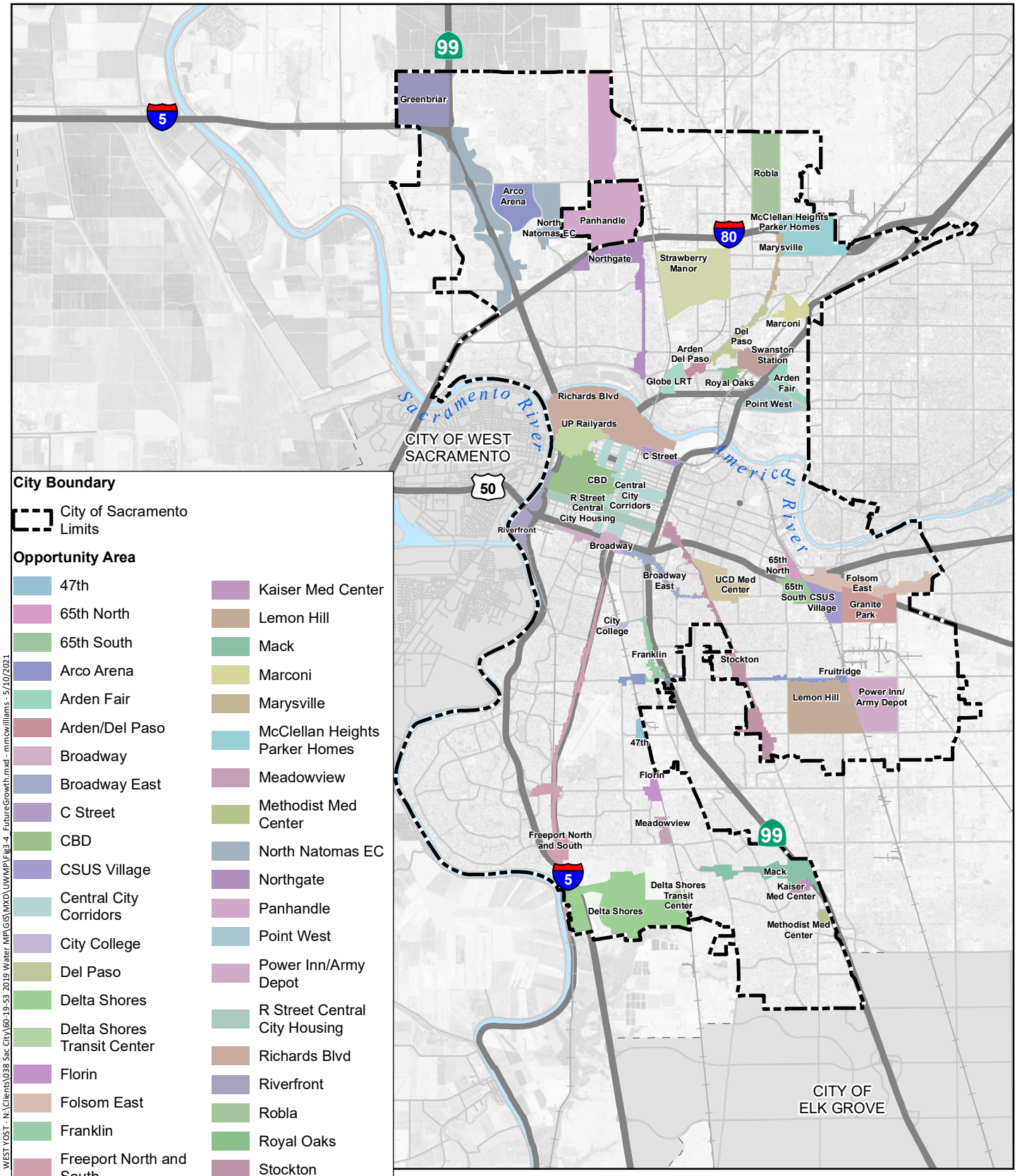
Table 3-5. Anticipated Future Growth in Housing Units and Jobs

Opportunity Area	Housing Units		Jobs	
	Anticipated Growth	Percent Growth	Anticipated Growth	Percent Growth
47th	44	0.1	29	0.0
65th North	2,612	3.8	2,254	2.9
65th South	1,670	2.4	2,717	3.5
Arco Arena	1,918	2.8	3,056	4.0
Arden Fair	749	1.1	1,169	1.5
Arden/Del Paso	371	0.5	107	0.1
Broadway	866	1.3	365	0.5
Broadway East	143	0.2	117	0.2
C Street	200	0.3	221	0.3
Central Business District	7,271	10.6	6,787	8.9
Central City Corridors	5,399	7.9	1,352	1.8
City College[(a)]	128	0.2	23	0.0
Cosumnes River[(a)]	471	0.7	441	0.6
CSU-Sacramento Village	237	0.3	1,383	1.8
Del Paso	258	0.4	200	0.3
Delta Shores	5,222	7.6	1,418	1.9
Delta Shores Transit Center	370	0.5	687	0.9
Florin	1,124	1.6	368	0.5
Folsom East	579	0.8	180	0.2
Franklin	77	0.1	27	0.0
Freeport North	72	0.1	57	0.1
Freeport South	515	0.8	143	0.2
Fruitridge	30	0.0	-16	0.0
Globe Light Rail Transit	361	0.5	136	0.2
Granite Park	531	0.8	1,356	1.8
Greenbriar	2,766	4.0	829	1.1
Jackson[(a)]	1,155	1.7	538	0.7
Johnston East[(a)]	155	0.2	166	0.2
Johnston West[(a)]	56	0.1	150	0.2
Kaiser Med Center	0	0.0	500	0.7
Lemon Hill	517	0.8	100	0.1
Mack	215	0.3	450	0.6
Marconi	78	0.1	191	0.2
Marysville	184	0.3	183	0.2
McClellan Heights/Parker Homes	287	0.4	227	0.3
Meadowview	518	0.8	22	0.0
Methodist Med Center	80	0.1	910	1.2

Table 3-5. Anticipated Future Growth in Housing Units and Jobs

Opportunity Area	Housing Units		Jobs	
	Anticipated Growth	Percent Growth	Anticipated Growth	Percent Growth
North City Farms[(a)]	34	0.0	28	0.0
North Natomas EC	1,758	2.6	2,583	3.4
North Northgate	535	0.8	93	0.1
Northgate	83	0.1	136	0.2
Panhandle	1,622	2.4	654	0.9
Point West	0	0.0	45	0.1
Power Inn/Army Depot	351	0.5	2,363	3.1
R Street Central City Housing	1,530	2.2	573	0.7
Raley[(a)]	0	0.0	1,357	1.8
Richards Boulevard	3,352	4.9	8,832	11.5
Riverfront	5,443	8.0	4,026	5.3
Robla	576	0.8	46	0.1
Royal Oaks	259	0.4	189	0.2
Southwest Natomas[(a)]	442	0.6	222	0.3
Stockton	888	1.3	106	0.1
Stockton North[(a)]	452	0.7	106	0.1
Stockton South[(a)]	217	0.3	235	0.3
Strawberry Manor	544	0.8	27	0.0
Swanston Station	64	0.1	56	0.1
Truxel[(a)]	534	0.8	569	0.7
UCD Med Center	254	0.4	4,678	6.1
UP Railyards	6,767	9.9	12,571	16.4
Opportunity Area Growth	62,935	92	68,338	89
Non-Opportunity Area Growth	5,470	8	8,261	11
Total Growth	**68,405**	**100**	**76,600**	**100**

(a) Not shown on Figure 3-4.



City Boundary

City of Sacramento Limits

Opportunity Area

- 47th
- 65th North
- 65th South
- Arco Arena
- Arden Fair
- Arden/Del Paso
- Broadway
- Broadway East
- C Street
- CBD
- CSUS Village
- Central City Corridors
- City College
- Del Paso
- Delta Shores
- Delta Shores Transit Center
- Florin
- Folsom East
- Franklin
- Freeport North and South
- Fruitridge
- Globe LRT
- Granite Park
- Greenbriar
- Kaiser Med Center
- Lemon Hill
- Mack
- Marconi
- Marysville
- McClellan Heights Parker Homes
- Meadowview
- Methodist Med Center
- North Natomas EC
- Northgate
- Panhandle
- Point West
- Power Inn/Army Depot
- R Street Central City Housing
- Richards Blvd
- Riverfront
- Robla
- Royal Oaks
- Stockton
- Strawberry Manor
- Swanston Station
- UCD Med Center
- UP Railyards

Notes:

1. The following opportunity areas are not shown: City College, Consumnes River, Jackson, Johnston East, Johnston West, North City Farms, Raley, Southwest Natomas, Stockton North, Stockton South, and Truxel.

N

0 1.25 2.5

Miles

WEST YOST

Figure 3-4

Future Growth Opportunity Areas

City of Sacramento
2020 UWMP

3.6.2 Land Uses Within Wholesale Service Area

Land uses for the City's wholesale customers are briefly described below. Projected population for the City's existing and future wholesale customers are summarized in Table 3-3.

3.6.2.1 Sacramento County Water Agency

The SCWA Zone 40 service areas are predominantly residential with a small amount of commercial and institutional customers.

3.6.2.2 Sacramento Suburban Water District

The SSWD service area is projected to reach buildout by 2031.[5] Based on SACOG data, SSWD projects that single family homes will grow at a faster rate than multi-family homes in its service area.

3.6.2.3 California American Water Company

Cal Am's Arden, Parkway, and Fruitridge service areas are in the unincorporated region of the County, and SACOG projects most employment growth will be in the unincorporated areas of the County. A region that is expected to grow more intensely is Rancho Cordova; Cal Am's Rosemont service area partially overlies the City of Rancho Cordova.[6] The service area is mostly residential, with 88 percent of the customers being residential and 9 percent commercial. Cal Am's Fruitridge service area is considered substantially built out with approximately 95 percent of the service area developed.

3.6.2.4 Natomas Unified School District

As of July 2019, the City entered into an agreement with Natomas Unified School District to wholesale a small amount of water to serve the Paso Verde K-8 school located outside but adjacent to the City limits.

[5] Sacramento Suburban Water District, 2015 Urban Water Management Plan Draft (April 2016)

[6] California American Water, Sacramento District 2010 Urban Water Management Plan (October 2011)

CHAPTER 4
Water Use Characterization

This chapter describes and quantifies the City's historical, current, and projected water uses to the extent that records are available. The terms "water use" and "water demand" are used interchangeably and refer to water conveyed by a distribution system and used by the City and its customers for any purpose.

4.1 NON-POTABLE VERSUS POTABLE WATER USE

Potable water is water that is safe to drink and which typically has had various levels of treatment and disinfection.

Recycled water is municipal wastewater that has been treated to a specified quality to enable it to be used again for non-potable uses. Recycled water is discussed in Chapter 6 (Section 6.5).

Raw water is untreated water that is used in its natural state or with minimal treatment. The City does not deliver raw water to any retail customers within its service area.

4.2 WATER USES BY SECTOR

This section describes the City's retail water use by customer type, or sector, including historical, current, and the projected water uses through 2045. As of December 2020, 99 percent of the City's water connections were metered.

The City delivers water to the following sectors: single family residential, multi-family residential, commercial (including industrial), institutional, landscape irrigation customers, and other. Water supplied to wholesale and wheeling customers is discussed in Section 4.3. The remaining demand is distribution system losses. The City uses the following definitions for each sector, as outlined in the DWR Guidebook:

- **Single Family residential:** A single-family dwelling unit. A parcel with a free-standing building containing one dwelling unit that may include a detached secondary dwelling.
- **Multi-Family residential:** Multiple dwelling units contained within one building or several buildings within one complex.
- **Institutional (and Governmental):** A water user dedicated to public service. This type of user includes, among other users, higher education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions.
- **Commercial (and Industrial):** The City reports commercial and industrial demand sectors as a single demand sector that includes water users that provide or distribute a product or service and water users that are primarily a manufacturer or processor of materials as defined by the North American Industry Classification System (NAICS) code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development.
- **Landscape:** Water connections supplying water solely for landscape irrigation. Such landscapes may be associated with multi-family, commercial, industrial, or institutional/governmental sites, but are considered a separate water use sector if the connection is solely for landscape irrigation.
- **Distribution System Losses:** Distribution system water losses are the physical water losses from the water distribution system and the supplier's storage facilities, up to the point of customer consumption.

- **Other:** Demand that is not covered in the above demand sectors which include such volume as parcels recently recoded as vacant, metered construction water, or metered water utilized for water main cleaning.

4.2.1 Historical Retail Water Use

The estimated retail water use by sector for the City for 2016 through 2019 is summarized in Table 4-1. Retail water use is estimated because the City was not fully metered for the years shown in Table 4-1. The retail water distribution system is also used to deliver supply to the City's wholesale customers. The wholesale customer water demand is included to accurately represent the water loss, which is total production minus total consumption, in the retail water distribution system.

Table 4-1. Historical Water Demand by Water Use Sector, AF

Water Use Sector	2016	2017	2018	2019
Single Family	41,435	41,868	40,853	39,414
Multi-Family	13,825	12,892	12,171	13,470
Commercial (and Industrial)	16,751	17,949	17,889	16,572
Institutional (and Governmental)	4,029	4,464	4,668	5,478
Landscape	4,275	4,915	4,676	2,492
Other	79	127	235	492
Total Retail Demand	**80,394**	**82,215**	**80,491**	**77,919**
Wholesale Demand	958	2,460	1,027	8,465
Losses	5,803	9,147	11,379	10,998
Total	**87,155**	**93,823**	**92,897**	**97,382**

4.2.2 Current Retail Water Use

The City currently serves 142,946 retail customer connections as of December 2020. The customer connection count does not include fire service connections. Actual retail water demand by sector in 2020 is reported in Table 4-2.

Table 4-2. Retail Demands for Potable and Non-Potable Water – Actual (DWR Table 4-1 Retail)

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*
Add additional rows as needed			
Single Family		Drinking Water	44,419
Multi-Family		Drinking Water	13,979
Commercial	Includes Industrial Use Type	Drinking Water	15,984
Institutional/Governmental		Drinking Water	5,740
Landscape		Drinking Water	2,905
Other Potable		Drinking Water	650
Sales/Transfers/Exchanges to other agencies	To Wholesale Customers	Drinking Water	3,607
Losses		Drinking Water	13,197
		TOTAL	100,483
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Units are in acre-feet (AF).			

4.2.3 Projected Retail Water Use

Demand projections provide the basis for sizing and phasing future water facilities to ensure adequate supply is available to all customers. The City's on-going Water Master Plan Update projected water demands through 2050 and is the basis for the projected water demands summarized in Table 4-3. The City's on-going Water Master Plan Update incorporated the most recent and accurate future development estimates and unit water use factors to develop the water demand projections. Unit water use factors were refined based on recent, post-drought water use trends and reflect current and on-going water use efficiencies and water conservation by the City's water customers. In addition, the water demand projections take into account a future drought rebound factor since the 2012 to 2016 historical drought in California to provide conservative demand projections.

The water demand projections are lower compared to the water demand projections in the 2015 UWMP. The 2015 UWMP used the City's 2013 Water Master Plan as a basis for its demand projections. Since 2013, the City has implemented a variety of water conservation programs, which has helped reduce water use. The City has also increased the number of water connections which are metered. In 2016, the City was estimated to be approximately 67 percent metered. As of December 2020, 99 percent of the City's water connections were metered. Lastly, the projected new growth within the City's service area (both in terms

of number of planned new housing units and employment) is less than what was projected for the 2013 Water Master Plan. All of these factors contribute to the lower projected water demand presented in Table 4-3.

Table 4-3. Retail Demands for Potable and Non-Potable Water – Projected (DWR Table 4-2 Retail)

Use Type	Additional Description (as needed)	Projected Water Use* *Report To the Extent that Records are Available*				
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		2025	2030	2035	2040	2045 (opt)
Add additional rows as needed						
Single Family		46,913	47,491	48,069	48,647	51,098
Multi-Family		15,334	16,085	16,837	17,588	18,474
Commercial	Includes Industrial Use Type	17,871	19,068	20,266	21,464	22,545
Institutional/Governmental		6,094	6,200	6,306	6,412	6,736
Landscape		5,087	7,144	9,200	11,257	11,824
Other Potable		2,366	4,054	5,742	7,430	7,804
Losses		13,767	13,767	13,766	13,766	14,460
	TOTAL	107,432	113,809	120,187	126,564	132,942
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Units are in acre-feet (AF).						

4.2.3.1 30-Year Planning Horizon

As part of the City's on-going Water Master Plan Update, a 2050 demand scenario was developed to evaluate the sensitivity of sizing of the City's distribution system infrastructure to future demand increases for development beyond that identified by the 2040 General Plan. This demand scenario includes increased demand within the City's current SOI, and potential demand outside of the City's SOI that is currently anticipated to be served by Sacramento County.

For the sensitivity analysis, demands within the retail service area were projected through 2050, assuming the same growth rate beyond 2040. Demands were also included for future developments in the former Natomas Joint Vision Area, including Grand Park Specific Plan and Upper Westside Specific Plan, based on preliminary estimates provided by the County. As noted above, it is currently anticipated that areas outside of the City's SOI will be served by the County, and the purpose of the analysis is solely to evaluate the sensitivity of sizing for future infrastructure, should the City need to serve areas that are currently not anticipated to be served. Table 4-4 shows the projected 2050 retail water use. The total projected retail water use is 155,000 AF, with an equivalent average daily use of 138 MGD.

Table 4-4. Projected 2050 Retail Water Use		
Parameter	Projected Demand, AF	Projected Average Day Demand, MGD
Existing Retail Use[a]	91,867	82.0
Drought Rebound Factor for Existing Use[a]	9,187	8.2
Increase for Future Retail Use	38,266	34.2
Natomas Joint Vision Area Future Demand[b]	15,900	14.2
Airport South Industrial Area	643	0.6
Total 2050 Projected Retail Use	**155,219**	**138.6**

(a) The City's on-going Water Master Plan Update used 2018 data for the existing retail use and drought rebound factor.
(b) Includes estimated use for the Grandpark Specific Plan and Upper Westside Specific Plan for purposes of a sensitivity analysis but recognizing that the Natomas Joint Vision Area would require annexation into the City prior to receiving any water supply and services from the City of Sacramento.

4.2.3.2 Characteristic Five-Year Retail Water Use

The estimated retail water use for the next five years, following 2020, is summarized in Table 4-5. Projected water demands for 2021 through 2024 were estimated as a linear interpolation between the 2020 consumption by use type, reported in Table 4-2, and the 2025 projected water use, reported in Table 4-3. The characteristic five-year water use does not assume drought conditions and will be incorporated into the DRA, further discussed in Chapter 7.

Table 4-5. Projected Five-Year Water Use for Retail Customers, AF					
Water Use Sector	2021	2022	2023	2024	2025
Single Family	44,918	45,417	45,916	46,414	46,913
Multi-Family	14,250	14,521	14,792	15,063	15,334
Commercial (and Industrial)	16,361	16,739	17,116	17,494	17,871
Institutional (and Governmental)	5,811	5,882	5,952	6,023	6,094
Landscape	3,342	3,778	4,214	4,651	5,087
Other	994	1,337	1,680	2,023	2,366
Losses	13,311	13,425	13,539	13,653	13,767
Total	**98,987**	**101,098**	**103,209**	**105,320**	**107,432**

4.3 WHOLESALE WATER USE

The City's water rights and supply facilities provide regional benefits by making water available to areas adjacent to the City. The City currently provides wholesale and wheeling service to a number of neighboring agencies. In general, wholesale water service is where the City sells water collected under the *City's entitlements* to other agencies. Wholesale water deliveries are discussed below. Wheeling service is where the City diverts, treats, and conveys water to another agency *using that agencies' entitlements*. Wheeled water is not considered a City water demand because it does not reduce the amount of water entitled to the City, and therefore wheeled water use is not included as a demand in this UWMP.

The City has historically delivered and has agreements to provide more than 3,000 AFY to wholesale customers. Therefore, the City is required to report the demands for wholesale customers separately from their retail customers in accordance with the DWR Guidebook. The wholesale customers are described in Chapter 3.

4.3.1 Historical Wholesale Water Use

The City's historical water wholesale deliveries for 2016 through 2019 are summarized in Table 4-6.

Table 4-6. Historical Water Deliveries by Wholesale Agency, AF

Water Use Sector	2016	2017	2018	2019
SCWA – Airport	428	427	655	903
SCWA – Zone 50 Metro Air Park	0	357	0	0
SSWD	423	1,301	0	6,402
Cal Am Arden	0	0	0	0
Cal Am Fruitridge	0	2	1	1
Cal Am Parkway	57	369	0	668
Cal Am Rosemont	49	4	371	492
Total	**958**	**2,460**	**1,027**	**8,465**

4.3.2 Current Wholesale Water Use

The City's actual water wholesale deliveries for 2020 are summarized in Table 4-7.

Table 4-7. Wholesale Demands for Potable and Non-Potable Water – Actual (DWR Table 4-1 Wholesale)

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 WUE data online submittal tool	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume*
Add additional rows as needed			
Sales to other agencies	SCWA - Airport	Drinking Water	712
Sales to other agencies	SCWA - Zone 50 Metro Air Park	Drinking Water	90
Sales to other agencies	SSWD - Arden	Drinking Water	390
Sales to other agencies	Cal Am Arden	Drinking Water	0
Sales to other agencies	Cal Am Fruitridge	Drinking Water	267
Sales to other agencies	Cal Am Parkway	Drinking Water	1,127
Sales to other agencies	Cal Am Rosemont	Drinking Water	1,022
		TOTAL	3,607
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Units are in acre-feet (AF). The City did not deliver water to Natomas Unified School District in 2020.			

4.3.3 Projected Wholesale Water Use

In the future, the City may expand its role as a wholesaler for the benefit of other water purveyors and their customers in the region. Projected wholesale demands were developed in the on-going Water Master Plan Update and are based on two future supply scenarios: 1) probable estimate of future wholesale demands; and 2) maximum estimate that assumes all water agencies within the American River Place of Use Boundary receive wholesale water. The probable estimate is based on other agencies' master plans, communications that other agencies have had with the City, or by judgment of the City staff, as reported in the City's on-going Water Master Plan Update. As discussed in Chapter 3, the City currently provides wholesale and wheeling service to several neighboring water agencies. A brief description of the POU boundaries is presented in Chapter 3.

For the purposes of this 2020 UWMP, it is assumed that the existing wholesale customers will take the probable estimate by 2030 and assumed that all wholesale customers within the American River POU Boundary will take the maximum estimate by 2040. Projected wholesale demands past 2040 are not expected to change. The interim years are linearly interpolated. Table 4-8 summarizes the projected wholesale customer water use through 2045.

Table 4-8. Wholesale Demands for Potable and Raw Water – Projected (DWR Table 4-2 Wholesale)

Use Type	Additional Description (as needed)	Projected Water Use * Report To the Extent that Records are Available				
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.		2025	2030	2035	2040	2045 (opt)
Add additional rows as needed						
Sales to other agencies	SCWA - Airport	1,056	1,400	1,400	1,400	1,400
Sales to other agencies	SCWA - Zone 50 Metro Air Park	2,545	5,000	5,000	5,000	5,000
Sales to other agencies	SSWD - Arden	1,945	3,500	14,782	26,064	26,064
Sales to other agencies	SSWD - Northridge	0	0	2,130	4,260	4,260
Sales to other agencies	Golden State Water Company	0	0	518	1,037	1,037
Sales to other agencies	Del Paso Manor Water District	0	0	672	1,344	1,344
Sales to other agencies	Cal Am Arden	457	913	1,384	1,855	1,855
Sales to other agencies	Cal Am Fruitridge	4,479	8,692	8,692	8,692	8,692
Sales to other agencies	Cal Am Parkway	2,803	4,480	6,258	8,036	8,036
Sales to other agencies	Cal Am Rosemont	3,591	6,160	8,163	10,166	10,166
Sales to other agencies	SCWA - Arden Park	0	0	2,106	4,211	4,211
Sales to other agencies	SCWA - Zone 41 CSA Wholesale	4,800	9,600	10,122	10,644	10,644
Sales to other agencies	SCWA - Zone 41 NSA, CSA, and SSA	6,661	13,321	12,836	12,350	12,350
Sales to other agencies	Tokay Park	0	0	47	95	95
Sales to other agencies	Florin County Water District	0	0	919	1,837	1,837
Sales to other agencies	Natomas Unified School District	69	69	69	69	69
	TOTAL	28,406	53,135	75,098	97,060	97,060

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

NOTES: Units are in acre-feet (AF). Projected wholesale water use estimates were developed in the on-going Water Master Plan Update. 2030 wholesale projected water use is equal to the probable estimate (average likely water delivery in the on-going Water Master Plan Update) of future wholesale demands. 2040 and 2045 wholesale projected water use is equal to the maximum estimate assuming that all water agencies in the American River Place of Use Boundary receive wholesale water. Interim years (2025 and 2035) were linearly interpolated. The City estimates that it will deliver approximately 69 AF to Natomas Unified School District.

4.3.3.1 Characteristic Five-Year Wholesale Water Use

The estimated water use for the next five years, following 2020, is summarized in Table 4-9 for the City's existing wholesale customers. Projected wholesale water use for 2021 through 2024 was linearly interpolated between the 2020 actual use and the projected 2025 water use. The characteristic five-year water use does not assume drought conditions and will be incorporated into the DRA, further discussed in Chapter 7.

Table 4-9. Projected Five-Year Water Use for Existing Wholesale Customers, AF					
Water Use Sector	2021	2022	2023	2024	2025
SCWA – Airport	781	849	918	987	1,056
SCWA – Zone 50 Metro Air Park	581	1,072	1,563	2,054	2,545
SSWD	701	1,012	1,323	1,634	1,945
Cal Am Arden	91	183	274	365	457
Cal Am Fruitridge	1,109	1,952	2,794	3,637	4,479
Cal Am Parkway	1,462	1,797	2,133	2,468	2,803
Cal Am Rosemont	1,536	2,050	2,563	3,077	3,591
SCWA – Zone 41 CSA Wholesale	960	1,920	2,880	3,840	4,800
SCWA – Zone 41 NSA, CSA, and SSA	1,332	2,664	3,996	5,328	6,661
Natomas Unified School District	69	69	69	69	69
Total	**8,622**	**13,568**	**18,514**	**23,460**	**28,406**

4.4 TOTAL WATER USE

Projected total annual retail water use in five-year increments through the year 2045 is shown in Table 4-10. Recycled water demand is addressed separately in Chapter 6 (Section 6.5).

Table 4-10. Projected Total Retail Water Use (Potable and Non-Potable) (DWR Table 4-3 Retail)

	2020	2025	2030	2035	2040	2045 (opt)
Potable Water, Raw, Other Non-potable *From Tables 4-1R and 4-2 R*	100,483	107,432	113,809	120,187	126,564	132,942
Recycled Water Demand *From Table 6-4*	29	1,000	1,000	1,000	1,000	1,000
Optional Deduction of Recycled Water Put Into Long-Term Storage[1]						
TOTAL WATER USE	100,512	108,432	114,809	121,187	127,564	133,942
[1] *Long term storage means water placed into groundwater or surface storage that is not removed from storage in the same year. Supplier **may** deduct recycled water placed in long-term storage from their reported demand. This value is manually entered into Table 4-3.*						
NOTES: Units are in acre-feet (AF). Table references refer to DWR table numbers.						

Projected total annual wholesale water use in five-year increments through the year 2045 is shown in Table 4-11. As will be discussed in Section 6.5, recycled water is not planned to be treated or distributed by the City to wholesale customers.

Table 4-11. Projected Total Wholesale Water Use (Potable and Non-Potable)
(DWR Table 4-3 Wholesale)

	2020	2025	2030	2035	2040	2045 (opt)
Potable and Raw Water From Tables 4-1W and 4-2W	3,607	28,406	53,135	75,098	97,060	97,060
Recycled Water Demand* From Table 6-4W	0	0	0	0	0	0
TOTAL WATER DEMAND	3,607	28,406	53,135	75,098	97,060	97,060
NOTES: Units are in acre-feet (AF). Table references refer to DWR table numbers.						

4.4.1 Total Water Use Beyond 2045

To meet the 20-year planning requirement for future water supply assessments (Senate Bill 610), the City has decided to include demand projections to the year 2050 in its 2020 UWMP. The City's projected 2050 retail demands are 155,000 AF potable water and 1,000 AF recycled water for a total retail demand of 156,000 AF. The City's projected 2050 wholesale water demand is 97,060 AF. The future projections are anticipated to evolve over time with the implementation of conservation measures and will be reevaluated when long-range planning documents are updated.

4.5 DISTRIBUTION SYSTEM WATER LOSSES

System losses are the difference between the actual volume of water treated and delivered into the distribution system and the actual metered consumption. Such apparent losses are always present in a water system due to pipe leaks, unauthorized connections or use, faulty meters, unmetered services such as fire protection and training, and system and street flushing.

The City uses the American Water Works Association (AWWA) method to annually evaluate its distribution system losses on a fiscal year basis. For the 2020 fiscal year, the City's water losses were estimated to be approximately 10,097 AF. Copies of the City's Water Audit worksheets from Fiscal Years 2016 to 2020 are provided in Appendix E.

Table 4-12 summarizes the system losses for the last five fiscal years. The most recent 12-month period began on July 1, 2019.

Table 4-12. Retail Last Five Years of Water Loss Audit Reporting (DWR Table 4-4 Retail)

Reporting Period Start Date (mm/yyyy)	Volume of Water Loss [1,2]
07/2015	9,856
07/2016	6,801
07/2017	8,391
07/2018	9,160
07/2019	10,097
[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: Units are in acre-feet (AF). Water loss audits are prepared based on the fiscal year.	

Losses from the City's wholesale water distribution system are included in the retail water distribution system reporting. The City's distribution system for retail and wholesale customers is a single system and not separated. Therefore, Table 4-13 assumes a wholesale loss of 0 AF to avoid over counting system losses. In addition, the City's wholesale customers will report their individual system water losses in their UWMPs.

Table 4-13. Wholesale Last Five Years of Water Loss Audit Reporting (DWR Table 4-4 Wholesale)

Reporting Period Start Date (mm/yyyy)	Volume of Water Loss [1,2]
-	-
[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: Water loss audit reporting for the City's wholesale customers is included in the Retail Water Loss Audit reporting as the City's water distribution system for wholesale and retail customers is a single system.	

At the time of preparation of this UWMP, DWR and the State Water Board are in the process of adopting water loss standards. This is discussed further in Chapter 9.

4.6 WATER USE FOR LOWER INCOME HOUSEHOLDS

This UWMP considers current adopted codes, plans, and other policies or laws to estimate water savings projections as shown in Table 4-14. It also includes projected water use for low income households in the City's service area.

A lower income household has an income below 80 percent of an area median income, adjusted for family size. Projected water demands for low-income, single-family, and multi-family residential water uses are included in the total water demands described in Section 4.2.

The City is a member of SACOG and participates in the Regional Housing Needs Plan (RHNP) which allocates participating cities and counties their "fair share" of the region's projected housing needs. The RHNP is updated every five years and provides the housing units that a city or county must plan for within a 7.5-year time period. The SACOG 2021 – 2029 RHNP was adopted March 2020. This information is used by cities and counties to update their General Plan Housing Elements.

The City's 2021 – 2029 Housing Element includes the number of existing lower income households. The Housing Element indicates approximately 50 percent of the City's households are Low Income (17 percent), Very-Low Income (14 percent), or Extremely-Low Income (19 percent)[7]. Assuming that gross per capita water demand is equal for all residential housing units regardless of income, an estimated 29,199 AF (50 percent) of the City's residential water deliveries in 2020 (58,399 AF) were to lower income households. More refined estimates for the distribution of water among different customers demographics will be possible upon completion of the City's water meter program. The City assumes that lower income households will continue to represent approximately 50 percent of the City's total residential customers through 2040, but is subject to change as demographic changes occur.

Table 4-14. Retail Only Inclusion in Water Use Projections (DWR Table 4-5 Retail)

Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) *Drop down list (y/n)*	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.	California Code of Regulations, Title 23 Waters, Division 2 DWR, Chapter 2.7 Model Water Efficient Landscape Ordinance (MWELO), updated 2015. (a)
Are Lower Income Residential Demands Included In Projections? *Drop down list (y/n)*	Yes
NOTES: (a) MWELO applied only to irrigation demand projections.	

[7] City of Sacramento. January 2021. *2021 – 2029 Housing Element An 8-Year Housing Strategy Appendix H-1*

4.7 CLIMATE CHANGE CONSIDERATIONS

Climate change has the potential to alter local climatic patterns and meteorology. The City adopted the Sacramento Climate Action Plan (CAP) in 2012 to identify how the City and the broader community can reduce greenhouse gas emissions (GHGs). The CAP identifies strategies and actions to adapt to the effects of climate change. Example of strategies and actions include planning for mixed-use developments that encourage walking and biking, use of public transit, or water conservation measures. The CAP was incorporated into the City's 2035 General Plan. The City's 2040 General Plan is currently under development. As part of the 2040 General Plan, the CAP will be updated to be a standalone document to provide framework for GHG reduction and establish the City as a leader of climate action.

In December 2019, the Sacramento City Council approved a Climate Emergency Declaration acknowledging the threat of climate change and the need for climate action. The declaration commits the City to build on existing climate commitments and to accelerate municipal and community carbon elimination in the short term, with maximum feasible efforts to implement carbon reduction actions towards eliminating emissions by 2030 as much as possible, recognizing the goal can only be achieved through collaboration with regional partners as well as appropriate financial and regulatory assistance from state and federal authorities.

In 2020, the City participated in the ARBS to identify supply-demand imbalances and climate change adaptation strategies specific to the American River Basin (Basin). The ARBS evaluated projected future climate conditions as summarized below:

- Increase in average winter and summer temperatures
- Change in precipitation patterns
- Decrease in snow water equivalent
- Increase in potential evapotranspiration due to increase in air temperatures
- Change in watershed runoff patterns

Through proactive adaptation management actions, the ARBS highlights ways for the region to alleviate climate change impacts.

As described above, the water demand projections included in this 2020 UWMP reflect current and on-going water use efficiencies and water conservation by the City's water customers. The potential impacts of climate change of the City's water supplies are described in Chapter 6.

The City is aware of additional climate change reports and studies that indicate the potential for noticeable impacts at a greater acceleration than may be described in the ARBS. This includes California's Fourth Climate Assessment (2018), which states that impacts from climate change on water in reservoirs and groundwater in the Sacramento Valley are happening in the near term. The City continues to monitor a variety of sources addressing climate changes as it aligns its policies and water supply portfolio to adapt to the future.

CHAPTER 5
SB X7-7 Baselines, Targets, and 2020 Compliance

In November 2009, SB X7-7, the Water Conservation Act of 2009, was signed into law as part of a comprehensive water legislation package. The Water Conservation Act addressed both urban and agricultural water conservation. The legislation set a goal of achieving a 20 percent statewide reduction in urban per capita water use by December 31, 2020 (i.e., "20 by 2020"). In order to meet the urban water use target requirement, each retail supplier was required to determine its baseline water use, as well as its target water use for the year 2020. Water use is measured in gallons per capita per day (GPCD).

Wholesale water suppliers are not required to establish and meet baselines and targets for daily per capita water use, nor are wholesalers required to complete the SB X7-7 Compliance Forms; however, wholesale agencies are required to provide an assessment of present and proposed programs and policies that will help the retail water supplier achieve their SB X7-7 water use reduction targets. A discussion of the City's programs and policies for water conservation is provided in Chapter 9 of this plan. Therefore, the remainder of this chapter will only focus on SB X7-7 baselines and targets for the City's retail water service area.

This chapter also provides a review of the methodology the City used to calculate its 2020 Urban Water Use Target (target), its baseline, and how the baseline was calculated. The City calculated baselines and targets on an individual reporting basis in accordance with SB X7-7 legislation requirements and DWR Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use (2016) (DWR Methodologies).

This chapter demonstrates that the City has achieved its 2020 target per capita water use. Compliance with the urban water use target requirement is verified in the SB X7-7 Compliance Form, which is included as Appendix F of this plan.

5.1 OVERVIEW AND BACKGROUND

The City's compliance with SB X7-7 was first addressed in the City's 2010 UWMP. The City's baseline per capita water use was determined, and urban water use targets for 2015 and 2020 were established and adopted. Actual 2020 water use data and California Department of Finance (DOF) population estimates were used to calculate 2020 per capita water use. The 2020 Census results were not available for inclusion in this UWMP update; however, the potential difference between the DOF estimates and the eventual final 2020 Census results is not believed to impact the fundamental conclusions of meeting the SB X7-7 requirements.

SB X7-7 included a provision that an urban water supplier may update its 2020 urban water use target in its 2015 UWMP, and may use a different target method than was used in 2010. Also, the SB X7-7 methodologies developed by DWR in 2011 noted that water suppliers may revise population estimates for baseline years when the 2010 Census information became available.

The 2010 Census data was not finalized until 2012. In its 2015 UWMP, the City updated its population, baselines, and targets to reflect 2010 Census data. The City demonstrated that it successfully achieved its 2015 interim target and confirmed its 2020 target.

In this 2020 UWMP, the City verifies that it achieved its 2020 target per capita water use.

5.2 GENERAL REQUIREMENTS FOR BASELINE AND TARGETS

SB X7-7 required each urban water retailer to determine its baseline daily per capita water use over a 10-year or 15-year baseline period. The 10-year baseline period is defined as a continuous 10-year period ending no earlier than December 31, 2004 and no later than December 31, 2010. SB X7-7 also defined that for those urban water retailers that met at least 10 percent of their 2008 water demand using recycled water, the urban water retailers can extend the baseline GPCD calculation for a maximum of a continuous 15-year baseline period, ending no earlier than December 31, 2004 and no later than December 31, 2010. In 2008, the City delivered no recycled water; therefore, the City's baseline GPCD was calculated over a 10-year period. As documented in the City's 2010 UWMP and 2015 UWMP, the 10-year baseline period that the City selected was 1996 through 2005.

SB X7-7 and DWR provided four different methods for calculation of an urban water retailer's 2020 target. Three of these methods are defined in Water Code Section 10608.20(a)(1), and the fourth method was developed by DWR. The 2020 water use target may be calculated using one of the following four methods:

- **Method 1**: 80 percent of the City's base daily per capita water use
- **Method 2**: Per capita daily water use estimated using the sum of performance standards applied to indoor residential use; landscaped area water use; and commercial, industrial, and institutional uses
- **Method 3**: 95 percent of the applicable State hydrologic region target as stated in the State's April 30, 2009 *Draft 20x2020 Water Conservation Plan*
- **Method 4**: An approach that considers the water conservation potential from: 1) indoor residential savings, 2) metering savings, 3) commercial, industrial and institutional savings, and 4) landscape and water loss savings

The City selected Method 1 to calculate its 2020 target in its 2015 UWMP.

Daily average water use is divided by the service area population to obtain baseline and target GPCD. In 2015, the City adjusted its baseline and target GPCD to reflect its updated population estimates based on 2010 Census data results. To calculate the City's compliance year GPCD and compare it to the 2020 target, the population is updated to reflect population estimates for 2020. Details of determining the 2020 service area population are provided in Section 5.3.

The City's baselines and targets are summarized in Section 5.5. The City's 2020 compliance water use is provided in Section 5.6.

5.3 SERVICE AREA POPULATION

To correctly calculate its compliance year GPCD, the City must determine the population that it served in 2020. At the time of preparation of this UWMP, the 2020 Census results were unavailable.

The method used to estimate the service area population is shown on Table 5-1. The DOF uses U.S. Census data, combined with changes to the housing stock, estimated occupancy of housing units, and the number of persons per household to estimate annual population within jurisdictional boundaries. Because the City's current water service area is substantially the same as the City limits, DOF population data for the City of Sacramento is valid for use as the service area population. DOF estimates City of Sacramento 2020 population as shown in Table 5-2.

Table 5-1. Method for 2020 Estimates (SB X7-7 Compliance Table 2)

Method Used to Determine 2020 Population (may check more than one)	
☑	**1. Department of Finance** (DOF) or **American Community Survey** (ACS)
☐	**2. Persons-per-Connection Method**
☐	**3. DWR Population Tool**
☐	**4. Other** DWR recommends pre-review

Table 5-2. 2020 Service Area Population (SB X7-7 Compliance Table 3)

2020 Compliance Year Population	
2020	510,931

5.4 GROSS WATER USE

Annual gross water use, as defined in CWC §10608.12 (h), is the water that enters the City's distribution system over a 12-month period (calendar year) with certain exclusions. This section discusses the City's annual gross water use for each year in the baseline periods, as well as 2020, in accordance with DWR's Methodologies document.

The baseline gross water use values are the same as documented in the City's 2010 and 2015 UWMPs. The City's 2020 actual gross retail water use for Calendar Year 2020 is 96,876 AF as presented in Chapter 4 of this plan.

5.5 BASELINES AND TARGETS SUMMARY

Daily per capita water use is reported in GPCD. Annual gross water use is divided by annual service area population to calculate the annual per capita water use for each year in the baseline periods. As discussed in Section 5.1, the City updated its population data, adjusted its baseline, and confirmed its 2020 target in its 2015 UWMP. The City's 10-year base daily per capita water use is 282 GPCD. Using Method 1 for 2020 water use target calculation as described in Section 5.2, the City's confirmed 2020 compliance target is 225 GPCD. The City's baseline and target are summarized in Table 5-3.

Table 5-3. Retail Supplier Baseline and Targets Summary (DWR Table 5-1 Retail)

Baseline Period	Start Year *	End Year *	Average Baseline GPCD*	Confirmed 2020 Target*
10-15 year	*1996*	*2005*	*282*	*225*
5 Year	*2003*	*2007*	*274*	
**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)*				

The baseline and 2020 target are included in the SB X7-7 compliance form (see Appendix F).

5.6 2020 COMPLIANCE DAILY PER CAPITA WATER USE

In Sections 5.3 and 5.4, the City's 2020 population and gross water use are presented, respectively. The City calculated its actual 2020 water use for the 2020 calendar year in accordance with DWR's Methodologies document. As shown in Table 5-4, urban per capita water use in 2020 was 169 GPCD, which is below the confirmed 2020 water use target of 225 GPCD. Therefore, the City has met its 2020 final water use target. The complete set of SB X7-7 compliance tables used to document this compliance is included in Appendix F.

Table 5-4. Retail Supplier 2020 Compliance (DWR Table 5-2 Retail)

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)*		
169	*0*	*169*	*225*	*Yes*
**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)*				

As detailed in DWR's Methodologies document, adjustments are allowed that can be made to an agency's gross water use in 2020 for unusual weather, land use changes, or extraordinary institutional water use.

The City has elected not to make the adjustments allowed by Water Code Section 10608.24 because these exceptions are not needed to demonstrate compliance with SB X7-7 for 2020. Water use in 2020 in the City's service area was significantly reduced as compared to baseline years as a result of current and on-going water conservation efforts by the City and its customers.

5.7 REGIONAL ALLIANCE

The City has chosen to comply with the requirements of SB X7-7 on an individual basis. The City has elected not to participate in a regional alliance.

CHAPTER 6
Water Supply Characterization

This chapter characterizes the City's water supply portfolio. Currently available water supplies, as well as future anticipated water supplies, are described and quantified. The management of each supply in correlation with other supplies are discussed. Potential effects of climate change and regulations are also discussed. The energy intensity required to treat and distribute the City's water supply within the City's service area is provided.

6.1 WATER SUPPLY ANALYSIS OVERVIEW

The City's existing water supplies consist of the following:

- Treated surface water from the Sacramento River and the American River;
- Groundwater pumped by the City from City-owned and operated wells from the underlying North American and South American subbasins; and
- Purchased water through mutual aid agreements.

Figure 3-3 displays the City's existing water system. The City delivers water supply to its retail and wholesale customers. The City also wheels water to neighboring water agencies. Wheeled water is not collected under the City's water entitlements. While wheeled water supply is not considered a City water supply, and thus not addressed in this UWMP; any contractual obligation will affect dedication of infrastructure and should be considered in other relevant water planning exercises.

In this chapter, the management of each supply in correlation with other supplies are discussed, along with the measures that the City has taken to acquire and develop planned sources of water. Anticipated availability of the City's water supplies under a normal water year is provided in this chapter. The availability of the City's water supplies under a single dry year and a drought lasting five years, as well as more frequent and severe periods of drought, are described in detail in Chapter 7 of this UWMP, along with the basis of those estimates.

6.2 WATER SUPPLY CHARACTERIZATION

The following sections include a description of each water source, limitations on each water source, water quality information, and water exchange opportunities. The water sources include potable water supply as previously described, stormwater, recycled water, and wastewater. For potable water and recycled water supply sources, a discussion is provided about the anticipated supply availability through 2045.

6.2.1 Purchased or Imported Water

The City has historically not purchased or imported water from a wholesale water supplier except under rare circumstances. However, in 2018 and 2020, the City purchased approximately 4,000 AF and 8,500 AF, respectively, of groundwater from SCWA and SSWD as part of a temporary groundwater substitution transfer (described further in Section 6.4).

6.2.2 Groundwater

The City currently draws groundwater from two subbasins of the Sacramento Valley Groundwater Basin. This section describes the history and management strategies of the subbasins as well as the volume of groundwater pumped by the City.

6.2.2.1 Groundwater Basin Description

The City overlies two subbasins of the Sacramento Valley Groundwater Basin (the North American Subbasin, located north of the American River, and South American Subbasin, located south of the American River). The North American Subbasin is bounded by Bear River to the north, Feather River to the west, the Sacramento and American Rivers to the south, and a north-south line extending from Bear River to Folsom Lake to the east. The South American Subbasin is bounded by the Sierra Nevadas to the east, the Sacramento River to the west, the American River to the north, and the Cosumnes and Mokelumne Rivers to the south. The locations of the subbasins are shown on Figure 6-1.

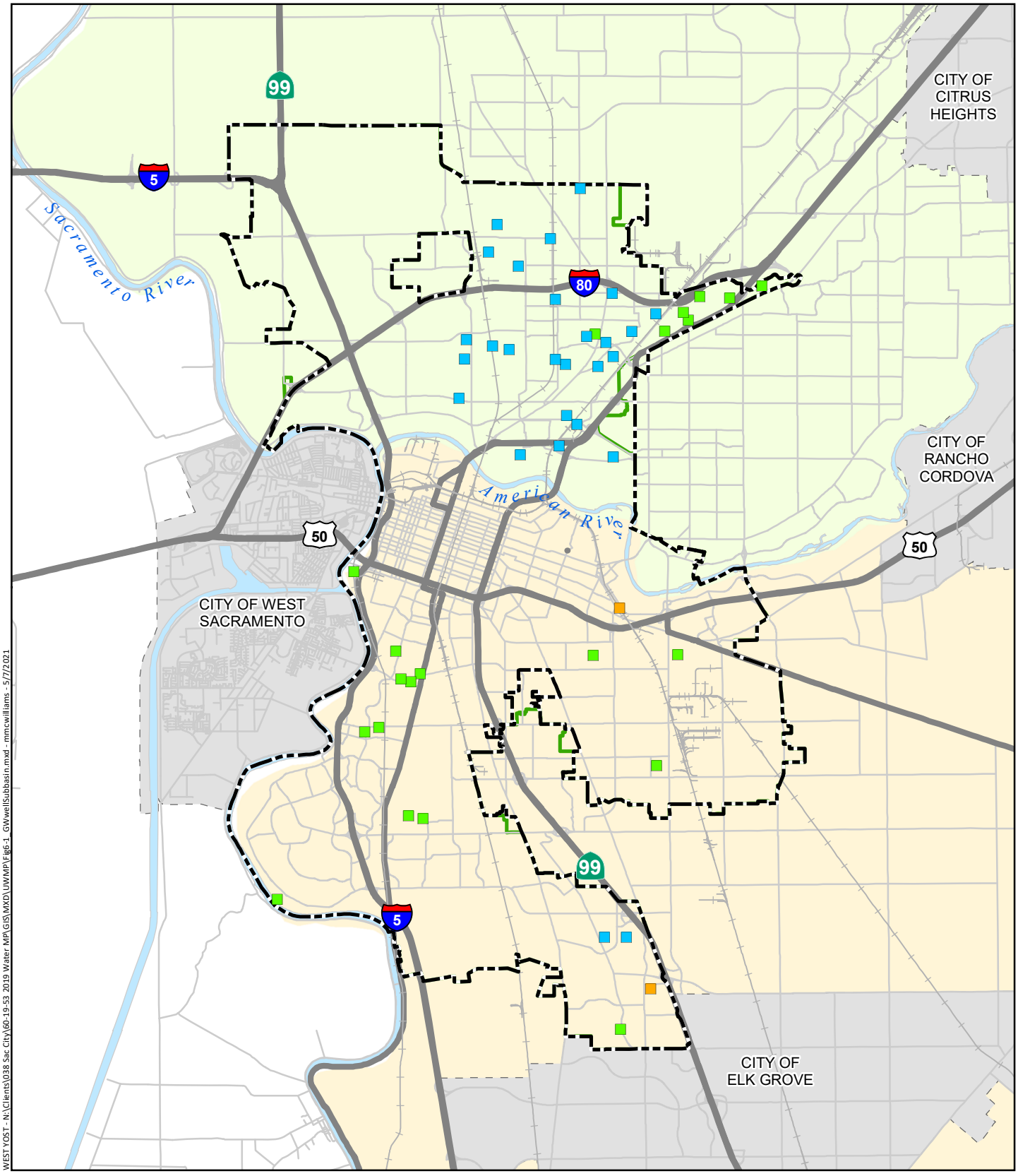
The various geologic formations that constitute the water-bearing deposits underlying both the North and South American subbasins are described in the 2003 Update to the DWR Bulletin 118. These formations include an upper, unconfined aquifer system, and a lower, semi-confined aquifer. The upper aquifer system consists of the Modesto, Riverbank, Turlock Lake, Victor, Fair Oaks, and Laguna Formations, along with Arroyo Seco and South Fork Gravels; the lower aquifer consists primarily of the Mehrten Formation.

It should be noted that as part of the Water Forum process, a groundwater model was developed by SCWA. The model defined a Central Basin boundary which took into account the hydrogeologic boundaries and the political boundaries of organized water purveyors/districts, cities, and the County. Essentially, the Central Basin boundary overlies the DWR South American Subbasin; however, the boundaries are slightly different because the Central Basin boundary was developed from the Sacramento County groundwater model grid. The portion of the South American subbasin underlying the City is considered to be the Central Basin.

6.2.2.2 Groundwater Management

Regional groundwater management activities have and are taking place over the North American and South American Subbasins. The number and type of groundwater users differs significantly between the North American and the South American Subbasins. The North American Subbasin consists mainly of cities, water districts, and water agencies, while the South American Subbasin consists of approximately 6,000 private irrigation and residential users in addition to cities, water districts, and water agencies. Groundwater management activities have taken place over the North American Subbasin for over two decades through the Sacramento Groundwater Authority and the West Placer Groundwater Management group. Similarly, groundwater management activities over portions of the South American Subbasin has been taking place for nearly 14 years through the formation of the Sacramento Central Groundwater Authority (SCGA).

While groundwater management work has been ongoing within both groundwater subbasins through a variety of organizations and water purveyor groups, groundwater management activities are currently being synthesized and coordinated, largely driven by requirements of the Sustainable Groundwater Management Act of 2014 (SGMA) (described in the following section).



WEST YOST - N:\Clients\038 Sac City\60-19-53 2019 Water MP\GIS\MXD\UWMP\Fig6-1_GWwellsubbasin.mxd - mmcwilliams - 5/7/2021

- Municipal Well - Permitted
- Municipal Well - Pending Permit
- Irrigation Well
- City of Sacramento Limits
- City of Sacramento Retail Water Service Area

Subbasin Name

- North American Subbasin
- South American Subbasin

N

0 1.25 2.5

Miles

WEST YOST

Figure 6-1

Groundwater Wells and Subbasins

City of Sacramento
2020 UWMP

6.2.2.2.1 Sustainable Groundwater Management Act

The SGMA was passed in September 2014 as a three-bill legislative package composed of AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley). The legislation provides a framework for sustainable management of groundwater supplies by local authorities, with a limited role for state intervention when necessary to protect the resource. The legislation lays out a process and a timeline for local authorities to achieve sustainable management of groundwater basins. It also provides tools, authorities, and deadlines to take the necessary steps to achieve the goal. For local agencies involved in implementation, the requirements are significant and can be expected to take years to accomplish. The SWRCB may intervene if local agencies do not form a Groundwater Sustainability Agency (GSA) and/or fail to adopt and implement a Groundwater Sustainability Plan (GSP).

The SGMA implementation steps and deadlines are shown in Table 6-1.

Table 6-1. Sustainable Groundwater Management Act Implementation Steps and Deadlines

Implementation Step	Implementation Measure	Deadlines[a]
Step One	• Local agencies must form local GSAs within two years	• June 30, 2017
Step Two	• Agencies in basins deemed high- or medium-priority must adopt GSPs within five to seven years, depending on whether a basin is in critical overdraft	• January 31, 2020 for critically overdrafted basins • January 31, 2022 for high- and medium-priority basins not currently in overdraft
Step Three	• Once plans are in place, local agencies have 20 years to fully implement them and achieve the sustainability goal	• January 31, 2040 for critically overdrafted basins • January 31, 2042 for high- and medium-priority basins not currently in overdraft

(a) See text below for modified deadlines for basins newly identified as high- or medium- basins in SGMA 2019 Basin Prioritization.

SGMA applies to basins or subbasins designated by the DWR as high- or medium-priority basins, based on a statewide ranking that uses criteria including population and extent of irrigated agriculture dependent on groundwater. In January 2019 DWR released Phase 1 Final Basin Prioritizations for 458 basins. In April 2019, DWR released its Phase 2 Draft Basin Prioritization findings for 57 basins. Between the Phase 1 Final and Phase 2 Draft findings, 94 of California's 515 groundwater basins and subbasins have been identified as high- or medium-priority basins. Both the North American and South American Subbasins of the Sacramento Valley groundwater basin have been identified as high-priority basins as of DWR's Phase 2 Draft Prioritization as shown in Table 6-2. It should be noted that basins newly identified as high- or medium-priority in the SGMA 2019 Basin Prioritization are required to form a GSA within two years from the date the basin's priority is finalized and are required to submit a GSP five years from the same finalization date.

Table 6-2. Groundwater Basin Prioritization for Sustainable Groundwater Management Act[a]				
Rank[b]	Basin Number	Basin Name	Overall Basin Ranking Score	Overall Basin Priority
24	5-21.64	Sacramento Valley/ North American Subbasin	22.5	High
29	5-21.65	Sacramento Valley/ South American Subbasin	22.3	High

(a) CASGEM Groundwater Basin Prioritization Results, run version May 26, 2014.
(b) Out of a total of 515 basins, of which 127 were high- or medium-priority basins.

6.2.2.2.2 Management of the North American Subbasin

The City has invested substantial time and resources to participate in the following regional planning activities affecting the management of groundwater resources in the North American Subbasin:

- Sacramento Groundwater Authority (SGA)
- Sacramento Water Forum
- American River Basin Cooperating Agencies Regional Water Master Plan
- Sacramento Metropolitan Water Authority (SMWA)
- Regional Water Authority (RWA) (successor to the SMWA)

The SGA was formed as a joint powers authority in 1998 to collectively manage Sacramento County's portion of the North American Subbasin. SGA is governed by a joint powers agreement between the City, the County, City of Folsom, and the City of Citrus Heights, who each have police power to manage and protect the underlying groundwater basin. Appointed representatives of fourteen local water purveyors (including a City representative) and a representative from both the agricultural and private pumpers serve as the Board of Directors to the SGA. As of 2020, the members of the SGA collectively provide high quality, reliable water supply to over 500,000 people, in addition to irrigation supply.

On December 11, 2014, the SGA adopted the SGA Groundwater Management Plan (GMP) to help establish a framework for maintaining a sustainable groundwater resource for the various purveyors overlying the groundwater basin within Sacramento County and north of the American River. A copy of the SGA GMP (December 2014) can be found on the SGA website (GMP SGA 2014 Final) and is incorporated herein by reference.

On October 20, 2015, the SGA notified DWR that it would be the GSA for the North American Subbasin and will undertake the development of the GSP for the subbasin. Since that time, SGA has been working with the other GSAs that have formed over the remaining portions of the North American Subbasin in the development of a single GSP for the subbasin.

6.2.2.2.3 Management of the South American Subbasin

The City has also invested substantial time and resources to participate in the following regional planning activities affecting the management of groundwater resources in the South American Subbasin:

- Sacramento Central Groundwater Authority (SCGA)
- Sacramento Water Forum
- Regional Water Authority (RWA)
- Sacramento Metropolitan Water Authority (SMWA) (predecessor to the RWA)

The South American Subbasin consists of major water purveyors and more than 6,000 private agricultural and residential users. In 2002, the Central Sacramento County Groundwater Forum was formed to fulfill an element of the Water Forum Agreement, and was aimed at developing recommendations for the management of the Central Sacramento Groundwater Basin, which is a portion of the South American Subbasin. As described above, the City overlies a portion of the Central Sacramento Groundwater Basin, although, as noted previously, the City is not a major groundwater pumper in this area.

The SCGA was formed on September 20, 2006, and is a joint powers authority, similar to the SGA as a form of governance. The SCGA adopted its Central Sacramento County Groundwater Management Plan on November 8, 2006. The SCGA GMP (November 2006) can be found on the SCGA website (Final CSCGMP).

SCGA submitted its GMP to DWR as an alternative plan to the required GSP. DWR recently denied the alternative plan submittal and SCGA is now in the process of preparing a GSP in accordance with SGMA.

6.2.2.3 Overdraft Conditions

Neither the North American Subbasin nor the South American Subbasin are adjudicated; nor have they been described to be in overdraft in DWR Bulletin 118. Further, DWR Bulletin 118 has not projected either basin to become over-drafted with the current management of the subbasins.

6.2.2.4 Groundwater Use – Past Five Years

The City currently has 26 permitted wells in the North American Subbasin, and 2 permitted wells in the South American Subbasin; however, only 23 of these wells are currently operated on a regular basis to supply municipal water. The City has recently constructed three additional water supply wells. One well was drilled at the EAFWTP but the facilities necessary to pump, treat, and deliver the water are pending design and installation. The other two supply wells were constructed at Shasta Park with a 4-million-gallon reservoir. These wells are expected to be permitted and on-line in 2021. The City also owns and operates 22 irrigation/park supply wells. These irrigation wells are not recognized for potable supply and as such are not identified in the City's annual Division of Drinking Water (DDW) Compliance Reports.

Historical retail groundwater pumpage from 2016 through 2020 from each subbasin is shown in Table 6-3.

Table 6-3. Retail Groundwater Volume Pumped (DWR Table 6-1 Retail)

☐	Supplier does not pump groundwater. The supplier will not complete the table below.					
☐	All or part of the groundwater described below is desalinated.					
Groundwater Type ***Drop Down List*** *May use each category multiple times*	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
Add additional rows as needed						
Alluvial Basin	North American Subbasin	16,723	23,301	22,842	19,443	19,022
Alluvial Basin	South American Subbasin	863	2,619	2,467	1,524	1,407
	TOTAL	17,586	25,920	25,309	20,967	20,429
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Unit are in acre-feet (AF).						

The City's wholesale agreements primarily rely on surface water. However, SCWA's Airport and Metro Air Park receive groundwater from the City. The groundwater supply is pumped from the North American Subbasin. The groundwater historically supplied to SCWA is summarized in Table 6-4. It should be noted that in the future, when Hodge Flow Criteria are in effect (Section 6.2.3.2.1), the City may produce supplemental groundwater to meet the demands of Cal Am's wholesale agreement.

Table 6-4. Wholesale Groundwater Volume Pumped (DWR Table 6-1 Wholesale)

☐	Supplier does not pump groundwater. The supplier will not complete the table below.					
☐	All or part of the groundwater described below is desalinated.					
Groundwater Type	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
Add additional rows as needed						
Alluvial Basin	North American Subbasin	428	427	655	903	712
	TOTAL	428	427	655	903	712
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Units are in acre-feet (AF).						

6.2.2.5 Groundwater Use – Projected

The City's 2017 Groundwater Master Plan recommended that the City should continue to budget for well replacement so that groundwater remains a reliable part of the City's water supply portfolio, replacing 24 to 38 wells by 2040 at a rate of one to two wells per year depending on the proposed future groundwater use scenarios presented in the Groundwater Master Plan.

SGA maintains a Water Accounting Framework for groundwater use in the North American Subbasin and dedicates a sustainable target pumping for the City of 20,591 AF. Barring changes in support of SGMA and the pending GSP for that subbasin, the City continues to plan on maintaining access to its sustainable yield in the North American Subbasin.

At present there is no Water Accounting Framework in the South American Subbasin. SCGA anticipates creation of a Water Accounting Framework, either as part of the GSP process or under a separate effort. The City is planning to sequentially change its capacity in the South American Subbasin to increase long-term extractions from a baseline of 4,077 AFY to approximately 19,000 AFY. Final GSPs in the North American Subbasin or South American Subbasin are pending and could modify these projections. These plans are subjected to further CEQA analysis and GSP development.

Table 6-5 summarizes the projected groundwater supply for the City of Sacramento based on the planned future groundwater pumping from the North American and South American Subbasins.

Table 6-5. Groundwater Supplies – Projected

Water Purveyor	Projected Water Supply Volume[(a)]				
	2025	2030	2035	2040	2045
City of Sacramento	27,083	31,107	35,131	39,155	39,155

Notes: Units are in acre-feet (AF).

(a) Based on sustainable target pumping of 20,591 AF from the North American Subbasin and up to approximately 19,000 AF from the South American Subbasin.

6.2.3 Surface Water

The City has multiple surface water entitlements for water from the Sacramento and American Rivers. Surface water is currently diverted at two locations: from the American River downstream of the Howe Avenue Bridge, and from the Sacramento River downstream of the confluence of the American and Sacramento Rivers (see Figure 3-3). The City's current authorized POU for water diverted under the Sacramento River permit includes all the land within the City Limits, which may change over time with annexations. The POU for water diverted under the American River permits includes not only the City limits, but also areas adjacent to the City that include portions of service areas of several other water purveyors. Figure 3-2 illustrates the City's current POU for these water supply sources.

The amount of water the City may divert from the Sacramento and American Rivers is established based upon several factors. This includes provisions contained within State-issued water rights permits and agreements made by the City with the USBR in 1957 and through a voluntary agreement made through the regional Water Forum in 2000. Major provisions of the City's surface water entitlements, the USBR agreement, and the Water Forum agreement are further described below.

Table 6-6 summarizes the 2020 surface water supply and Table 6-7 summarizes the projected surface water supply under normal year conditions.

Table 6-6. Surface Water Supplies – Actual	
Surface Water	Existing (2020) Water Supply Volume
Sacramento River	39,578
American River	31,338
Total	**70,916**
Notes: Units are in acre-feet (AF).	

Table 6-7. Surface Water Supplies – Projected					
	Projected Water Supply Volume				
Water District	2025	2030	2035	2040	2045
Sacramento River	81,800	81,800	81,800	81,800	81,800
American River	228,000	245,000	245,000	245,000	245,000
Total	**309,800**	**326,800**	**326,800**	**326,800**	**326,800**
Notes: Units are in acre-feet (AF).					

6.2.3.1 Surface Water Entitlements

The City's surface water entitlements consist of a pre-1914 appropriate water right for 75 cubic feet per second (cfs) from the Sacramento River and five post-1914 appropriative water right permits, issued by the SWRCB, from the Sacramento River and American River. In addition, the City has entered into a water rights settlement contract (Settlement Contract) with the USBR which places limits on the rate and amount of water the City may divert from the rivers. Each of the State-issued water right permits is summarized in Table 6-8 and shows the maximum amount of diversion that can be taken by river source under the Settlement Contract.

Table 6-8. City of Sacramento Post-1914 State-Issued Water Right Permits Summary and Maximum Diversion Allowance per USBR Settlement Contract

Application Permit and License No.	Priority Date	River Source	Maximum Diversion Amount per USBR Settlement Contract		Purpose of Use	Period of Use	Place of Use	Deadline to Perfect by Full Use
			Cubic Feet Per Second, cfs	Acre-Feet Per Year, AF				
A. 1743 P. 992	3/30/1920	Sacramento	225[a]	81,800[a]	Municipal	Jan 1 to Dec 31	City of Sacramento	12/31/2030
A. 12140 P. 11358	10/29/1947	American	675[b]	245,000[c]	Municipal	Nov 1 to Aug 1	79,500 acres within and adjacent to City	12/31/2030
A. 12321 P. 11359	2/13/1948	Tributaries of American			Municipal	Nov 1 to Aug 1[d]	96,000 acres within and adjacent to City	12/31/2030
A. 12622 P. 11360	7/28/1948	Tributaries of American			Municipal	Nov 1 to Aug 1[d]	96,000 acres within and adjacent to City	12/31/2030
A. 16060 P. 11361	9/22/1954	Tributaries of American			Municipal	Nov 1 to Aug 1	79,500 acres within and adjacent to City	12/31/2030

(a) See Articles 9 and 10 of Contract No. 14-06-200-6497 dated 6-28-57 between City and USBR.
(b) Combined total 675 cfs diversion. See Articles 9 and 10 of Contract No. 14-06-200-6497 dated 6-28-57 between City and USBR.
(c) Combined total 245,000 AFY diversion in 2030. See Articles 9 and 10 of Contract No. 14-06-200-6497 dated 6-28-57 between City and SBR.
(d) Year-round period for re-diversion of water previously diverted by Sacramento Municipal Utility District (SMUD) Upper American River Reservoirs.

The following sections provide additional detail regarding the City's water rights, by river source, and the City's Settlement Contract with the USBR.

6.2.3.1.1 Sacramento River

The City has both pre-1914 and post-1914 appropriative rights for water from the Sacramento River. The City has used Sacramento River water since 1854 and claims a pre-1914 appropriative right to divert 75 cfs from the Sacramento River.

The City has one post-1914 Sacramento River permit (Permit 992). Permit 922 has a priority date of March 30, 1920 and authorizes the City to take water from the Sacramento River by direct diversion. Under Permit 992, the City may divert up to 81,800 AFY with a maximum flow of 225 cfs. Water diverted

from the Sacramento River under Permit 992 may be used within the city limits of the City of Sacramento (see Figure 3-2) and as this area changes from time to time through annexations.

6.2.3.1.2 American River

The City has four State-issued water right permits authorizing diversions of American River water. The combined POU for American River water is shown on Figure 3-2.

American River Permits 11358 and 11361 have priority dates of October 29, 1947, and September 22, 1954, respectively. These permits authorize the City to divert water from the American River by direct diversion, with a combined maximum diversion of 245,000 AFY in 2030 at an allowable rate of diversion of 675 cfs.

The City's other two American River permits (Permits 11359 and 11360) have priority dates of February 13, 1948, and July 29, 1948, respectively. These two permits authorize re-diversion for consumptive uses of American River tributary water previously diverted by the SMUD Upper American River Project (UARP). The combined maximum allowable diversion under these permits includes re-diversion of up to 1,510 cfs of UARP direct diversion water and up to 589,000 AFY of UARP stored water. The Place of Use for these two permits is 96,000 acres within and adjacent to the City.

6.2.3.1.3 U.S Bureau of Reclamation Settlement Contract

The City has a 1957 water rights Settlement Contract with the USBR. The Settlement Contract stems from protests to water rights applications submitted to the SWRCB to allocate water supplies generated from construction of the Folsom Dam. Folsom Dam was built in 1955 as a multipurpose project to control and retain flows from the American River. At that time, the SWRCB was deciding how to allocate water rights on the American River among numerous competing applicants, including the City and USBR. The City and USBR had protested each other's water rights applications. To settle their differences and enable both parties to drop their protests, the City and USBR entered into a settlement contract. The Settlement Contract established provisions to the benefit of both parties. In the Settlement Contract, the City agreed to limitations on the City's rate and amount of diversion under its existing water rights permits in exchange for the USBR's agreement to operate its facilities to assure the City has a permanent reliable supply of surface water under the City's permits.

The City agreed to limit its total combined diversions of the Sacramento and American River to a Maximum Combined Diversion, as outlined in Schedule A of the Settlement Contract. The City also agreed to limit its Sacramento River diversions to a maximum of 225 cfs and a maximum amount of 81,800 AFY and to limit its American River water diversions to a maximum of 675 cfs and up to a maximum amount of 245,000 AFY in 2030 as long as it did not divert more than the Maximum Combined Diversion from both sources. The diversion limitations from the American River by year between 1963 and 2030 are outlined within Schedule B of the Settlement Contract.

Table 6-9 presents the City's maximum allowed diversion in specified years from the Sacramento and American Rivers as compared to the maximum allowable combined diversion as specified in Schedules A and B of the Settlement Contract.

Table 6-9. Maximum Annual and Combined Annual Diversion Allowed to the Year 2040

Year	Maximum Diversion from Sacramento River, AFY[(a)]	Maximum Diversion from the American River, AFY[(b)]	Maximum Combined Diversion, AFY[(c)]
2015	81,800	189,000	252,000
2020	81,800	208,500	278,000
2025	81,800	228,000	304,000
2030	81,800	245,000	326,800
2035	81,800	245,000	326,800
2040	81,800	245,000	326,800

(a) The City may divert up to 81,800 AFY from the Sacramento River as long as the total combined diversion from both the Sacramento and American Rivers does not exceed the Maximum Combined Diversion.

(b) The City may divert up to a Maximum Diversion amount from the American River in a given year as set forth in Schedule H of the 1957 Water Rights Settlement Contract between the USBR and the City as long as the total combined diversion from both the Sacramento and American Rivers does not exceed the Maximum Combined Diversion.

(c) Data obtained from Schedule A of the 1957 Water Rights Settlement Contract between the USBR and the City.

Additionally, the City gave USBR the right to use that quantity of American River Water to which the City has rights, but which exceeds the amounts specified in the USBR contract (approximately 380,500 AF in 2020).

In return, the Settlement Contract requires that USBR make available in the rivers at all times enough water to enable the agreed-upon diversions by the City pursuant to the City's water rights. The City also agreed to make an annual payment to USBR for Folsom Reservoir storage capacity used to meet USBR's obligations under the contract, beginning with payment for 8,000 AF of storage capacity in 1963 and building up, more or less linearly, to payment for the use of 90,000 AF of storage capacity in 2030. The Settlement Contract is permanent and not subject to deficiencies. The Settlement Contract, in conjunction with the City's water rights, provides the City with a very reliable and secure water supply.[8]

6.2.3.2 Water Forum Agreement

The Water Forum was started in 1993 by a group of Sacramento area water managers, local governments, business leaders, agricultural leaders, environmentalists, and citizen groups with two "co-equal" goals:

- To provide a reliable and safe water supply through the year 2030
- To preserve the wildlife, fishery, recreational, and aesthetic values of the Lower American River

[8] The descriptions and discussion of the City's water rights and water right settlement contract are provided solely for informational purposes, and nothing in this document is intended to, nor shall any provision of this document be interpreted, to modify or affect in any way such rights and contract.

After six years of intense interest-based negotiation, the Water Forum participants approved the January 2000 Water Forum Agreement (WFA). The WFA addressed seven elements in its vision of a comprehensive regional water supply solution. The seven elements are as follows:

1. Increased Surface Water Diversions
2. Flow Standard
3. Water Conservation
4. The Water Forum Successor Effort
5. Dry Year Actions
6. Habitat Management
7. Groundwater Management

As part of the WFA, each purveyor signed a Purveyor Specific Agreement (PSA) that specified that purveyor's Water Forum commitments. The PSAs are included as part of the WFA document. An update to the WFA was completed in October 2015, including changes to PSAs. The 2015 Update included amendments, updates, and minor corrections to the WFA. The intent of the update was to ensure the WFA would remain relevant and useful. A copy of the City's PSA, as amended in 2015, is provided in Appendix G of this 2020 UWMP.

The City's PSA limits the quantity of water diverted from the American River to the EAFWTP during two conditions: extremely dry years (i.e., "Conference Years") and in all other years that are not Conference Years. In non-Conference Years, American River diversions to the EAFWTP are tied to the so-called "Hodge Flow Criteria". Hodge Flow Criteria were issued in 1987 by Judge Richard Hodge in the *Environmental Defense Fund v. East Bay Municipal Utility District* litigation. These two conditions, collectively referred to as the PSA Limitations, are described in more detail below.

Because diversions are limited at the EAFWTP under the City's PSA, the City may divert its remaining American River water right through the City's existing Sacramento River diversion point located downstream of the confluence of the American and Sacramento Rivers. It is important to note that the WFA limitations do not supersede the City's division limitations under the Settlement Contract with the USBR; rather, they are in addition to the City's Settlement Contract requirements.

6.2.3.2.1 Extremely Dry Years (Conference Years)

The City's Water Forum PSA defines Conference Years as years in which the DWR projects the annual unimpaired inflow into Folsom Reservoir of 550,000 AF or less or when DWR projects the March through November unimpaired flow into Folsom Reservoir at less than 400,000 AF.

During Conference Years, the City has agreed to limit its annual American River diversions at the EAFWTP to 155 cfs and 50,000 AFY. Conference Years have occurred on the American River only three times over the period of recorded historical hydrology. These years were water years 1924, 1977, and 2015.[9]

[9] A water year is the 12-month period, starting October 1 and ending on September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months of the year. For example, the year ending September 30, 2015 (beginning October 1, 2014) is called the 2015 water year.

6.2.3.2.2 All Other Years (Non-Conference Years)

In non-Conference Years (when the DWR annual projected unimpaired runoff into Folsom Reservoir is greater than 550,000 AF, or the March through November projected unimpaired inflow into Folsom Reservoir is greater than 400,000 AF), the City agreed to restrict its American River Water diversion at the EAFWTP based on Hodge Flow Criteria.

The City's PSA allows the diversion of American River water to the EAFWTP of up to 310 cfs (200 MGD), provided the flow passing by the EAFWTP intake is greater than the Hodge Flow Criteria and a Conference Year does not exist. The WFA documents these criteria and are shown in Table 6-10 below.

Table 6-10. Hodge Decision Flow Criteria

Period	American River Hodge Flow Criteria, cfs[(a)]
October 15 through February	2,000
March through June	3,000
July through October 14	1,750

(a) Hodge Decision Flow Criteria obtained from Appendix C of the WFA. When flows in the American River passing by the EAFWTP intake exceed Hodge Flow Criteria, the City may divert up to 310 cfs at the EAFWTP.

When the flow passing by the EAFWTP intake is less than the Hodge Flow Criteria, diversions to the EAFWTP are limited during specified periods, as shown in Table 6-11.

Table 6-11. Maximum Rate of Diversion to the EAFWTP During Hodge Flow Years

Period	Maximum Diversion[(a)]	
	cfs	MGD
January through May	120	77.6
June through August	155	100.2
September	120	77.6
October through December	100	64.6

(a) Diversion limits obtained from the City's PSA, which is included in Section 5 of the WFA.

Under a hypothetical Hodge Flow year, when flows passing the EAFWTP are below Hodge Flow Criteria every day of the year and assuming the EAFWTP is down for maintenance one month of the year, the maximum annual diversion to the EAFWTP is approximately 82,000 AF.

6.2.4 Stormwater

The City does not currently employ any active stormwater recovery measures and does not have plans to do so.

6.2.5 Wastewater and Recycled Water

For the purposes of this UWMP, "recycled water" is defined as municipal wastewater that has been treated and discharged from a wastewater facility for beneficial reuse. As described below, in 2020, deliveries of recycled water to the SPA Cogen Facility began and are anticipated to be expanded in the future. The City does not plan to wholesale recycled water within the planning horizon of this UWMP. This section describes the projected collection, treatment, and distribution of wastewater and recycled water by the City and other water purveyors in the region.

6.2.5.1 Recycled Water Coordination

The City and the Sacramento Area Sewer District (SASD) operate the wastewater collection systems within the service area through three separate systems: the City's Combined Sewer System (CSS) and Separated Sewer System (SSS), and the SASD's SSS. Most of the wastewater collected from the CSS and all of the wastewater collected in the two SSS is delivered to the Sacramento Regional Wastewater Treatment Plant (SRWWTP). The SRWWTP is operated by the Sacramento Regional County Sanitation District (Regional San). Regional San is responsible for the treatment and disposal of the majority of the City's municipal wastewater.

The City collaborated with Regional San and the SPA, a significant City water customer, on recycled water planning for a January 2015 Recycled Water Feasibility Study (RWFS). The executive summary to the RWFS is included as Appendix H of this UWMP. Following completion of this study, the City and Regional San executed a Principles of Agreement (included in Appendix I) for a Water Recycling Program in April 2016 which serves as an interim document that describes the proposed institutional structure for the Regional San and City Water Recycling Program. Regional San and the SPA, in coordination with the City, cooperated in the development of a Phase 1 water recycling project that will initially deliver recycled water via a new transmission pipeline from the SRWWTP to the Cogen Facility. This transmission pipeline, in concurrence with the City, was upsized to provide additional capacity to serve potential future recycled water users within the City.

6.2.5.2 Wastewater Collection, Treatment, and Disposal

The City currently collects and transports wastewater through two systems: CSS and the SSS. Both systems are discussed in more detail in the following sections. The SSS is operated by the City and SASD. As shown in Table 6-12, about 40,400 AF of wastewater was collected in the City's service area in the 2020 Fiscal Year. Volume of wastewater collected, transported, and treated was provided by fiscal year.

The City conveys most of its wastewater to the SRWWTP. The SRWWTP's treatment system, flows, disposal, and recycled water activities are discussed in the following sections.

Table 6-12. Retail Wastewater Collected Within Service Area in 2020 (DWR Table 6-2 Retail)

☐	There is no wastewater collection system. The supplier will not complete the table below.
	Percentage of 2015 service area covered by wastewater collection system *(optional)*
	Percentage of 2015 service area population covered by wastewater collection system *(optional)*

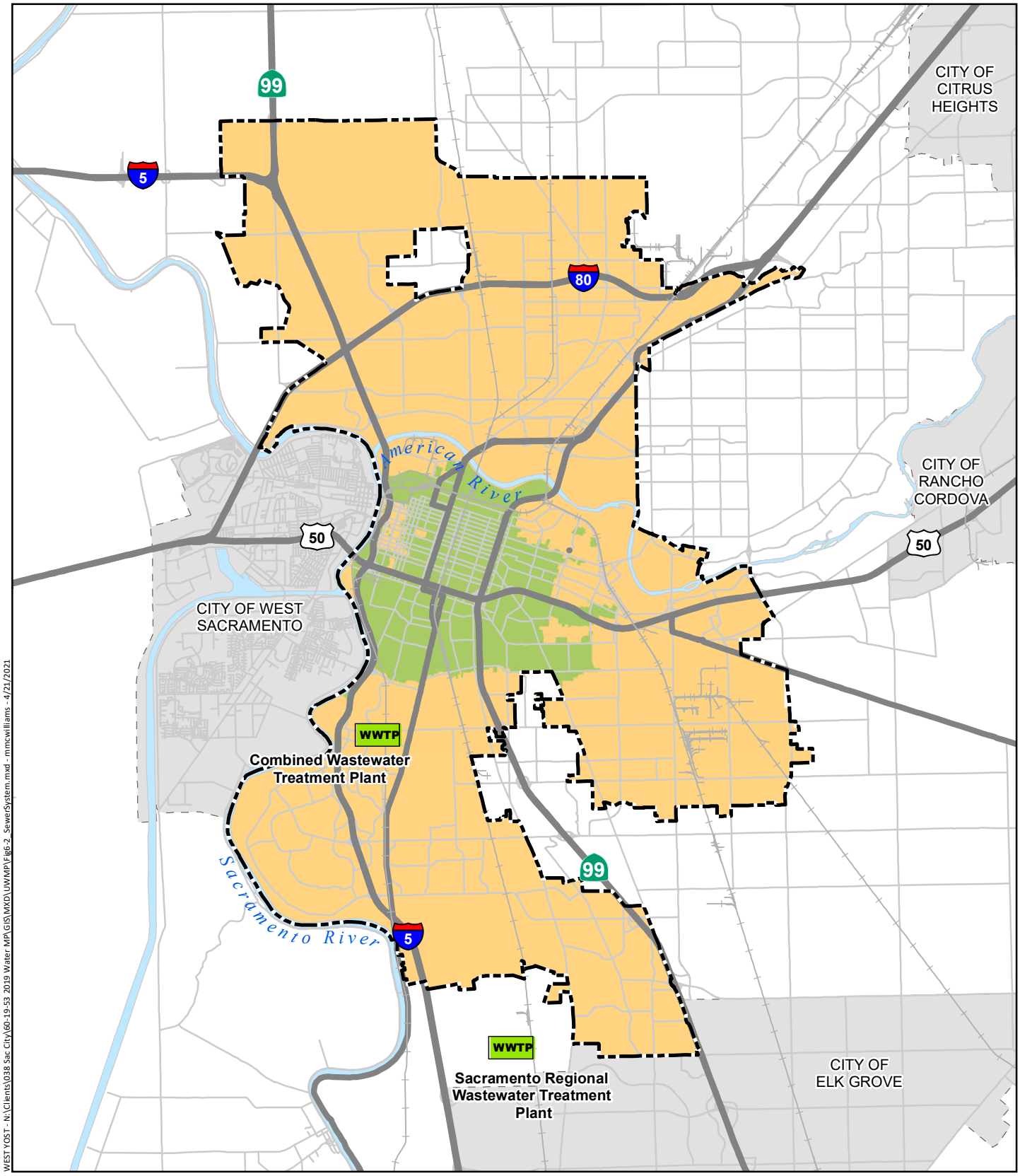
Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? *Drop Down List*	Volume of Wastewater Collected from UWMP Service Area 2020 *	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? *Drop Down List*	Is WWTP Operation Contracted to a Third Party? *(optional)* *Drop Down List*
City of Sacramento	Estimated	0	City of Sacramento	Combined Wastewater Treatment Plant	Yes	
City of Sacramento	Estimated	15,689	Regional County Sanitation District	Sacramento Regional Wastewater Treatment Plant	No	
Sacramento Area Sewer District	Estimated	24,652	Regional County Sanitation District	Sacramento Regional Wastewater Treatment Plant	No	
Total Wastewater Collected from Service Area in 2020:		40,341				

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

NOTES: Units are in acre-feet (AF). Combined wastewater treatment plant includes flow from stormwater as it is a combined system. Volume collected is for the 2020 fiscal year, July 2019 through June 2020.

6.2.5.2.1 Combined Sewer System

Constructed between the late 1800's and 1946, the CSS serves residences and businesses within 11,240 acres of the City: approximately 7,540 acres generally within the Downtown, East Sacramento and Land Park communities contribute sanitary sewage and storm drainage flows (combined sewer) to the CSS; and 3,700 acres generally within the communities of East Sacramento, River Park and Tahoe Park contribute only sanitary sewage flows to the CSS. Pipes within the latter communities once conveyed combined sewer but the sanitary sewer and storm drainage flows were separated in the 1950s in an effort to improve operational efficiency by diverting storm drainage into its own system. Figure 6-2 illustrates the approximate area served by the CSS.



WEST YOST - N:\Clients\038 Sac City\60-19-53 2019 Water MP\GIS\MXD\UWMP\Fig6-2_SewerSystem.mxd - mmcwilliams - 4/21/2021

City of Sacramento Limits

Area Served by the Combined Sewer System

Area Served by the Separated Sewer System

N

0 1.25 2.5

Miles

WEST YOST

Figure 6-2
Combined and Separated Sewer System

City of Sacramento
2020 UWMP

The CSS is composed of about 345 miles of 4- to 120-inch diameter pipes that drain to the west to two large pump station facilities known as Pump Station 1/1A/1B and Pump Station 2/2A, located near the Sacramento River. Pump Stations 1B and 2A are the primary pumping stations at each facility, operating continuously throughout the year, while Pump Stations 1, 1A, and 2 only operate during large storms. Other City facilities include an off-line storage facility known a Pioneer Reservoir that also serves as a primary treatment plant and the Combined Wastewater Treatment Plant (CWTP), another primary treatment plant with a capacity of 130 MGD. Pioneer Reservoir has a peak hydraulic capacity of approximately 350 MGD and a treatment capacity of about 250 MGD.

The City has an agreement with the Regional San whereby the City can convey a maximum of 60 MGD to the SRWWTP for secondary treatment prior to discharge to the Sacramento River. This capacity is sufficient to treat all CSS dry weather sanitary flows (about 17 to 18 MGD) and stormwater from low-intensity storms. During moderate to large storms when the CSS flows are greater than 60 MGD, the flows greater than 60 MGD are routed to CWTP and/or Pioneer Reservoir for temporary storage. When flows exceed storage capacity, the excess flows are released to the Sacramento River after receiving primary treatment, including chlorination and de-chlorination. When the storage and treatment capacities are reached, additional CSS flows are discharged directly to the Sacramento River from Sump 1 and/or Sump 2. Primary treatment is a mechanical settling process that removes oil and about 50 percent of the settleable solids.

Any CSS effluent treated at the CWTP and Pioneer Reservoir will not meet the quality standards for recycled water use, as the CWTP only consists of primary treatment. Additionally, the plants operate only very intermittently as needed during large storm events and therefore do not provide a reliable supply to potential water customers.

As shown in Table 6-13, Pioneer Reservoir treated 0 AF wastewater for the 2020 Fiscal Year that was discharged. CWTP had no discharges in the 2020 Fiscal Year.

Table 6-13. Retail Wastewater Treatment and Disposal Within Service Area in 2020 (DWR Table 6-3 Retail)

Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number *(optional) 2*	Method of Disposal ***Drop down list***	Does This Plant Treat Wastewater Generated Outside the Service Area? ***Drop down list***	Treatment Level ***Drop down list***	2020 volumes [1]				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area [3]	Recycled Outside of Service Area	Instream Flow Permit Requirement
Pioneer	Pioneer (EFF-006)	Sacramento River		River or creek outfall	No		0	0	0	0	0
Combined Wastewater Treatment Plant	CWTP	Sacramento River		River or creek outfall	No		0	0	0	0	0
						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: Units are in acre-feet (AF). Pioneer and CWTP provide primary treatment only during large storm events. Volume collected is for the 2020 fiscal year, July 2019 through June 2020.

6.2.5.2.2 Separated Sewer System

In addition to the City's CSS, the City maintains an SSS within about 60 percent of the geographical area outside the CSS. The balance of the City residents and businesses are served by SASD, which also serves most of the Sacramento County. The system is composed of about 482 miles of 4- to 36-inch diameter pipe and thirty-five individual pump stations. Figure 6-2 illustrates the area served by the SSS.

Flows conveyed by the City's SSS are routed to the SRWWTP for treatment and disposal via an interceptor system consisting of large diameter pipes and pump stations. The interceptor system and the SRWWTP, located just south of the City limits, are owned and operated by Regional San.

6.2.5.2.3 Description of the SRWWTP

Regional San owns and operates the SRWWTP, which treats and discharges wastewater generated by the Cities of Sacramento, Citrus Heights, Elk Grove, Rancho Cordova, Folsom, and urbanized areas of the County of Sacramento. The SRWWTP is located south of the City limits in Elk Grove as shown on Figure 6-2.

The SRWWTP provides secondary treatment consisting of mechanical bar screens, aerated grit removal, primary sedimentation, pure oxygen activated sludge aeration, secondary clarification, chlorine disinfection, and dechlorination.

Tertiary treatment is currently provided to a portion of the secondary treated wastewater for recycled water use. The SRWWTP currently houses Regional San's Water Reclamation Facility (WRF) which consists of a tertiary treatment plant, pump station, and storage reservoir. The WRF was originally designed to produce up to 5 MGD of tertiary effluent, and is permitted to produce up to 10 MGD.

6.2.5.2.4 Wastewater Disposal

The recycled water currently produced at SRWWTP's WRF meets Title 22 California Code of Regulations recycled water requirements. Regional San generates wholesale recycled water and SCWA retails the recycled water to recycled water customers in Elk Grove.

Except for water diverted for recycled use, treated wastewater from the SRWWTP is discharged to the Sacramento River near the town of Freeport. The SRWWTP is currently permitted to discharge an average dry weather flow (ADWF) of 181 MGD, and a daily peak wet weather flow of 392 MGD.

6.2.5.3 Potential, Current, and Projected Recycled Water Uses

In 2020, Regional San completed construction of the 6-mile recycled water pipeline from the SRWWTP to deliver recycled water to the SPA Cogen Facility located near the intersection of Franklin Boulevard and 47th Avenue. The Cogen Facility is located outside of the City, but within the City's American River POU, and previously received potable water from the City for its cooling tower water needs.

As of 2020, Regional San started delivering recycled water to the SPA Cogen Facility from the SRWWTP. It delivered approximately 29 AF in 2020 and plans to provide approximately 1,000 AF of recycled water to the SPA Cogen Facility in the future. Current and projected recycled water use is summarized in Table 6-14.

Table 6-14. Retail Recycled Water Direct Beneficial Uses Within Service Area (DWR Table 6-4 Retail)

Name of Supplier Producing (Treating) the Recycled Water:	Sacramento Regional County Sanitation District										
Name of Supplier Operating the Recycled Water Distribution System:	City of Sacramento										
Supplemental Water Added in 2020 (volume) *Include units*											
Source of 2020 Supplemental Water											
Beneficial Use Type *Insert additional rows if needed.*	**Potential** Beneficial Uses of Recycled Water (Describe)	Amount of **Potential** Uses of Recycled Water (Quantity) *Include volume units* [1]	General Description of 2020 Uses	Level of Treatment *Drop down list*	2020 [1]	2025 [1]	2030 [1]	2035 [1]	2040 [1]	2045 [1] (opt)	
Agricultural irrigation											
Landscape irrigation (exc golf courses)											
Golf course irrigation											
Commercial use											
Industrial use		Tertiary	SPA Cogen Facility	Tertiary	29	1,000	1,000	1,000	1,000	1,000	
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:	29	1,000	1,000	1,000	1,000	1,000	
				2020 Internal Reuse							
[1] ***Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*											
NOTES: The City started supplying the Cogen Facility in 2020 with recycled water. The Cogen Facility will receive 1,000 AFY of recycled water in the future.											

The City does not currently distribute or provide supplemental treatment to wholesale recycled water and does not plan to do so in the future. Therefore, Table 6-15 and Table 6-16 are left blank.

Table 6-15. Wholesale Current and Projected Retailers Provided Recycled Water Within Service Area (DWR Table 6-4 Wholesale)

☑	Recycled water is not directly treated or distributed by the Supplier. The Supplier will not complete the table below.						
Name of Receiving Supplier or Direct Use by Wholesaler	Level of Treatment *Drop down list*	2020*	2025*	2030*	2035*	2040*	2045* *(opt)*
Add additional rows as needed							
	Total	0	0	0	0	0	0
***** Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.							
NOTES: Table intentionally left blank.							

Table 6-16. Wholesale 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual Recycled Water Use (DWR Table 6-5 Wholesale)

☑	Recycled water was not used or distributed by the supplier in 2015, nor projected for use or distribution in 2020. The wholesale supplier will not complete the table below.	
Name of Receiving Supplier or Direct Use by Wholesaler	2015 Projection for 2020*	2020 Actual Use*
Add additional rows as needed		
Total	0	0
Units of measure (AF, CCF, MG) *must remain consistent throughout the UWMP as reported in Table 2-3.*		
NOTES: Table intentionally left blank.		

The 2015 UWMP projected that approximately 1,000 AF of recycled water would be used by the Cogen Facility. In 2020, Regional San started delivering recycled water to the Cogen Facility and delivered approximately 29 AF of recycled water with the plan to deliver 1,000 AF to the Cogen Facility in the future. Table 6-17 compares the projected 2020 recycled water use in the 2015 UWMP to the actual recycled water use in 2020.

Table 6-17. Retail 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual Recycled Water Use (DWR Table 6-5 Retail)

☐	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]**
Insert additional rows as needed.		
Agricultural irrigation		
Landscape irrigation (exc golf courses)		
Golf course irrigation		
Commercial use		
Industrial use	1,000	29
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	1,000	29
[1] **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.		
NOTES: Regional San started supplying the Cogen Facility in 2020.		

Expansion of the recycled water system is undetermined at this time. Therefore, Table 6-18 is left blank.

Table 6-18. Retail Methods to Expand Future Recycled Water Use (DWR Table 6-6 Retail)

☑	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
6-25	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use *
Add additional rows as needed			
		Total	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Table intentionally left blank.			

6.3 DESALINATED WATER OPPORTUNITIES

The City is not considering the development or use of desalinated water or brackish groundwater; there is no source of sea water or brackish groundwater near the City.

6.4 EXCHANGES OR TRANSFERS

The City produces mostly surface water and some groundwater to serve its customers. In 2018 and 2020, the City participated in a Temporary Groundwater Substitution Water Transfer. Under the transfer, the City temporarily increased the use of groundwater which allowed some surface water to be made available for sale to other water users in the State for up to a five-month period. This was accomplished by: 1) utilizing existing City groundwater wells; and 2) taking groundwater produced by SSWD and SCWA. Under the water transfer, surface water that is normally diverted by the City after being released from Folsom Reservoir by the USBR from July 1, 2020 to November 30, 2020 was allowed to flow through the rest of the Lower American River, and through the Delta, where it was pumped out of the South Delta by DWR and conveyed to members of the State Water Contractors. Several water agencies within the region have participated in past transfers. Past participants include the City, Fair Oaks Water District, Carmichael Water District, SSWD, SCWA, Golden State Water Company, and San Juan Water District.

6.5 FUTURE WATER PROJECTS

The City continues to evaluate and plan projects to improve the delivery reliability of its existing water supplies. Table 6-19 and Table 6-20 indicate that all of the City's future water supply projects or programs are incompatible with DWR tables and, therefore, are described in narrative in this section.

Table 6-19. Retail Expected Future Water Supply Projects or Programs (DWR Table 6-7 Retail)

☐	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.					
☑	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.					
6-24	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 *Drop Down List*	Expected Increase in Water Supply to Supplier* *This may be a range*
	Drop Down List (y/n)	*If Yes, Supplier Name*				
Add additional rows as needed						
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Table intentionally left blank.						

Table 6-20. Wholesale Expected Future Water Supply Projects or Programs (DWR Table 6-7 Wholesale)

☐	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.					
☑	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.					
6-24	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 *Drop Down list*	Expected Increase in Water Supply to Supplier*
	Drop Down Menu	*If Yes, Supplier Name*				
Add additional rows as needed						
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Table intentionally left blank.						

6.5.1 Surface Water

The City has studied several alternatives for long-term water treatment capacity. When only considering the potential of expanding the City's existing water treatment plants, the City has narrowed their focus on expansion of the SRWTP. However, a new regional water treatment plant, the RiverArc project, is being planned that could have additional benefit to the City. This section provides a qualitative comparison of the benefits of each of these project alternatives to the City. The two projects considered in this analysis are:

- Expansion of SRWTP (Phased 150 MGD expansion) - Expansion of the SRWTP would include a new water supply intake at the confluence of the American and Sacramento Rivers, a raw water pipeline to the SRWTP site, expansion of the SRWTP in two or more phases, and treated water transmission mains, including routing through the downtown corridor and trenchless crossing(s) under the American River.

- RiverArc Water Treatment Plant (ultimate capacity of more than 150 MGD for all project partners) – This project would modify and utilize an existing modern river intake located on the Sacramento River and construct a new raw water booster pump station and raw water pipelines. The WTP would be constructed on a greenfield site north of the City. The project is envisioned to be constructed in phases based on the needs of the project partners.

In addition to considering the SRWTP expansion or the RiverArc Water Treatment Plant projects, City's on-going Water Master Plan Update recommends for the City to continue to plan for the rehabilitation of the EAFWTP and the retrofit of the existing intake at the SRWTP. The EAFWTP currently has a permitted capacity of 160 MGD. However, flocculation/sedimentation basins 1 and 2, which have an 80 MGD capacity, are in poor condition and currently not used. The City has a planned project to demolish basins 1 and 2 and rebuild facilities to increase the plant reliable capacity to 120 MGD. The reliable capacity would be available in normal and wet years. In drier years, when American River flows drop below the Hodge flow criteria, the EAFWTP would be restricted to 100 MGD. Therefore, existing capacity is evaluated at 80 MGD, with an increase in capacity by 2030 of 100 MGD in drier years and 120 MGD in normal and wet years. Rehabilitation of EAFWTP is an important component of the City's supply portfolio, providing an additional 20 MGD to 40 MGD of treatment capacity. It is recommended that the City continue to plan to rehabilitate the plant to replace the capacity of basins 1 and 2 to increase the reliable capacity to 120 MGD. Lastly, the City should continue to pursue evaluating and potentially retrofitting the existing intake at the SRWTP. Currently, the reliable capacity of the SRWTP is restricted to 135 MGD when river elevations drop to -0.5 feet, the lowest level historically observed. The City has installed vibration monitoring devices on pumps to further understand pumping issues at lower river levels. If intake capacity could reliably be increased to 160 MGD under all flow conditions, existing supplies would be sufficient through 2050 with projected retail demands and existing wholesale contracts.

6.5.2 Recycled Water

As stated in previous sections, the City's expansion of the recycled water system is undetermined. The only current recycled water customer is the Cogen Facility.

6.5.3 Groundwater

The City's groundwater wells are an important component of its supply portfolio, providing 20 MGD of supply. As recommended in the City's Groundwater Master Plan the City should continue to budget for well replacement so that groundwater remains a reliable part of the City's water supply portfolio, replacing 24 wells at a rate of one to two wells per year.

The Groundwater Master Plan also evaluated an expansion of the City's groundwater program, recommending as a preferred option that the City also budget for an additional 14 wells to expand production capability, to increase production capability in drier and extremely dry years, when groundwater could replace surface water supplies reduced due to American River flow limitations. As noted in the Groundwater Master Plan, any future goals to expand the City's groundwater resources will need to be considered in conjunction with locally developed groundwater sustainability plans. However, as noted in the Groundwater Master Plan, expansion of the City's groundwater program will maximize the City's supply flexibility and allow it to partner in regional conjunctive use programs being contemplated.

6.6 SUMMARY OF EXISTING AND PLANNED SOURCES OF WATER

The City's actual retail and wholesale water supplies in 2020 are summarized in Table 6-21 and Table 6-22. In 2020, the City supplied its retail customers with approximately 97,000 AF of water and its wholesale customers with approximately 3,600 AF of water. The City's projected future water supplies through 2045 are summarized in Table 6-23 and Table 6-24 for its retail and wholesale customers.

Table 6-21. Retail Water Supplies Actual (DWR Table 6-8 Retail)

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				
Surface water (not desalinated)	American River	28,443	Drinking Water	
Surface water (not desalinated)	Sacramento River	39,578	Drinking Water	
Groundwater (not desalinated)		20,429	Drinking Water	
Purchased or Imported Water	Groundwater Substitution Transfer	8,427	Drinking Water	
Recycled Water		29	Recycled Water	
	Total	96,905		0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*				
NOTES: Units are in acre-feet (AF).				

Table 6-22. Wholesale Water Supplies Actual (DWR Table 6-8 Wholesale)

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				
Surface water (not desalinated)	American River	2,895	Drinking Water	
Groundwater (not desalinated)	North American Subbasin	712	Drinking Water	
	Total	3,607		0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*				
NOTES: Units are in acre-feet (AF).				

Table 6-23. Retail Water Supplies – Projected (DWR Table 6-9 Retail)

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											
Surface water (not desalinated)	Sacramento River	81,800	81,800	81,800	81,800	81,800	81,800	81,800	81,800	81,800	81,800
Surface water (not desalinated)	American River	228,000	228,000	245,000	245,000	245,000	245,000	245,000	245,000	245,000	245,000
Groundwater (not desalinated)	City-owned wells	22,400	41,400	22,400	41,400	22,400	41,400	22,400	41,400	22,400	41,400
Recycled Water	SRWWTP	1,000		1,000		1,000		1,000		1,000	
	Total	333,200	351,200	350,200	368,200	350,200	368,200	350,200	368,200	350,200	368,200
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*											

NOTES: Units are in acre-feet (AF).
Refer to Table 6-8 for details on the maximum annual and combined annual diversion allowed from the City's surface water supplies.
The City may divert up to 81,800 AF of Sacramento River water as long as the total combined diversion from both the Sacramento and American Rivers does not exceed the Maximum Combined Diversion specified in Schedule A. The Sacramento River water is available to the City for all hydrologic years.
The City may divert up to the Maximum Diversion from the American River as long as the total combined diversion from both the Sacramento and American Rivers does not exceed the Maximum Combined Diversion specified in Schedule A. American River water right can be diverted south of the confluence through the City's existing Sacramento River diversion point.
The City's groundwater supply is not anticipated to be impacted by drought conditions. Volumes shown are the City's existing sustainable groundwater capacity, 20 MGD or 22,400 AF, as estimated in the City's on-going Water Master Plan Update.

Table 6-24. Wholesale Water Supplies – Projected (DWR Table 6-9 Wholesale)

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											
Surface water (not desalinated)	American River	22,006		46,735		68,698		90,660		90,660	
Groundwater (not desalinated)	City-owned Wells	6,400		6,400		6,400		6,400		6,400	
	Total	28,406		53,135		75,098		97,060		97,060	
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*											

NOTES: Units are in acre-feet (AF).
Groundwater projected supply is assumed to be equal to the projected water use for SCWA Airport and Metro Air Park as reported in Table 4-8 (DWR Table 4-2 Wholesale).

6.7 CLIMATE CHANGE IMPACTS TO SUPPLY

6.7.1 Overview

The State of California is taking proactive steps to understand and address climate change. According to information contained within the State of California's climate change website portal, the world's climate is warming as supported by observations of increasing air and ocean temperatures.

As a proactive planning step, the State is inserting climate change considerations into documents and reports where the State has oversight. For example, per SWRCB Resolution 2017-0012, dated March 7, 2017, water system inspections are required to address climate change impacts and concerns. It is possible that future UWMPs could require agencies to recognize climate change and potential impacts to water supplies.

The Annual Report to the Drinking Water Program, required by the State, included a new section in 2018. This new section, Section 17 - Climate Change Adaptation and Resiliency for Water Utilities, requires an assessment of climate threats, a qualitative overview of the sensitivity and magnitude of expected impacts, and a status of adaptation measures being undertaken to increase resiliency and reduce vulnerabilities. DDW included a set of predetermined climate threats, potential consequences from client change, and adaptation strategies within the report. The climate threats identified as applicable by the City in the report include:

- Drought
- Groundwater Depletion
- Water Quality Degradation
- Flooding
- Extreme Heat
- Fire
- Other

The City's self-assessment (provided in the City's 2018 Annual Report to the Drinking Water Program) about the sensitivity of City facilities and consequence of disruption as a result of the threats and the status of implementing climate adaptation strategies is summarized in Table 6-25 and Table 6-26.

Table 6-25. Sensitivity and Magnitude of Climate Change Threats[(a)]

Threat	Potential Consequence (Pre-defined by DDW)	Sensitivity Level (Self-Reported)
Drought/ Groundwater Depletion	Decreased water storage (low lake and reservoir levels)	Medium Sensitivity
	Groundwater depletion (increased extraction, reduced groundwater recharge, etc.	Medium Sensitivity
	Change in seasonal runoff and/or loss of snowmelt	High or Already Experiencing
	Region relies on water diverted from the Delta, imported from the Colorado River or other climate-sensitive areas	Medium Sensitivity
Water Quality Degradation	Salt-water intrusion into aquifers	None to Low Sensitivity
	Altered water quality during storm events (turbidity shifts, debris flows)	High or Already Experiencing
	Surface water quality issues related to eutrophication, algal blooms, invasive species	Medium Sensitivity
Flooding/ Sea Level Rise	High flow events and flooding	High or Already Experiencing
	Inundation due to sea level rise, high tides, and/or coastal storm surges	None to Low Sensitivity
	Aging flood protection infrastructure (levees), or insufficient impoundment capacity	Medium Sensitivity
Extreme Heat	Peak demand volume surges (due to extreme heat, temperature trends, etc.)	High or Already Experiencing
	Increases in agricultural water demand or energy sector needs	None to Low Sensitivity
Fire/ Other	Disruption of power supply	Medium Sensitivity
	Other Water Quality impacts from wildfire activity	High or Already Experiencing

(a) Taken from the City's 2018 Annual Report to the Drinking Water Program

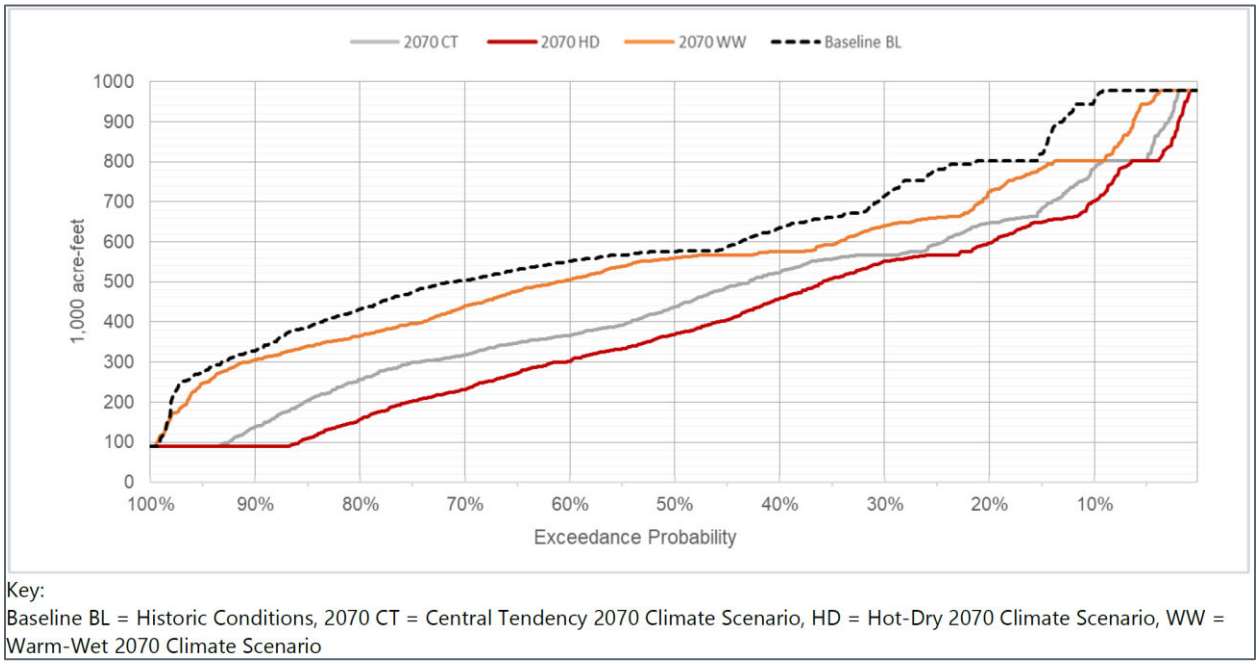
Table 6-26. Adaptation Measures[a]	
Adaptation Measure (Pre-defined by DDW)	Status (Self-Reported)
Install new and deeper drinking water wells, or modify existing wells to increase pumping capacity	In Progress
Develop local supplemental water supply, enhanced treatment, or increased storage (e.g., recycled water, storm runoff for groundwater recharge, desalination, new reservoirs)	In Progress
Interconnections with other utilities (transfers, mutual aid agreements with neighboring utilities)	In Progress
Relocate facilities, construct or install redundant facilities	In Progress
Modify facilities (e.g., install barrier or level, raise a wall, seal a door, elevate construction)	In Progress
Conservation measures (demand management, enhanced communication and outreach)	In Progress
Fire prevention (brush management, partnerships)	In Progress
Alternative or backup energy supply	In Progress
On-site energy generation	None to Low Sensitivity
Enhance monitoring program, budget for addition testing and treatment, chemicals	Medium Sensitivity
(a) Taken from the City's 2018 Annual Report to the Drinking Water Program	

As discussed in Chapter 4, in December 2019, the Sacramento City Council approved a Climate Emergency Declaration acknowledging the threat of climate change and the need for climate action. The declaration commits the City to build on existing climate commitments and to accelerate municipal and community carbon elimination in the short term, with maximum feasible efforts to implement carbon reduction actions towards eliminating emissions by 2030 as much as possible, recognizing the goal can only be achieved through collaboration with regional partners as well as appropriate financial and regulatory assistance from state and federal authorities.

6.7.2 American River Basin Study

The City is also a participant in the ARBS, which was conducted in 2020 in partnership with local water purveyors and the USBR. The purpose of the ARBS was to develop data, tools, and analyses, and identify supply-demand imbalances and climate change adaptation strategies specific to the American River Basin. Under the "new normal" of a changing climate, the ARBS aims to improve the resolution of regional climate change data and to develop regionally-specific mitigation and adaptation strategies.

Changing climate conditions in the Sierra Nevada Mountains threaten the volume of water stored in the snowpack and the timing of runoff entering Folsom Reservoir. Consequently, they can also affect the critical role of Folsom Reservoir in the CVP Operations. Reliance on Folsom Reservoir is expected to increase commensurate with the impact of sea level rise on salinity in the Delta. Modeling of these factors has illustrated that, without operational adjustments, Folsom Reservoir is projected to have lower end of conservation season (end of September) storage levels and approach "dead pool" more often under most future climate scenarios (see Figure 6-3). Similarly, increased early season runoff would increase flood risks along the Lower American River, leaving less water in the upper watershed available during water supply operations.



Key:
Baseline BL = Historic Conditions, 2070 CT = Central Tendency 2070 Climate Scenario, HD = Hot-Dry 2070 Climate Scenario, WW = Warm-Wet 2070 Climate Scenario

Figure 6-3. Exceedance Plot of Folsom Reservoir Storage (end of September) Under Future Climate Change

Under the 2070 level of development, the ARBS projects a supply-demand imbalance of 63 to 78 thousand acre-feet (TAF)/year in the Upper Basin (or Foothills Area) without further conservation or management actions. In the Lower Basin, groundwater extraction is expected to increase by 62 to 155 TAF/year to offset the projected imbalance, which would affect groundwater sustainability.

Based on the water supply and demand imbalance results, the region's water supply reliability has vulnerabilities. The ARBS assessed several adaptation portfolios for addressing the range of vulnerabilities and future supply-demand imbalances for the ARBS Area for regional benefits. Portfolios analyzed were:

- Foundational Institutions
- No Assurances for Long-term CVP Water Contract
- Alder Creek Storage and Conservation Project
- Sacramento River Diversion Project
- Federally Recognized Groundwater Bank (North and South Basin)
- Folsom Dam Raise with Groundwater Banking (South Basin)
- Modified Flow Management Standard

The seven formulated adaptation portfolios were quantitatively evaluated using CalSim 3 to alleviate supply-demand imbalances and benefits to the region. The ARBS's intent was not focused on individual water-supplier's portfolio, but rather how the region could plan to increase regional reliability. The precise composition, scale, operations, partnerships, funding, and governance to advance these project concepts will require further evaluations and coordination among American River Basin interests, including the USBR, DWR, and SWRCB.

Overall results of the ARBS indicate the region can expect fewer wet years and increased temperatures with earlier run-off times. While undefined at this time, an increase in dry years within this watershed could increase the evapotranspiration rates for irrigation practices, change the snowpack and runoff dynamic and more frequently trigger Hodge flow criteria on the lower American River resulting in an annualized reduction of diversions at the EAFWTP. This, in turn, will increase the need to divert water from the Sacramento River and to use alternative water supplies to augment surface water supplies. Alternative supply sources include increased groundwater production, recycled water use, stormwater capture opportunities and even use of excess available water supplies from others.

In addition to the ARBS, the City is aware of additional climate change reports and studies that indicate the potential for noticeable impacts at a greater acceleration than may be described in the ARBS. This includes California's Fourth Climate Assessment (2018), which states that impacts from climate change on water in reservoirs and groundwater in the Sacramento Valley are happening in the near term. The City continues to monitor a variety of sources addressing climate changes as it aligns its policies and water supply portfolio to adapt to the future.

6.8 ENERGY INTENSITY

In accordance with CWC §10631.2(a), the energy intensity to provide water service to the City's customers over a one-year period is presented in this section to the extent that the information is available. The amount of energy to divert, pump, treat, and distribute the City's water supply within the system that it owns and operates is included.

Water energy intensity is the total amount of energy, calculated on a whole-system basis, used to deliver water to the City's retail and wholesale customers for use. Energy intensity is the total amount of energy in kilowatt hours (kWh) expended on a per acre-foot basis to take water from the City's source to its point of delivery. Understanding the whole-system energy intensity would allow the City make informed strategies in managing its water supplies and operating its system as follows:

- Identifying energy saving opportunities as energy consumption is often a large portion of the cost of delivering water;
- Calculating energy savings and GHG emissions reductions associated with water conservation programs;
- Potential opportunities for receiving energy efficiency funding for water conservation programs;
- Informing climate change mitigation strategies; and
- Benchmarking of energy use at each water acquisition and delivery step and the ability to compare energy use among similar agencies.

In Table 6-27 below, the energy intensity of the City's water service is calculated for the 2020 Fiscal Year, July 2019 through June 2020, as it provides a typical year's energy use. The total energy intensity for the City's water service is 305 kWh/AF.

Table 6-27. Energy Intensity – Water (DWR Table O-1B)

Enter Start Date for Reporting Period	7/1/2019	Urban Water Supplier Operational Control		
End Date	6/30/2020			
Is upstream embedded in the values reported?	☐	Sum of All Water Management Processes	Non-Consequential Hydropower	
Water Volume Units Used	*AF*	Total Utility	Hydropower	Net Utility
Volume of Water Entering Process (volume unit)		*103,873*	*0*	*103,873*
Energy Consumed (kWh)		*31,684,676*	*0*	*31,684,676*
Energy Intensity (kWh/volume)		*305.0*	*0.0*	*305.0*

Quantity of Self-Generated Renewable Energy

kWh

Data Quality *(Estimate, Metered Data, Combination of Estimates and Metered Data)*

Metered Data

Data Quality Narrative:

Water production and energy data associated with each water production facility was provided by the City of Sacramento. SCADA is used to measure the volume of water production at each water facility.

Narrative:

The City of Sacramento provided energy data, kWh, for each water facility for the 2020 Fiscal Year (July 2019 through June 2020). The water facilities include the City's two water treatment plants, SRWTP and EAFWTP, water storage tanks, groundwater wells, and booster pump stations located throughout the City's water service area. The water production data is summarized for the 2020 Fiscal Year.

As discussed in Section 6.5.2, the City and SASD operate the wastewater collection system to collect wastewater within the City's water service. The three separate systems are the City's combined sewer system, separated sewer system, and SASD's separated sewer system which are used to deliver the wastewater to the SRWTTP, which is owned and operated by Regional San, to be treated. Wastewater volume and energy consumption data was provided for the 2020 Fiscal Year, July 2019 through June 2020, to calculate the 2020 energy intensity. This is the best data available during the preparation of this plan.

The energy intensity associated with the City's wastewater services for 2020 is provided in Table 6-28. The total energy intensity for the City's wastewater services is 322 kWh/AF.

Table 6-28. Energy Intensity – Wastewater (DWR Table O-2)

Enter Start Date for Reporting Period 7/1/2019 End Date 6/30/2020		Urban Water Supplier Operational Control			
		Water Management Process			
Is upstream embedded in the values reported?	☐	Collection / Conveyance	Treatment	Discharge / Distribution	Total
Volume of Water Units Used	AF				
Volume of Wastewater Entering Process (volume units selected above)		*15,689*	*0*	*0*	*15,689*
Wastewater Energy Consumed (kWh)		*5,055,789*	*0*	*0*	*5,055,789*
Wastewater Energy Intensity (kWh/volume)		*322*	*0*	*0*	*322*
Volume of Recycled Water Entering Process (volume units selected above)		*0*	*0*	*0*	*0*
Recycled Water Energy Consumed (kWh)		*0*	*0*	*0*	*0*
Recycled Water Energy Intensity (kWh/volume)		*0.0*	*0.0*	*0.0*	*0.0*

Quantity of Self-Generated Renewable Energy related to recycled water and wastewater operations

kWh

Data Quality *(Estimate, Metered Data, Combination of Estimates and Metered Data)*

Combination of Estimates and Metered Data

Data Quality Narrative:

The wastewater volume and the energy consumption data is for the 2020 Fiscal Year (July 2019 through June 2020). Energy consumption data for the 2020 Fiscal Year was provided by the City of Sacramento for its Combined Sewer System, which collects wastewater and drainage. The energy consumption data is metered and the wastewater volume is estimated.

Narrative:

As reported in DWR Table 6-2 Retail, the City of Sacramento collected approximately 15,689 AF of wastewater and draingage in its Combined Sewer System and Seperated Sewer System that was delivered to the SRWWTP for treatment during the 2020 Fiscal Year. Sacramento Area Sewer District collected approximately 25,000 AF of wastewater in the City's service area from its Seperated Sewer System but is not included in this energy reporting. The City's Pioneer and Combined wastewater treatment plants did not treat wastewater during the 2020 Fiscal Year. Recycled water is treated at the SRWWTP and delivered to the Cogen Facility. Therefore, energy consumption data associated with the City's recycled water is not included.

CHAPTER 7
Water Service Reliability and Drought Risk Assessment

This chapter discusses the City's water supply reliability under varying conditions through 2045. Factors impacting long-term reliability of water supplies are discussed. In assessing the City's water supply reliability, a comparison of projected water supplies and projected water demand in normal, single dry, and five consecutive dry years is provided for the City's water service area. This chapter also includes the City's DRA for the next five years. Findings show that the City's water supplies are adequate to meet the existing and projected water demands during normal and dry conditions.

7.1 WATER SERVICE RELIABILITY ASSESSMENT

The City's water supply reliability reflects its ability to meet the needs of its water customers with its various water supplies under varying conditions. Details from Chapter 4, which describes the City's water use, and Chapter 6, which describes the City's water supply, are incorporated in this chapter to conduct the assessment. Findings from this assessment influence the City's water management decisions.

7.1.1 Constraints on Water Sources

There are a variety of constraints that can impact water supply reliability. This section includes a description of potential physical, legal, environmental, water quality, and climatic constraints on the reliability of water supply sources as identified by the City. Descriptions of the City's water supply sources are included in Chapter 6.

7.1.1.1 Physical

A fundamental factor that affects water supply reliability is the hydraulic capacity of supply and distribution system facilities. The current supply and distribution system is sufficient to meet existing demands. The City is in the process of updating its Water Master Plan. The on-going Water Master Plan Update uses a hydraulic model of the distribution system to evaluate potential physical constraints and identify needed improvements to meet existing and future customer demands.

The EAFWTP is currently rated at a diversion capacity of 200 MGD, with a permitted treatment capacity of 160 MGD (80 MGD for Basins 1 and 2, and 80 MGD for Basins 3 and 4). However, the EAFWTP is unable to operate reliably at capacity due to the condition of some of the plant facilities (Basins 1 and 2, which are in the older part of the plant, are in poor condition) and due to environmental agreements that frequently limit diversions during summer months, and other reduced rates during different parts of the year. Therefore, the current reliable capacity of the EAFWTP is 80 MGD, with the ability to operate at up to 100 MGD, but only for short periods of time. The City has a planned project to rehabilitate the older side of the plant, demolishing Basins 1 and 2, and rebuilding facilities to provide a reliable plant capacity of 120 MGD.

The SRWTP has a diversion and treatment capacity of 160 MGD. The City is permitted to operate the plant at 160 MGD between May 15th and September 30th of each year, and 120 MGD for the remainder of the year. However, summer operations can be impacted by unusually low river levels which potentially reduce the capacity of the plant to as low as 135 MGD in the summer months. When minimum water elevations in the river drop below 4 to 6 feet, pumping capacity is less than 160 MGD. At the lowest historically observed water elevation of -0.5 feet, the capacity is estimated at 135 MGD. The City is currently evaluating further expansion of the SRWTP to increase the diversion and treatment capacity to 310 MGD.

The City currently has 26 permitted wells in the North American Subbasin and 2 permitted wells in the South American Subbasin; however, only 23 of these wells are typically operated to supply municipal water. As of 2020, the average age of the City's active potable wells is about 60 years old with the oldest well (Well 112) at 76 years old. However, it should be noted that the City has rehabilitated or made improvements at several of the wells. The City completed a Groundwater Master Plan in 2017. Considering both the need for new groundwater wells long-term and the need to replace existing aged wells, the Groundwater Master Plan identified potential replacement locations for up to 38 new wells. The Groundwater Master Plan recommends the City replace 24 wells at a rate of one to two wells per year for the next 17 years (through 2035) to maintain current groundwater production capacity. Under an expanded production capacity plan, the Groundwater Master Plan recommends the City replace 24 wells and construct 14 new wells at a rate of two wells per year for the next 17 years.

7.1.1.2 Legal

As discussed in Chapter 6 (Section 6.3), the City has multiple surface water entitlements including five appropriative water rights permits, pre-1914 rights, and a Settlement Contract with USBR. Legal constraints on surface water supplies are addressed below and in Chapter 6.

In the Settlement Contract, the City agreed to limit its rate and amount of diversion under its water rights permits in exchange for the USBR's agreement to operate its facilities to assure the City a reliable supply of surface water under the City's permits. This agreement results in a highly reliable surface water supply to the City. For more information about the Settlement Contract, refer to Chapter 6 (Section 6.2.3.1.3).

Existing regulations do not directly limit the use or expansion of groundwater pumping activities by the City.

7.1.1.3 Environmental

The City's Water Forum Agreement Purveyor Specific Agreement (WFA PSA) limits the quantity of water diverted from the American River at the EAFWTP during two conditions: extremely dry years (i.e., "Conference Years") and periods when river flows are below the Hodge Flow Criteria issued by Judge Richard Hodge in the *Environmental Defense Fund v. East Bay Municipal Utility District* litigation. For more information about the WFA and PSA, refer to Chapter 6 (Section 6.2.3.2).

The WFA does not impact the amount of water available to the City under its American River entitlements. However, it requires a reduction of American River diversions at the EAFWTP for environmental purposes during the Conference Years and Hodge Flow Criteria. When diversions are limited at the EAFWTP, the City may divert its American River water right south of the confluence through the City's existing Sacramento River diversion point.

The City's Sacramento River surface water and groundwater supplies have not been impacted by environmental factors like the EAFWTP facility supplies have, and the City does not anticipate future disruption of supplies as a result of environmental factors. In addition, the City does not anticipate environmental constraints on a future recycled water system. The City's planned recycled water system is discussed in Chapter 6 (Section 6.5).

7.1.1.4 Water Quality

Water quality for groundwater and surface water supplies are published annually in the City's Consumer Confidence Report (CCR). The most recent CCR is available on the City's website. As shown in the CCR, the City's water supply meets or exceeds all federal and state drinking water standards. In addition, the City

takes a proactive approach to water quality and the potential constraints to its water supply sources. The City's Water Quality Laboratory and Research and Development Section conducts water quality evaluations and studies to proactively address water quality conditions, including effects due to drought and climate change. The City conducts source water protection programs to protect the quality of the City's American and Sacramento River water supplies, including regional efforts. Water quality in both rivers can be influenced by a combination of factors including storm events, reservoir releases, irrigated agriculture, livestock, urban runoff, recreation, and various point sources. These influencing factors can impact water quality parameters (e.g., turbidity, coliforms, Giardia and *Cryptosporidium*, organic carbon, and volatile and semi-volatile organic compounds, aluminum, iron, and manganese). Raw and treated water quality is routinely monitored by the City, and the water treatment plants are designed to produce drinking water that meets all applicable drinking water quality regulations. The Sacramento and American River Watershed Sanitary Survey Updates, conducted every five years, also show that City's water treatment facilities are able to treat the source water to meet all regulatory requirements. As a result, water quality is not expected to impact supply reliability.

Groundwater underlying the City's service area generally meets primary and secondary drinking water standards for municipal water use, and is described as being a calcium-magnesium-bicarbonate type water, with minor fractions of sodium-magnesium-bicarbonate (DWR Groundwater Bulletin 118).

Many areas of good quality groundwater exist in the subbasins, but the quality of groundwater varies throughout the City with both location and depth. Due to high concentrations of iron and manganese in the lower aquifer system, the upper aquifer system is usually the preferred source of municipal groundwater supply[10].

There are several groundwater contaminant sites in the vicinity of the City's groundwater wells. The sources of the larger plumes include the former Southern Pacific and Union Pacific Railyards, the former McClellan Air Force Base (AFB), the former Mather AFB, and the Aerojet Superfund Site in Rancho Cordova. The combined primary contaminants of concern from these sites include: benzene; methyl tert-butyl ether (MTBE); trichloroethene (TCE); tetrachloroethene (PCE); cis-1,2-dichloroethene (DCE); 1,4-dioxane; 1,2-dichloroethane; carbon tetrachloride; perchlorate; and n-nitrosodimethylamine (NDMA)[11]. Other localized areas of contamination exist throughout the basin and are generally smaller in scope and extent of contamination. The City also performs regular monitoring of existing and new wells to determine hexavalent chromium (Cr 6) concentrations compared to the new California maximum contaminant level (MCL) of 10 micrograms per liter (µg/L). As the City has rehabilitated and brought wells into service, some areas have shown elevated levels of Cr 6.

In addition to ambient water quality or potential contaminants, the City's groundwater supply is subject to future regulation. Future regulations regarding arsenic, radon, or other chemicals of concern could potentially limit the City's groundwater supply in the future. As discussed in Chapter 6, the City is participating in several groups to help develop mechanisms to manage and protect the Sacramento area's groundwater resources.

[10] City of Sacramento, *General Plan Technical Background Report*. June 2005.

[11] EIP Associates, Mintier & Associates, Fehr & Peers, Economic and Planning Systems, Nolte Associates, Wallace Roberts & Todd, City of Sacramento, *General Plan Update – Technical Background Report*. June 2005.

The City will continue to regularly monitor groundwater quality and proactively address future regulations to minimize future water quality impacts to its groundwater supply reliability.

The City is in the early stages of developing its recycled water supply but does not anticipate any water quality constraints in the recycled water system. The City's planned recycled water system is discussed in Chapter 6 (Section 6.5).

7.1.1.5 Climate

Climatic factors affecting the reliability of a given water supply system generally are a function of seasonal precipitation and runoff characteristics.

The 2012 to 2016 drought, particularly 2015, resulted in a reduction in flow on the Sacramento River, and the City experienced potential constraints on the function of the SRWTP intake structure. Vortex protector cages, used to increase the reliability of intake structures during low flow conditions, were installed at both the SRWTP and the EAFWTP in 2015 as insurance against low river levels.

The surface water temperatures of the American and Sacramento Rivers are also impacted by drought-related low flow conditions. The City of Sacramento conducted additional water quality evaluations in 2015 regarding unusual water quality conditions in the source water related to drought conditions and climate change. This included evaluation of phenomena that can be related to increased water temperature, lower river flows, and higher mean residence time, including treated water disinfection by-product (DBP) formation, presence of blue-green algae (also known as cyanobacteria), and presence of cyanotoxins (which can be released by cyanobacteria). Increased DBP formation has seen locational running annual averages increase above historic levels and complicate water treatment. While the City did not identify the presence of algal toxins in 2015, algal concentrations were higher than historic levels and present at levels sufficient to complicate water treatment. Though an increase algae growth was observed, the City's river source water did not test positive for algal toxins. The City will continue to track river conditions, conduct evaluations as necessary, and proactively address any impacts that may arise.

The City's groundwater supply has not been impacted by climatic factors and the City does not anticipate constraints on the recycled water system due to climatic factors.

7.1.2 Reliability by Year Type

The quantity of supply available from different water supply sources can vary from one year to the next depending on hydrologic conditions. Historical data, where available, were therefore used to develop a projected yield for each water supply source under three conditions: 1) normal water year, 2) single dry year, and 3) five consecutive dry years. The basis of hydrologic years used data from the DWR's WSIHIST which provides the water year classification indices for the Sacramento Valley from 1906 through 2019. In accordance with the DWR Guidebook, each condition is defined as follows:

- **Normal Water Year**: This condition represents the water supplies the City considers available during normal conditions. This could be a single year or averaged over a range of years in the historical sequence that most closely represents the median or average water supply available. The year 2005 represents a normal year for the City. This year represents the City's typical year where all its combined water supply sources are available to meet demands.

- **Single Dry Year**: This condition represents the year with the lowest water supply availability to the City. The year 1977 represents the Single Dry Year condition for the Sacramento Valley.
- **Five Consecutive Dry Years**: This condition represents a five-consecutive-year drought period such as the lowest average water supply available to the Supplier for five years in a row since 1903. The Years 1929 through 1933 represent the Five-Consecutive-Year Drought years for the Sacramento Valley.

Years that the City identifies as the historical average, single driest year, and driest multi-year period are shown in Table 7-1.

Table 7-1. Basis of Water Year Data

Water Year Type	Base Year(s)
Normal Water Year	2005
Single Dry Water Year	1977
Five Consecutive Dry Years	1929 – 1933[a]

(a) 1929 to 1933 was the driest five consecutive period for the Sacramento Valley from 1906 to 2019 with a total runoff of approximately 50 million acre-feet (MAF). During the recent 2012 to 2016 drought, Sacramento Valley had a total runoff of approximately 58 MAF.

The available supplies for each supply source are discussed below. The supply column specifies the percentage of the water supply expected if there were to be a repeat of the hydrology from that type of year.

7.1.2.1 Sacramento River Supply

The City's pre-1914 and post-1914 Sacramento River entitlements are discussed in Chapter 6 (Section 6.2.3). In accordance with the USBR Settlement Contract, the City may divert up to 81,800 AFY of Sacramento River water in any year provided the combined diversion from Sacramento and American Rivers does not exceed the total allowable diversion specified in the USBR Settlement Contract. The availability of Sacramento River water during base years is summarized in Table 7-2.

Table 7-2. Retail Basis of Water Year Data for the Sacramento River (DWR Table 7-1 Retail)

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	
		☐	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		☑	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available *	% of Average Supply
Normal Year	2005	81,800	100%
Single-Dry Year	1977	81,800	100%
Consecutive Dry Years 1st Year	1929	81,800	100%
Consecutive Dry Years 2nd Year	1930	81,800	100%
Consecutive Dry Years 3rd Year	1931	81,800	100%
Consecutive Dry Years 4th Year	1932	81,800	100%
Consecutive Dry Years 5th Year	1933	81,800	100%
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.			
***Units of measure (AF, CCF, MG**) must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Units are in acre-feet (AF). Volume available based on USBR Settlement Contract.			

7.1.2.2 American River Supply

The American River entitlements are discussed in Chapter 6 (Section 6.2.3). Though the water available for diversion at the EAFWTP is subject to restrictions based on the Hodge Flow Criteria, this does not restrict the City's water right; the City may divert any remaining American River water right at the SRWTP. The availability of American River water during base years is summarized in Table 7-3.

Table 7-3. Retail Basis of Water Year Data for the American River (DWR Table 7-1 Retail)

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	
		☐	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		☑	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available *	% of Average Supply
Normal Year	2005	208,500	100%
Single-Dry Year	1977	208,500	100%
Consecutive Dry Years 1st Year	1929	212,500	102%
Consecutive Dry Years 2nd Year	1930	216,500	104%
Consecutive Dry Years 3rd Year	1931	220,000	106%
Consecutive Dry Years 4th Year	1932	224,000	107%
Consecutive Dry Years 5th Year	1933	228,000	109%
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.			
***Units of measure (AF, CCF, MG**) must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Units are in acre-feet (AF). Source: Lower American River Flow Management System (CALSIMII) Hodge Criteria from 1922 through 1994. Diversion from the EAFWTP is limited to not greater than 155 cfs and not greater than 50,000 AFY for single-dry year. The remainder of American River entitlements may be diverted at the SRWTP for all year types up to the combined maximum diversion specified in the USBR Settlement Contract. The volumes specified above are based on the USBR Settlement Contract's year 2020 through 2025 amounts.			

7.1.2.3 Groundwater Supply

The City's groundwater supply is not expected to be impacted by drought conditions. The availability of groundwater during base years is assumed to be equal to the existing sustainable groundwater capacity, 20 MGD, or about 22,400 AFY, as estimated in the City's on-going Water Master Plan Update. The availability of groundwater during base years is summarized in Table 7-4.

Table 7-4. Retail Basis of Water Year Data for Groundwater Supply (DWR Table 7-1 Retail)

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	
		☐	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		☑	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available *	% of Average Supply
Normal Year	2005	22,400	100%
Single-Dry Year	1977	22,400	100%
Consecutive Dry Years 1st Year	1929	22,400	100%
Consecutive Dry Years 2nd Year	1930	22,400	100%
Consecutive Dry Years 3rd Year	1931	22,400	100%
Consecutive Dry Years 4th Year	1932	22,400	100%
Consecutive Dry Years 5th Year	1933	22,400	100%
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.			
***Units of measure (AF, CCF, MG**) must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Units are in acre-feet (AF). The City's groundwater supply is not anticipated to be impacted by drought conditions. Volumes shown are the City's existing sustainable groundwater capacity, 20 MGD or 22,400 AF, as estimated in the City's on-going Water Master Plan Update.			

7.1.2.4 Recycled Water Supply

The City's recycled water supply is discussed in Chapter 6 (Section 6.2.5). As of 2020, Regional San started delivering recycled water to the SPA Cogen Facility from the Sacramento Regional Wastewater Treatment Plant. It delivered approximately 29 AF in 2020 and plans to provide approximately 1,000 AFY of recycled water to the SPA Cogen Facility in the future. The City and Regional San have evaluated a Recycled Water program that could potentially increase to as much as 2,723 AFY, but institutional agreements and funding commitments have not been established. Therefore, Table 7-5 is intentionally left blank. The future recycled water supply not expected to be impacted by drought conditions.

Table 7-5. Retail Basis of Water Year Data for Recycled Water Supply (DWR Table 7-1 Retail)

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		
		☑	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location Section 7.1.2.4	
		☐	Quantification of available supplies is provided in this table as either volume only, percent only, or both.	
		Volume Available *		% of Average Supply
Normal Year				100%
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.				
***Units of measure (AF, CCF, MG**) must remain consistent throughout the UWMP as reported in Table 2-3.*				
NOTES: Table intentionally left blank.				

7.1.2.5 Wholesale Water Supply

The City's wholesale surface water and groundwater supply is provided through the City's existing water entitlements which are described above and shown in Tables 7-2, 7-3, and 7-4. Each of the City's wholesale agreements uniquely addresses the various water year types. Therefore, Table 7-6 for wholesale does not include volumes. Likely average year wholesale demands are described in Chapter 4.

Table 7-6. Wholesale Basis of Water Year Data (DWR Table 7-1 Wholesale)

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 1999-2000, use 2000	Available Supplies if Year Type Repeats		
		☑	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location Section 7.1.2.5	
		☐	Quantification of available supplies is provided in this table as either volume only, percent only, or both.	
		Volume Available *		% of Average Supply
Normal Year				100%
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. Suppliers may create an additional worksheet for the additional tables.				
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*				
NOTES: Table left intentionally blank.				

7.1.3 Water Service Reliability

In this section, the City's normal, single dry, and five consecutive dry years projected supplies and demands are integrated and compared. Projected water demands are detailed in Chapter 4 and projected water supplies are detailed in Chapter 6. Under the various water year types, the total annual water supply sources available are compared to the total annual projected water use for the City's water service area from 2025 to 2045 in five-year increments.

The City's primary water sources during base years are surface water from the Sacramento River and American River and groundwater. In 2020, the City started delivering recycled water to the SPA Cogen Facility. The City uses these sources to meet the demands of its retail and wholesale customers.

7.1.3.1 Water Service Reliability – Normal Year

The City's base Normal Year includes Hodge Flow Conditions on the American River. During Hodge Flow Conditions, diversion from the American River is limited at the EAFWTP. The limitations are dependent on the time of year, as explained in Chapter 6. However, remaining American River entitlements may be diverted downstream at the SRWTP.

The City's water supply in Normal Years is assumed to be:

- The Maximum Combined Diversion specified for the year of surface water,
- 22,400 AF of groundwater, and
- 1,000 AF of recycled water.

As shown in Tables 7-7 and 7-8, the City's Normal Year supplies (shown in Table 7-7) are adequate to meet projected demands for both retail and wholesale customers.

Table 7-7. Retail Normal Year Supply and Demand Comparison (DWR Table 7-2 Retail)

	2025	2030	2035	2040	2045 *(Opt)*
Supply totals *(autofill from Table 6-9)*	333,200	350,200	350,200	350,200	350,200
Demand totals *(autofill from Table 4-3)*	108,432	114,809	121,187	127,564	133,942
Difference	224,769	235,391	229,014	222,636	216,258
NOTES: Units are in acre-feet (AF). Table references refer to DWR table numbers.					

Table 7-8. Wholesale Normal Year Supply and Demand Comparison (DWR Table 7-2 Wholesale)

	2025	2030	2035	2040	2045 *(Opt)*
Supply totals *(autofill from Table 6-9)*	28,406	53,135	75,098	97,060	97,060
Demand totals *(autofill from Table 4-3)*	28,406	53,135	75,098	97,060	97,060
Difference	0	0	0	0	0
NOTES: Units are in acre-feet (AF). Table references refer to DWR table numbers.					

7.1.3.2 Water Service Reliability – Single Dry Year

In the City's base Single Dry Year (1977), runoff in the Sacramento Valley decreased by 28 percent. The City's Single Dry Year is assumed to be the equivalent to a Conference Year, as defined in the WFA. During a Conference Year, diversion from the American River is limited at the EAFWTP to 155 cfs and 50,000 AFY. However, remaining American River entitlements may be diverted downstream at the SRWTP.

The Single Dry Year availability is assumed to be:

- The Maximum Combined Diversion specified for the year of surface water,
- 22,400 AF of groundwater, and
- 1,000 AF of recycled water.

No demand reductions were assumed for retail Single Dry Year conditions. As shown in Tables 7-9 and 7-10, the City's Single Dry Year supplies (shown in Table 7-9) are adequate to meet projected demands for both retail and wholesale customers. Aside from the comparison of supply vs demand below, the City has elected in the past, and may in the future, to engage in more aggressive demand management measures or reoperation of the water system to benefit broader statewide condition during drier periods.

Table 7-9. Retail Single Dry Year Supply and Demand Comparison (DWR Table 7-3 Retail)

	2025	2030	2035	2040	2045 (Opt)
Supply totals*	333,200	350,200	350,200	350,200	350,200
Demand totals*	108,432	114,809	121,187	127,564	133,942
Difference	224,769	235,391	229,014	222,636	216,258
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*					
NOTES: Units are in acre-feet (AF).					

Table 7-10. Wholesale Single Dry Year Supply and Demand Comparison (DWR Table 7-3 Wholesale)

	2025	2030	2035	2040	2045 (Opt)
Supply totals*	28,406	53,135	75,098	97,060	97,060
Demand totals*	28,406	53,135	75,098	97,060	97,060
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: Units are in acre-feet (AF).					

7.1.3.3 Water Service Reliability – Five Consecutive Dry Years

The 2015 UWMP required water purveyors to evaluate hydrologic conditions under a three-year drought period. The 2020 UWMP requires evaluation of five consecutive dry years. This plan uses 1929 to 1933 as the basis for the five consecutive dry year period to meet the new requirements for the 2020 UMWPs.

The five consecutive dry year availability is assumed to be:

- First Year
  - The Maximum Combined Diversion specified for the year of surface water,
  - 22,400 AF of groundwater, and
  - 1,000 AF of recycled water.
- Second Year
  - The Maximum Combined Diversion specified for the year of surface water,
  - 22,400 AF of groundwater, and
  - 1,000 AF of recycled water.
- Third Year
  - The Maximum Combined Diversion specified for the year of surface water,
  - 22,400 AF of groundwater, and
  - 1,000 AF of recycled water.
- Fourth Year
  - The Maximum Combined Diversion specified for the year of surface water,
  - 22,400 AF of groundwater, and
  - 1,000 AF of recycled water.

- Fifth Year
  - The Maximum Combined Diversion specified for the year of surface water,
  - 22,400 AF of groundwater, and
  - 1,000 AF of recycled water.

As shown in Tables 7-11 and 7-12, the City's Multiple Dry Year supplies are adequate to meet projected demands. As articulated in Section 7.1.3.2, the City has elected in the past, and may in the future, to engage in more aggressive demand management measures or reoperation of the water system to benefit broader statewide conditions during drier periods irrespective of legal entitlements to supply.

The table below also does not account for Statewide actions that may require demand reduction during drier periods that were unrelated to supply availability, such as the 2012-2016 drought. As part of the response, the SWRCB mandated tiered water use reductions by urban water suppliers, based on each supplier's average residential gallons-per-capita-per-day (R-GPCD) usage during the July-September 2014 time period. The water use reduction mandated for the City of Sacramento was a 28 percent total reduction for the time period from June 2015 through February 2016, relative to the City's usage during the same months in 2013. The City exceeded this reduction mandate, achieving a 28.4 percent reduction in water use from June 2015 through February 2016. This action did not affect the supply totals articulated below.

Table 7-11. Retail Multiple Dry Years Supply and Demand Comparison (DWR Table 7-4 Retail)

		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	333,200	350,200	350,200	350,200	350,200
	Demand totals	108,432	114,809	121,187	127,564	133,942
	Difference	224,769	235,391	229,014	222,636	216,258
Second year	Supply totals	333,200	350,200	350,200	350,200	350,200
	Demand totals	109,707	116,085	122,462	128,840	138,397
	Difference	223,493	234,116	227,738	221,360	211,803
Third year	Supply totals	333,200	350,200	350,200	350,200	350,200
	Demand totals	110,983	117,360	123,738	130,115	142,853
	Difference	222,218	232,840	226,463	220,085	207,347
Fourth year	Supply totals	333,200	350,200	350,200	350,200	350,200
	Demand totals	112,258	118,636	125,013	131,391	147,308
	Difference	220,942	231,565	225,187	218,809	202,892
Fifth year	Supply totals	333,200	350,200	350,200	350,200	350,200
	Demand totals	113,534	119,911	126,289	132,666	151,764
	Difference	219,667	230,289	223,912	217,534	198,436
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Units are in acre-feet (AF).						

Table 7-12. Wholesale Multiple Dry Years Supply and Demand Comparison (DWR Table 7-4 Wholesale)

		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	28,406	53,135	75,098	97,060	97,060
	Demand totals	28,406	53,135	75,098	97,060	97,060
	Difference	0	0	0	0	0
Second year	Supply totals	33,351	57,528	79,490	97,060	97,060
	Demand totals	33,351	57,528	79,490	97,060	97,060
	Difference	0	0	0	0	0
Third year	Supply totals	38,297	61,920	83,883	97,060	97,060
	Demand totals	38,297	61,920	83,883	97,060	97,060
	Difference	0	0	0	0	0
Fourth year	Supply totals	43,243	66,313	88,275	97,060	97,060
	Demand totals	43,243	66,313	88,275	97,060	97,060
	Difference	0	0	0	0	0
Fifth year	Supply totals	48,189	70,705	92,668	97,060	97,060
	Demand totals	48,189	70,705	92,668	97,060	97,060
	Difference	0	0	0	0	0
***Units of measure (AF, CCF, MG) m** ust remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Units are in acre-feet (AF).						

7.2 DESCRIPTION OF MANAGEMENT TOOLS AND OPTIONS

As described in Chapter 6, the City continues to evaluate and plan projects to improve the delivery and reliability of its existing water supplies. Future surface water projects under consideration by the City include the expansion of the SRWTP or participation in the RiverArc project to increase the City's long-term water treatment capacity for its surface water supply. The City's on-going Water Master Plan Update recommends for the City to continue to plan for rehabilitation of the EAFWTP and the retrofit of the existing intake at the SRWTP. The City's groundwater wells are also an important component of its water supply portfolio. The City's 2017 Groundwater Master Plan recommended for the City to continue to budget for well replacement and to also consider expanding its groundwater program. The expansion of the City's groundwater program will maximize the City's water supply flexibility and allow it to partner in regional conjunctive use programs being contemplated.

The City will continue to monitor its existing water supply sources and coordinate with its retail and wholesale customers to manage the local water resources.

7.3 DROUGHT RISK ASSESSMENT

CWC §10635(b) requires that the City prepare a Drought Risk Assessment (DRA) based on the supply condition associated with the five driest consecutive years on record. This supply condition is to be assumed to occur over the next five years, from 2021 through 2025.

This section reviews the data and methods used to define the DRA water shortage condition and evaluates each water source's reliability under the proposed drought condition. Total water supplies during the five-year drought is compared to projected demands, accounting for any applicable supply augmentation or demand reduction measures available to the City.

This DRA would allow the City to prepare for a potential water shortage and for implementation of its Water Shortage Contingency Plan, if necessary. Findings show that, should the region experience a five-consecutive dry years period starting in 2021, adequate water supplies are available to meet projected retail demands.

7.3.1 Data, Methods, and Basis for Water Shortage Condition

The DRA was performed for 2021 through 2025 using the same five-consecutive-dry period conditions presented in Section 7.1.3.3. The characteristic five-year water use during the DRA for retail and wholesale water demands is summarized in Chapter 4, in Section 4.2.3.2 and Section 4.3.3.1, respectively. For the retail demands, the 2025 projected water demand is based on water demand projections developed for the City's on-going Water Master Plan Update and is estimated based on the most recent and accurate future development estimates and unit water use factors. Future retail water demands for 2021 through 2024 were linearly interpolated between the 2020 actual retail water demand and the 2025 projected retail water demand.

Projected wholesale demands are summarized in Table 4-8 and are based on two future supply scenarios: 1) probable estimate of future wholesale demands; and 2) maximum estimate that assumes all water agencies within the American River Place of Use Boundary receive wholesale water. The probable estimate is based on other agencies' master plans, communications that other agencies have had with the City, or by judgment of the City staff. It is assumed that the existing and future wholesale customers will take the likely average water delivery by 2030 as shown in Table 4-8. Interim years, 2021 through 2025, for the DRA were linearly interpolated between the 2020 actual wholesale customer use and the projected 2030 wholesale customer use.

The DRA does not assume drought conditions for both retail and wholesale customer demands. Water supplies for the DRA, summarized in Section 7.3.2, were compared to the projected demands to determine potential water shortages from 2021 through 2025.

7.3.2 DRA Water Source Reliability

The City's projected available water supply for each year of the DRA is presented in Table 7-13. Chapter 6 provides an in-depth discussion on the reliability of each water supply source. Key assumptions for each supply source are summarized as follows:

- The Maximum Combined Diversion specified for the year of surface water,
- 22,400 AF of groundwater, and
- 1,000 AF of recycled water.

Table 7-13. Projected Water Supplies Available for Drought Risk Assessment, AF

Supply Source	2021	2022	2023	2024	2025
Sacramento River	81,800	81,800	81,800	81,800	81,800
American River	212,500	216,500	220,000	224,000	228,000
Groundwater	22,400	22,400	22,400	22,400	22,400
Recycled Water	1,000	1,000	1,000	1,000	1,000
Total	**317,700**	**321,700**	**325,200**	**329,200**	**333,200**

7.3.3 Total Water Supply and Use Comparison

As shown in Table 7-14, during a five-year drought beginning in 2021, the City's supplies are projected to be adequate to meet projected retail demands through 2025, even without water conservation.

Table 7-14. Five-Year Drought Risk Assessment Tables to Address Water Code Section 10635(b) (DWR Table 7-5)

2021	Total
Total Water Use	108,609
Total Supplies	317,700
Surplus/Shortfall w/o WSCP Action	209,091
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	209,091
Resulting % Use Reduction from WSCP action	0%

2022	Total
Total Water Use	115,666
Total Supplies	321,700
Surplus/Shortfall w/o WSCP Action	206,034
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	206,034
Resulting % Use Reduction from WSCP action	0%

2023	Total
Total Water Use	122,723
Total Supplies	325,200
Surplus/Shortfall w/o WSCP Action	202,477
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	202,477
Resulting % Use Reduction from WSCP action	0%

2024	Total
Total Water Use	129,780
Total Supplies	329,200
Surplus/Shortfall w/o WSCP Action	199,420
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	199,420
Resulting % Use Reduction from WSCP action	0%

2025	Total
Total Water Use	136,837
Total Supplies	333,200
Surplus/Shortfall w/o WSCP Action	196,363
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	196,363
Resulting % Use Reduction from WSCP action	0%

CHAPTER 8
Water Shortage Contingency Plan

A water shortage may occur due to a number of reasons, such as population growth, climate change, drought, and catastrophic events. Drought, regulatory action constraints, and natural and manmade disasters may occur at any time. A water shortage means that the water supply available is insufficient to meet the normally expected customer water use at a given point in time. A WSCP presents how an urban water supplier plans to act in response to an actual water shortage condition.

In 2018, the Legislature enacted two policy bills, SB 606 (Hertzberg) and AB 1668 (Friedman), (2018 Water Conservation Legislation), which set new requirements for water shortage contingency planning. The City has updated its WSCP to meet the new requirements. The City's updated WSCP is provided in Appendix J and is summarized in this chapter.

8.1 WATER SUPPLY RELIABILITY ANALYSIS

Chapters 6 and 7 of the City's 2020 UWMP present the City's water supply sources and reliability, respectively. Findings show that the City will have enough supply with its current water supply sources to meet increased retail and wholesale demands for both a near-term (within the next 5 years) and long-term (within the next 20 years) timeframe.

Statewide water supply conditions, changes in groundwater levels, subsidence, and actions by surrounding agencies may impact the City's available water supply. For the City, a water shortage condition occurs when the supply of potable water available cannot meet ordinary water demands for human consumption, sanitation, fire protection, and other beneficial uses. The City may be able to foresee its water shortage condition in some cases; however, in other cases, the water shortage may be caused by an unforeseen sudden or emergency event. In general, the City's water supply conditions may be affected by the following issues:

- Intake structure issues on the Sacramento or American Rivers
- Diversion limitations from Sacramento or American Rivers
- Operational and/or water quality issues at the City's SRWTP or EAFWTP
- Well production reduction and/or water quality issues

Annually, the City determines the expected purchased water and surface water supplies availability for foreseeable water shortages. In other cases, the City may experience unforeseen water shortage when catastrophic interruption of water supplies occurs due to regional power outage, an earthquake, or other potential emergency events.

In future years, the City will conduct an annual water supply and demand assessment in accordance with its WSCP. The analysis associated with this WSCP was developed in the context of the City's water supply sources and reliability.

8.2 CITY WATER SHORTAGE CONTINGENCY PLAN

The City's WSCP is included in this UWMP as Appendix J. The City's WSCP is focused on its direct retail customers. The City does not have a separate WSCP specific to its wholesale customers. Each of the City's wholesale customers maintain their own WSCPs which will be reported in their respective UWMPs. The City's Wholesale agreements address the individual availability of wholesale water to each customer based on restrictions to the City's American River water rights.

The City's WSCP describes the its strategic plan in preparation for and responses to water shortages. The WSCP includes:

1. A description of the City's teams responsible for internal decision making and implementation of its water shortage stages and associated response actions in the event of a water supply shortage;
2. Procedure for Annual Water Supply and Demand Assessment (AWSDA);
3. Water use reduction plans and stages of implementation;
4. Response actions for emergency conditions;
5. Mandatory water use prohibitions and restrictions;
6. Enforcement and penalties; and,
7. Water use monitoring, enforcement, and compliance.

Below, the City's legal authorities, communication protocols, compliance and enforcement, and monitoring and reporting are presented. Sacramento City Code (SCC) Title 13 Public Services, Chapter 13.04 Water Service System supports the City's WSCP actions.

The City's WSCP has been updated so that it is consistent with the 2018 Water Conservation Legislation requirements.

The City intends for its WSCP to be an adaptive management plan so that it may assess response action effectiveness and adapt to foreseeable and unforeseeable events. It may also be updated to conform to State legislative and regulatory requirements. The City's WSCP is included as Appendix J so that it may be updated outside of the UWMP preparation process.

When an update to the WSCP is proposed, the revised WSCP will undergo the process described in Section 8.9 for adoption by the City Council and distribution to Sacramento County, its customers, and the general public.

8.3 SIX STANDARD WATER SHORTAGE STAGES

To provide a consistent regional and statewide approach to conveying the relative severity of water supply shortage conditions, the 2018 Water Conservation Legislation mandates that water suppliers plan for six standard water shortage levels that correspond to progressive ranges of up to 10, 20, 30, 40, 50 percent, and greater than 50 percent shortages from the normal reliability condition. Each shortage condition should correspond to additional actions water suppliers would implement to meet the severity of the impending shortages.

In Table 8-1, the City's water shortage stages and corresponding water shortage level conditions are identified. The City's water shortage stages apply to both foreseeable and unforeseeable water supply shortage conditions. Water shortage is the gap between available supply and planned demands.

As described in Appendix J, the City will conduct an AWSDA to determine its water supply condition for the current year and the subsequent year, assuming it is a dry year. The preparation of AWSDA helps the City ascertain the need to declare a water shortage emergency and water shortage stage. In other cases, the City may need to declare a water shortage emergency due to unforeseen water supply interruptions. When the City anticipates or identifies that water supplies may not be adequate to meet the normal water

supply needs of its customers, the City Council may determine that a water shortage exists and consider a resolution to declare a water shortage emergency and associated stage. The shortage stage provides direction on shortage response actions.

Table 8-1. Water Shortage Contingency Plan Levels (DWR Table 8-1)

Shortage Level	Percent Shortage Range	Shortage Response Actions (*Narrative description*)
1	Up to 10%	Implement City internal shortage response actions per Appendix K, WSCP Table 2
2	Up to 20%	Declare water shortage emergency (mandatory restrictions)
3	Up to 30%	Stage 2 actions, increased public outreach, and expand mandatory restrictions
4	Up to 40%	Stage 3 actions, increased compliance and enforcement efforts, and expanded mandatory restrictions
5	Up to 50%	Stage 4 actions and increased mandatory restrictions
6	>50%	Stage 5 actions and require water use only for health and safety purposes
NOTES: Refer to the City's WSCP in Appendix J for more detail on the actions taken at each declared water shortage level.		

8.4 SHORTAGE RESPONSE ACTIONS

CWC §10632 (a)(4) requires shortage response actions that align with the defined shortage levels. The City's shortage response actions consist of a combination of demand reduction, supply augmentation, and operational changes. The City's suites of response actions are dependent on the event that precipitates a water shortage stage, the time of the year the event occurs, the water supply sources available, and the condition of its water system infrastructure.

The shortage response actions discussed below may be considered as tools that allow the City to respond to water shortage conditions. Because the City may continuously monitor and adjust its response actions to reasonably equate demands with available supply, the extent to which the gap between water supplies and water demand will be reduced by implementation of each action is difficult to quantify and is provided as an estimate. Certain response actions, such as public outreach and enforcement, support the effectiveness of other response actions and do not have a quantifiable effect on their own.

8.4.1 Demand Reduction

During water shortage conditions, the City plans to close the gap between water supply and water demand by implementing demand reduction action categories shown in Table 8-2. The shortage stage level for which each demand reduction action will commence implementation is also provided, along with the estimate of extent that the action will reduce the shortage gap. The table also indicates if the City plans to use compliance actions such as penalties, charges, or other enforcement actions for each demand reduction action.

Demand reduction actions are further detailed in Appendix J, Table 2.

Table 8-2. Water Shortage Contingency Plan Demand Reduction Actions (DWR Table 8-2)

Shortage Level	Demand Reduction Actions ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? ***For Retail Suppliers Only*** *Drop Down List*
Add additional rows as needed				
1	Landscape - Other landscape restriction or prohibition	2 - 10%	Parks and Streetscapes asked to reduce their irrigation levels to help meet the required reduction rate.	No
1	Other	0 - 1%	Preventative Maintenance Restrictions - ask that non-essential flushing and street sweeping be reduced.	No
1	Other	0 - 1%	Cease any non-essential water usage - City Programs	No
1	Other	0 - 1%	Increase focus on reducing water system loss by accelerating leak repair	No
2	Expand Public Information Campaign	10 - 20%	Per the City's WSCP, a public information campaign will be initiated at Shortage Level 2.	Yes
2	Landscape - Limit landscape irrigation to specific days	5 - 10%	Reduce watering of parks & cemeteries: designate watering to specific days of the week	Yes
2	Landscape - Limit landscape irrigation to specific days	0 - 1%	Restrict residential car washing to watering day	Yes
2	Increase Water Waste Patrols	0 - 1%		Yes
2	Other	0 - 1%	Ask that non-essential flushing and street sweeping be reduced	No
2	Water Features - Restrict water use for decorative water features, such as fountains	0 - 1%	Ask that all ornamental or other decorative water features be turned off, except to the extent that the water feature intentionally provides habitat for aquatic species	No
2	Reduce System Water Loss	0 - 1%	Enforce hydrant use regulations	Yes
2	Reduce System Water Loss	0 - 1%	Intensify leak detection and repair program with focus on high water leaks	Yes
2	Reduce System Water Loss	0 - 5%	Intensify AMI Customer Leak Reports with Detection and Repair Assistance	Yes
3	Expand Public Information Campaign	10%	Per the City's WSCP, the Cit will intensify its public information campaign at Shortage Level 3.	Yes
3	Implement or Modify Drought Rate Structure or Surcharge	5 - 30%	Consider a Drought Surcharge under Urban Water Management Plan (implement if shortage is drought related)	Yes
3	Landscape - Limit landscape irrigation to specific times	8 - 10%	Further limit Watering of parks, cemeteries, etc., to specific hours, one day a week	Yes
3	Landscape - Limit landscape irrigation to specific times	0 - 2%	Customer watering restricted to specific hours on specified watering day	Yes
3	Landscape - Limit landscape irrigation to specific times	0 - 1%	Rescind any 3 day watering variances offered	Yes
3	Decrease Line Flushing	0 - 1%	Main flushing allowed only for emergency purposes.	Yes
3	Water Features - Restrict water use for decorative water features, such as fountains	0 - 1%	All ornamental or decorative water features be turned off, except to the extent that the water feature intentionally provides habitat for aquatic species	Yes
3	Reduce System Water Loss	1 - 4%	Increase the leak notification process and assistance offered to fix the leaks. Increase leak detection where additional staffing is made available .	Yes
3	Other	0 - 1%	Cars washed with buckets only, on specified watering day	Yes
3	Other	0 - 1%	Encourage use of pool covers	Yes
4	Reduce System Water Loss	Not specified.	Intensify leak detection program and water loss prevention efforts.	Yes
4	Increase Water Waste Patrols	Not specified.	Increase staffing or a consultant to help with water waste patrols during nights, weekends and after hours	Yes
4	Landscape - Limit landscape irrigation to specific times	5 - 20%	Customer watering restricted to 1 Day per week and for specific hours on specified watering day	Yes
4	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	0 - 1%	Known leaks must be repaired within 5 days.	Yes
4	Other water feature or swimming pool restriction	0 - 1%	All maintenance of recreational water features, including pools and spas, ceased	Yes
4	Other	2 - 5%	Limit public water use for health and safety purposes only	Yes
4	Other	0 - 1%	No car washing	Yes
5	Landscape - Prohibit certain types of landscape irrigation	0 - 50%	Landscape types include the following: - No turf watering - No median strip watering - Further reduce irrigation to parks, cemetaries, etc	Yes
5	Other	5 - 10%	Suggested to limit public water use to health and safety purposes.	Yes
6	Other	Not quantifiable.	Required to limit public water use to health and safety purposes.	Yes
NOTES: Refer to the City's WSCP in Appendix J for more detail on the actions taken at each declared water shortage level. It should be noted that the actions at each stage are cumulative. For example, if Shortage Level 3 is declared, then the actions at Shortage Level 1 and 2 shall still be implemented.				

8.4.2 Additional Mandatory Restrictions

When the City declares a water shortage emergency, it also adopts mandatory water use restrictions by resolution. In addition to the above-presented demand reduction response actions, the City may implement mandatory water restrictions set forth in Appendix J, Section 7. Further, in accordance with SCC §13.04.910, the City will suspend the requirement in its Planning and Development Code to plant or irrigate trees, shrubs, or other groundcover during a declaration of water shortage.

These restrictions are in addition to State-mandated prohibitions.

8.4.3 Supply Augmentation and Other Actions

The City's water supply portfolio consists of surface water from the Sacramento and American Rivers and groundwater from the North American Subbasin and South American Subbasin, as described in Chapter 6 of the City's 2020 UWMP. At any water shortage stage and depending on the water shortage event, the City's water supplies will be used to complement each other.

When surface water is significantly reduced, the City plans to use its wells to pump groundwater to meet water demands to meet the health and safety needs of its customers. The City has made significant investments in the installation of groundwater wells, as discussed in Section 6.2.2. The City's 2020 on-going Water Master Plan Update estimated an existing sustainable groundwater capacity of 20 MGD (22,404 AF).

The City may also opt to implement emergency exchanges with other agencies. The City has multiple interties with its wholesale customers. In addition to the wholesale agreements with these agencies, the City has entered into mutual aid agreements with SSWD and SCWA. These mutual aid agreements allow the City to purchase non-firm water supplies during emergency periods. The City may purchase up to 20 MGD of emergency non-firm supply from SSWD, and up to 8 MGD of emergency non-firm supply from SCWA. The City also has approximately 17 additional unmetered physical connections to SCWA, Cal Am Water, and Florin County Water Agency. These consist of closed valves on 6- to 12-inch diameter water mains. There is not a current estimate for the capacity of these mutual aid connections.

Should the City's water supply portfolio be insufficient to meet the reduced demands of its customers, the City may augment its water supply through its emergency interties with other agencies and take other actions as summarized in Table 8-3. The shortage stage level for which each action will commence implementation is provided, along with the estimated extent that the action will reduce the shortage gap. Details regarding operational changes in response to water shortage are provided in Appendix J, Section 4.2.2.

Table 8-3. Supply Augmentation and Other Actions (DWR Table 8-3)

Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*
Add additional rows as needed			
5	Exchanges	20 mgd	SSWD - emergency non-firm supply
5	Exchanges	8 mgd	SCWA - emergency non-firm supply
6	Transfers	Up to shortage gap	Coordinate with other agencies
NOTES: Refer to the City's WSCP in Appendix J for more detail on the actions taken at each declared water shortage level. It should be noted that the actions at each stage are cumulative. For example, if Shortage Level 3 is declared, then the actions at Shortage Level 1 and 2 shall still be implemented.			

8.5 SEISMIC RISK ASSESSMENT AND MITIGATION PLAN

CWC §10632.5(a) requires that the UWMP include a seismic risk assessment and mitigation plan to assess the vulnerability of the City's water system vulnerabilities and mitigate those vulnerabilities. The City participated in the development of a regional LHMP led by Sacramento County. The 2016 Sacramento Countywide Local Hazard Mitigation Plan Update (2016 LHMP) addressed seismic risk, and is incorporated into this UWMP by reference. The 2016 LHMP was adopted by the County on July 11, 2017 and submitted to the Federal Emergency Management Agency, which found it in conformance with Title 44 Code of Federal Regulations Part 201.6 Local Mitigation Plans. The County's LHMP is updated periodically and reports are provided through the Sacramento County website.

The 2016 LHMP considered the risk of the region to earthquakes. The 2016 LHMP indicated that no major active faults transect the County and identified historically active faults in the vicinity of Sacramento County up to 90 miles from West Sacramento.[12] Section 4.2.12 of the 2016 LHMP provides a discussion of the hazard to the County. No major earthquakes have been recorded within the County, although ground shaking from earthquakes with epicenters elsewhere have been felt. The Uniform California Earthquake Rupture Forecast (UCERF III) model indicates that Sacramento County has a low to moderate risk of earthquake occurrence, which coincides with the likelihood of future occurrence rating of occasional.

In accordance with America's Water Infrastructure Act (AWIA), the City completed a Risk and Resilience Assessment (RRA) of its water system in September 2020. The RRA systematically evaluated the City's assets, threats, and risks, and evaluated countermeasures that might be implemented to minimize overall risk to the system. Vulnerability to natural hazards, including earthquakes, was assessed based on its level of preparation/resilience, active response capability, and ability to recover. Table 8-4 summarizes the earthquake risk estimation based on earthquake magnitude from the City's RRA.

[12] Sacramento County, *2016 Sacramento Countywide Local Hazard Mitigation Plan Update*, Section 4.2.19.

Table 8-4. Earthquake Risk Estimation – Supporting Likelihood and Vulnerability Values[a,b]

Earthquake Magnitude	Probability of Exceeding[c]	Recurrence Interval Based on 50 Years	Probability of Occurrence (incidents/year)	Vulnerability[d]	Net Threat Likelihood
6	0.4	125	0.008	30%	0.005
6.5	0.15	333	0.003	60%	0.001
7	0.1	500	0.002	80%	0.0018
7.5	0.01	5000	0.0002	100%	0.0002

(a) City of Sacramento Risk and Resilience Assessment (September 2020).
(b) Former Seismic Zone 3: Use earthquakes between 6.0 (where significant damage potentially starts) and >7.5 (highest reasonable) magnitude.
(c) On-line USGS earthquake probability data for Sacramento prior to discontinuation of Seismic Zone system; consistent with 2014 Vulnerability Assessment.
(d) J100-10 Table G-2 (page 86)

To ensure the security of the City water system, the RRA is retained by the City as a confidential document. Currently, the City is addressing comments from the RRA and evaluating the RRA recommendations.

8.6 LEGAL AUTHORITIES

CWC Chapter 3 Division 1, Section 350 requires the following:

> *…The governing body of a distributor of a public water supply…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.*

When a water shortage is determined, the City will coordinate interdepartmentally and with the County for the possible proclamation of a local emergency in accordance with under California Government Code, California Emergency Services Act (Article 2, Section 8558).

In accordance with SCC §13.04.910, the City Council may, by resolution, declare the existence of a water shortage emergency and impose regulations and restrictions to be enforced in response to the shortage.

SCC Chapter 13.04, Article XI (Appendix K) presents the City's legal authorities to enforce shortage actions. Article XI prohibits water waste and provides water use restrictions. It also includes SCC §13.04.890, which outlines enforcement actions for violations to the City's water use restrictions.

8.7 WSCP REFINEMENT PROCEDURES

The City's WSCP is an adaptive management plan. It is subject to refinements as needed to ensure that the City's shortage response actions and mitigation strategies are effective and produce the desired results. Based on monitoring described in Appendix J, Section 12, and the frequency of compliance and enforcement actions described in Appendix J, Section 10, the City may adjust its response actions and may modify its WSCP. When a revised WSCP is proposed, the revised WSCP will undergo the process described

in Section 8.9 for adoption by the City Council and distribution to the County, its customers, and the general public.

8.7.1 Systematic Monitoring

The City will monitor meters at its water source to evaluate the overall effectiveness of its response actions in meeting the declared water shortage stage. Should overall demands not meet or exceed the goals of the declared water shortage stage, the intensity of public outreach for water conservation and the extent of enforcement of water use restrictions may be increased. Conversely, should overall demands continue to be substantially less than the goals of the declared water shortage stage, the intensity of public outreach for water conservation and the extent of enforcement of water use restrictions may be decreased.

8.7.2 Feedback from City Staff and Customers

Feedback from City staff and the public is important in refining or incorporating new actions. The City seeks input from staff who interface with customers to gauge the effectiveness of its response actions and for response action ideas.

Customer water meter data may be evaluated for each customer sector or each individual customer. The City tracks water use violations and may evaluate their frequency to determine restrictions that customers may not be able to meet. This evaluation may also show water demand reduction actions that customers may effectively implement.

The City seeks input from its customers and the general public through its website, through public hearings, and through regularly scheduled City Council meetings.

8.8 SPECIAL WATER FEATURE DISTINCTION

The City distinguishes special water features, such as decorative fountains and ponds, differently from pools and spas. Special water features are regulated separately. Regulations under SCC §13.04.870 prohibit the use of non-recirculated water in fountains or other decorative fountains.

8.9 PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY

This WSCP is adopted concurrently with the City's 2020 UWMP, by separate resolution. Prior to adoption, a duly noticed public hearing was conducted. A hard copy of the WSCP will be submitted to DWR within 30 days of adoption, along with an electronic copy.

No later than 30 days after submittal to DWR, copies of the WSCP will be available at the City's offices. A copy will also be provided to the County. An electronic copy of this 2020 UWMP, including the WSCP, will also be available for the public on the City's website.

CHAPTER 9
Demand Management Measures

The City implements Demand Management Measures (DMMs) to sustainably manage its water resources. If not mitigated, an increase in water demand and/or changes in water supplies due to climate change and other factors reduce water reliability. The implementation of demand management measures can help improve water service reliability and help meet City and State water conservation goals. This chapter describes the City's historical and existing water conservation program, status of implementation of DMMs, and projected future implementation of water conservation measures.

In previous UWMPs, a substantial amount of data was required to document a water supplier's progress in implementing fourteen specific DMMs. In 2014, AB 2067 simplified, clarified, and updated reporting requirements for DMMs. Focus turned away from detailed descriptions of each of the fourteen DMMs, also known as Best Management Practices, and turned to key water conservation measures that are being implemented to achieve SB X7-7 water use targets. For retail agencies, the number of DMMs was reduced from fourteen to six (plus an "other" category). For wholesale agencies, the number of DMMs was reduced to three specific measures (plus an "other" category), as well as a requirement for a narrative description of asset management and wholesale supplier assistance programs. A narrative description of the status of the DMMs and how the DMMs help the water supplier achieve its water efficiency goals are required. Detailed data are not required.

9.1 WATER CONSERVATION PROGRAM OVERVIEW

The City has an ongoing water conservation program and has long been committed to implementing water conservation measures for all of its customer sectors. One of the goals in the Department of Utilities Strategic Plan 2020-2025 is to plan for current and future generations by protecting, preserving, and enhancing water resources, the environment, and the community. The City's commitment is also demonstrated through its membership and active participation with the California Urban Water Conservation Council (CUWCC) between 1995 and early 2018. The organization was replaced by the California Water Efficiency Partnership (CalWEP) with a mission to maximize urban water efficiency and conversation in California, and the City has continued to maintain its membership.

Primarily as an effort to outline how the City would need to expand its water conservation efforts to meet the requirements outlined in SBX7-7, the City developed a Water Conservation Plan. The Water Conservation Plan was approved by City Council on October 29, 2013. The Water Conservation Plan is a guidance document that communicates the City's approach to expanding water conservation implementation to meet its 2020 water use reduction targets (outlined in Chapter 5). Furthermore, the objectives of the Water Conservation Plan include protecting the natural ecosystem rivers, preparing for potential climate change impacts, and supporting economically feasible and sustainable water use practices. Appendix L provides a copy of the City's 2019 Water Efficiency Report which documents the City's water conservation programs and achievements.

The City's SB X7-7 per capita water use target for 2020 was confirmed to be 225 GPCD in its 2015 UWMP. The DMMs that the City has implemented have allowed it to meet its target. In 2020, the City's overall per capita water use was 169 GPCD as shown in Chapter 5.

Customers continue to be responsive to the City's water conservation program efforts. In this chapter, narrative descriptions addressing the nature and extent of each DMM implemented over the past five years, from 2016 through 2020, are provided. Planned or continued implementation of each of the DMMs are also discussed.

9.2 DEMAND MANAGEMENT MEASURES FOR RETAIL AGENCIES

Retail water agencies are required to provide a description of the DMMs associated with the following:

- Water waste prevention ordinances
- Metering
- Conservation pricing
- Public education and outreach
- Programs to assess and manage distribution system real loss
- Water conservation program coordination and staffing support

The City is also required to describe any other DMMs that it has implemented that have had significant impact on water use.

This section provides a description of the water conservation programs that are currently implemented and those planned to be implemented in the future. For each DMM, the current program is described, followed by a description of how the DMM was implemented over the previous five years and future implementation plans.

The City anticipates continuing and expanding its water conservation program to meet new legislative and upcoming regulatory requirements that may require water efficiency objectives less than the SB X7-7 target.

9.2.1 Water Waste Prevention Ordinances

9.2.1.1 DMM Description

The City prohibits water waste within its service area. The City adopted a WSCP in 1992 to minimize non-essential uses of water and conserve remaining supplies for the greatest public benefit. In addition, the City Code (Title 13 Public Services, Chapter 13.04 Water Service System, and Water Conservation) defines water waste runoff and associated penalties for violations. The City Code can be amended when the City Council adopts an ordinance. A water conservation ordinance was adopted in December 2009. Over time, the City has amended its water conservation ordinance to meet its water use objectives. In 2017, City amended Chapter 13.04 to include water use efficiency requirements for outdoor water use under Ord. 2017-0062 and Ord. 2017-0045. A current copy of the pertinent sections of the City Code is included in Appendix K and summarized in Section 8.2.

The City Council, by resolution, can declare the existence of a water shortage and adopt revised or additional water use prohibitions and consumption reduction methods above and beyond the existing City Code while the water shortage remains in effect. In 2014, the City declared Stage 2 water shortage conditions with the passing of Resolution No. 2014-018, "*Declaring Continuing Water Shortage and Implementing Additional Water Conservation Restrictions."* In June 2015, the City declared ongoing Stage 2 water shortage conditions and additional restrictions with the passing of Resolution No. 2015-0162 "*Declaring Continuing Water Shortage and Implementing Additional Water Conservation Measures and Use Restrictions*" (Appendix K). When City Council declares any water shortage stage, the penalties for violating its outdoor use prohibitions are doubled. In August of 2017, Resolution No. 2017-0322 was taken to City Council and adopted. This resolution changed the twice annual watering

schedule shift away from Daylight Savings to either March 1 or November 1. In addition, it made two days a week watering permanent between March 1 and November 1 but added more flexibility with regard to how to handle second violations and allowed for hand watering at any time. Additionally, during heat waves occurring outside of a declared water shortage, the watering restrictions were temporarily waived. For more details, please see Resolution No. 2017-0322.

9.2.1.2 Implementation over the Past Five Years to Achieve Water Use Targets

The City implemented this DMM over the past five years. The City regularly encourages reporting of water misuse. Instructions for reporting are provided on the City's website. Customers may call the City's conservation hotline (916-264-5011 or 311 from within the City), use the free 311 app for Android and iPhone, or send an email to 311@cityofsacramento.org. The number of water misuse reports received by the City from 2016 through 2020 is shown on Figure 9-1. A dramatic decrease in the number of received reports occurred after the water shortage was declared over by Governor Brown in early April 2017 and then later by the Sacramento City Council. After the drought, the City shifted focus on to education and awareness of the new watering schedule and ordinance. A new campaign called "Keep Sacramento Water Wise" was launched in 2018 to communicate the watering schedule changes in March and November; and the different ways customers can water wisely by following the ordinance. As of 2019, the campaign had 27,223,503 impressions and 312,575 Spanish digital impressions.

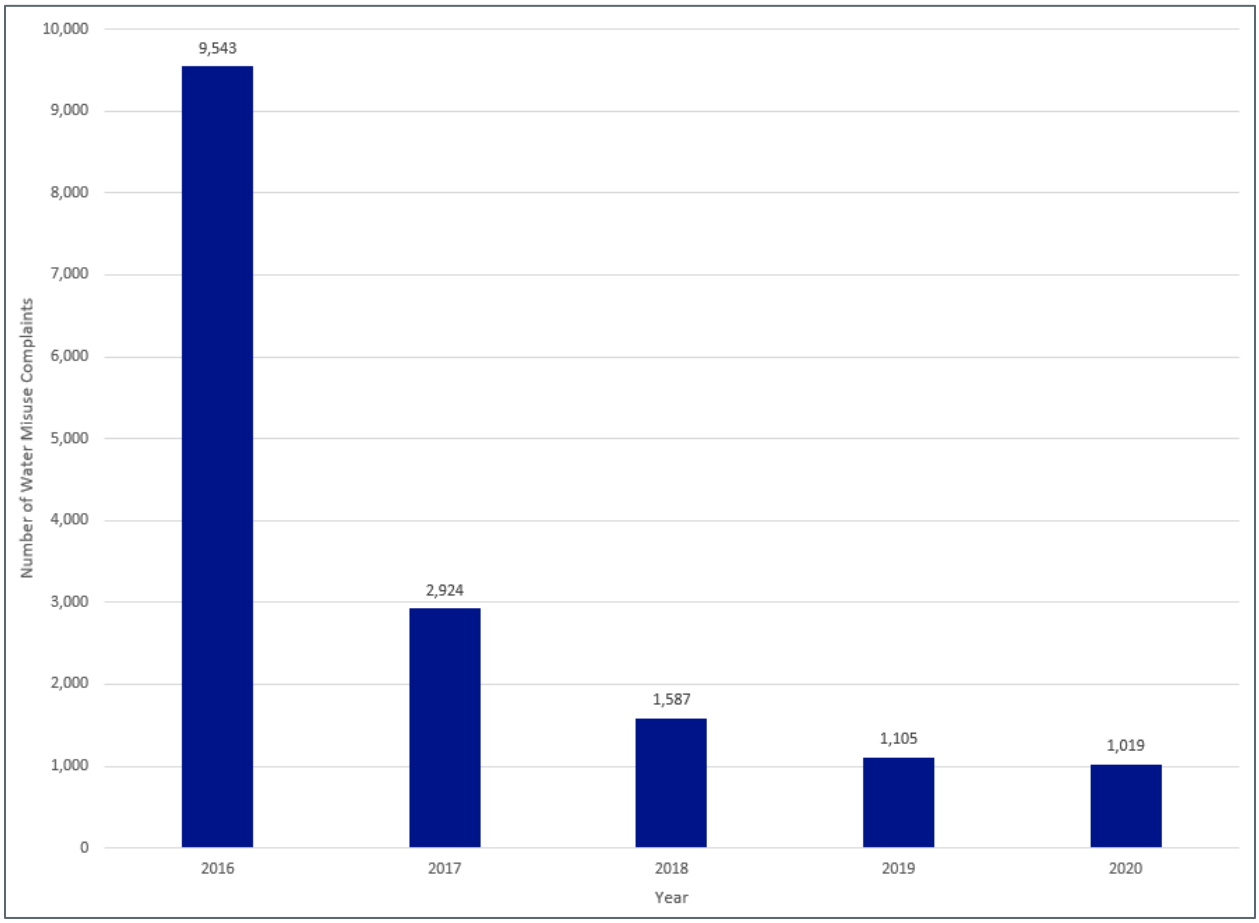


Figure 9-1. Water Misuse Complaints, 2016 - 2020

9.2.1.3 Plans for Continued Implementation

The City will continue to implement this DMM. Although water savings from this program cannot be directly quantified, this DMM is expected to help the City achieve its future water use objectives by minimizing the nonessential uses of water so that water is available to be used for human consumption, sanitation, and fire protection.

9.2.2 Metering

9.2.2.1 DMM Description

The City's water system is not fully metered. CWC §527 requires the City to install water meters on all service connections on or before January 1, 2025. The City is committed to meeting the metering requirements and has implemented a meter installation program. During the last declared water shortage, from 2014-2017, the City committed to accelerating its meter installation program. As of December 2020, about 99 percent of the City's CII customers were metered and approximately 96 to 99 percent of residential customers were metered. The range is a function of the number of meters which were physically installed in December 2020 (99 percent) versus additional time needed to validate readings and code them into the billing system (96 percent metered and within the billing system). The City expects to be fully metered by the end of 2021, well ahead of the CWC deadline.

Further, the City has included advanced metering infrastructure (AMI) in its Meter Installation Program. AMI provides real-time water use information to both the City and customers. This information can help customers make informed decisions about their water use. It also helps the City in assisting customers with improving their water use efficiency. The City sends out thousands of letters a year to many of its customers alerting them to probable ongoing leaks (5 or more days) and encourages customers to call for a free leak investigation if they cannot find the leak themselves.

Metered customers are billed for the amount of water that the customer uses through a volumetric rate. The City has a volumetric rate structure for metered users. Transitioning customers from flat rates to volumetric rates provides a financial incentive for water conservation, as discussed in Section 9.2.3 below.

9.2.2.2 Implementation over the Past Five Years to Achieve Water Use Targets

The City's goal is to be fully metered by the end of the calendar year 2021, and with recent progress in installing meters, the City expects to be fully metered by the end of 2021. When the City was preparing its 2015 UWMP, only 52 percent of the customers were metered and coded into the City billing system. The City steadily made progress on meter implementation program by installing over 68,634 meters in the past 5 years. The total number of installed meters from 2016 through 2020 and the number of new meters installed per year are shown on Table 9-1. Additional information on the City's metering program can be found on the City's website.

Table 9-1. Meter Installations between 2016 and 2020		
Year	Total Meters	New Meters Installed[(a)]
2016	82,012	12,550
2017	100,922	18,910
2018	120,807	19,885
2019	134,467	13,660
2020	138,096	3,629

(a) Represent meters installed and coded into the City's billing system.

Using its AMI technology to identify potential leaks, the City issued notices to customers. As shown on Figure 9-2, over 21,000 leak letters were mailed in 2020 and over 66,000 letters were mailed between 2016 and 2020. Over the past five years, the City completed over 11,300 leak investigations.

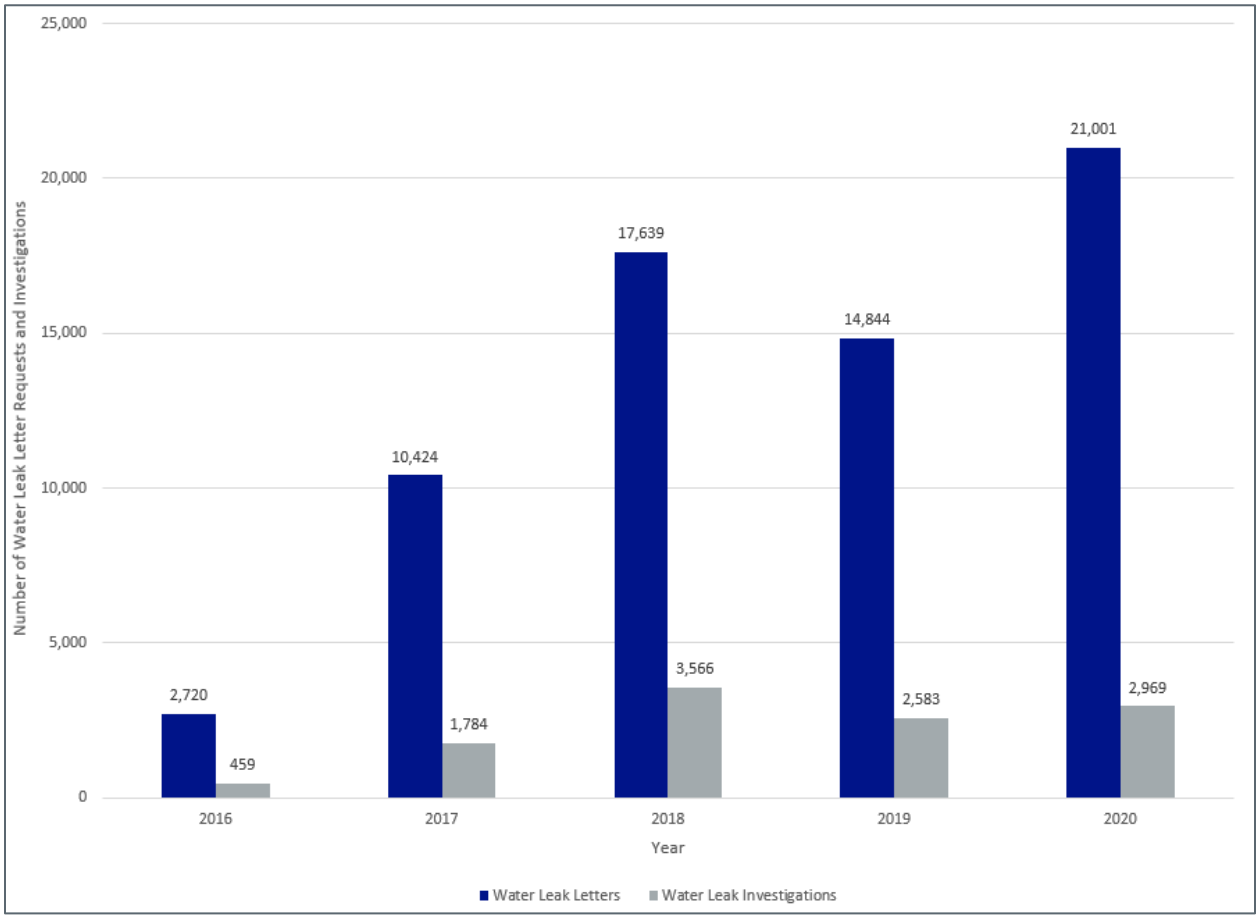


Figure 9-2. Water Leak Letter Requests and Investigations, 2016 – 2020

9.2.2.3 Plans for Continued Implementation

Implementation of this DMM is expected to help the City achieve its water use objectives by providing accurate water use information to the customers and the City. The implementation of automatic leak notification process and the resulting leak investigations are expected to help the City achieve its water use objectives by reducing the water lost through leaks on customer side. Even though the water savings from this measure is difficult to quantify, it presents considerable amount of water savings for the City and its customers.

The City expects to complete installation of water meters for all of its customers by December 2021. The City will continue to install and read meters on all new services. All water connections will be metered and billed based on the volume of water used, as discussed in further detail under Section 9.2.3. The City will monitor water usage characteristics of its customers to ensure any new water rate structure is fair to customers and adequately recovers costs.

9.2.3 Conservation Pricing

9.2.3.1 DMM Description

Historically, the City charged flat rates for its customers' water use. One year after the meter is installed, the City implements volumetric charges for customer water use, although the customer can opt to transition over to volumetric rates more quickly. As discussed above, the City now has approximately 99 percent of its customers metered and expect to have all of its customers metered by the end of 2021.

The City currently has volumetric water rates in effect for metered customers since 2016, as shown on its website. The rates were set such that the City can recover up to 70 percent of the City's operating cost through volume sold. With more complete water meter information, the percentage of the City's operating costs attributable to volumetric production will be reconsidered moving forward.

9.2.3.2 Implementation over the Past Five Years to Achieve Water Use Targets

Transitioning customers from flat rates to metered rates provides a financial incentive for water conservation. In the past five years, 68,634 water meters were installed for customers. Within one year from installation of the water meter, customers are transitioned from a flat rate to their metered rate.

9.2.3.3 Plans for Continued Implementation

Implementation of this DMM is expected to help the City achieve its water use objectives by providing customers the financial incentive to use water efficiently.

9.2.4 Public Education and Outreach

9.2.4.1 DMM Description

The City promotes water conservation both independently and in coordination with the RWA. The RWA is a joint powers authority formed in 2001 to promote collaboration on water management and water supply reliability programs in the greater Sacramento, Placer, El Dorado, Yolo and Sutter Counties. In collaboration with 19 water provider members and other wastewater, stormwater, and energy partners, RWA formed the Water Efficiency Program (WEP), described in Section 9.4.2.1.1, in 2001 to bring cost effectiveness through economies of scale to public education and outreach activities. The City is a long-time member of the RWA.

The RWA member agencies share the common goal of collaborating on water management and water supply reliability programs. The City fully participates in the RWA Public Information Campaign, which is coordinated with support from the Public Outreach and School Education Committee comprised of RWA member agencies' conservation coordinators and Public Information Officers.

The City's outreach efforts related to water use efficiency and water conservation have received awards from the EPA Water Sense Program in 2019 and 2020, including a Water Sense Partner of the Year award in 2020. The City has come up with a monthly theme and outreach campaign efforts to educate and encourage residents to save water. The outreach activities include:

- Monthly themed editorial calendar
- 5 different campaigns:
  - Break Up With Your Lawn
  - Made Possible By
  - 1 Day per Week
  - 2 Day per Week
  - Keep Sac Water Wise
- Monthly electronic newsletter with an audience of 40,000 residents
- Annual distribution events:
  - Mulch Mayhem
  - Rain barrel distribution
- Workshops and Events
  - Waterwise Garden showcase (launched in 2019)
  - Webinars and in-person workshops on various services and rebates offered
  - Tree care workshop in partnership with Sacramento Tree Foundation
- Maintain current program information on website
- Distribute information on water-wise tools, information, and rebate to residents and businesses
- Provide landscape ideas
- Organize and coordinate outreach events with local community partners at farmer's markets and other community events
- Develop of promotional and give-away materials
- Develop outreach messaging for utility bill inserts, website, and water conservation blog
- Create public service announcements
- Respond to customer messages/requests for information
- Maintain Water Education website

Information on the City's water conservation programs and services is provided in Appendix M.

9.2.4.1.1 RWA's Water Efficiency Program

The WEP operates on an average annual budget of $530,000 and is supplemented by grant funding. Grants are an important funding resource for the Program. Since 2003, the WEP has been awarded $13.2 million in grant funding for public outreach and education as well as a variety of rebate programs, fixture direct install programs, system water loss, individualized customer usage reports, large landscape budgets and more. Of those funds, $3.8 million was awarded between 2016 and 2020.

The main function of the WEP is to develop and distribute public outreach messages to customers in the region by collaborating with its water provider members. The WEP distributes these messages on a regional scale through regional media and advertising buys and was honored with the United States EPA WaterSense Excellence in Education and Outreach Award in 2016.

9.2.4.2 Implementation over the Past Five Years to Achieve Water Use Targets

In addition to public outreach, the WEP also coordinates school education activities. Since 2012, the WEP has hosted the Water Spots Video Contest for high school and middle school students. The WEP provides a new contest theme each year and provides the region's teacher and students with relevant facts and images to help develop 30 second video PSAs. Students submit their videos to RWA who hosts a panel of local celebrities including Monica Woods from ABC 10 to decide on a first, second, and third place winner. The top 10 scoring videos are then posted online for public voting to select a "people's choice" winner as well. Both teachers and student receive cash prizes and the winning videos are played at Raley Field during River Cats games and in select movie theaters throughout the region. The winning PSAs are incorporated into the WEP's media activities as well. Past themes include *WATER MYTHS BUSTED!, H2o Hero,* and *Show Off Your Water Smarts.*

The City's Water Conservation Office dramatically expanded its outreach related to its watering schedule as well as its available rebates in early 2014 and further expanded its efforts beginning in late 2016. In addition, the City coordinated its efforts so the RWA's regional messaging and EPA's WaterSense campaigns enhance the City's efforts. Outreach over the past five years has focused on helping customers use less water outdoors. A recent RWA regional public opinion survey uncovered gaps in knowledge about where and how much water is used at home. With the Sacramento region's hot, dry climate and long summer season, more than 65 percent of a household's yearly water consumption typically goes toward landscape irrigation. Of that, it is estimated that 30 percent is lost due to overwatering or evaporation. The target of the campaign messaging includes a call for customer behavioral changes in watering practices.

9.2.4.2.1 City Efforts

The City maintains its own outreach efforts. The City's Water Conservation page is available on the City's website. This website provides public information on current conservation issues including:

- **Calendar** with information on several workshops which provide tips on irrigation and the City's water conservation program
- **Frequently Asked Questions** which answers questions about drought and water conservation
- **Rebate** programs offered by the City for both residential and commercial customers, which is discussed more in Section 9.3

- **Water Conservation Codes** which provides the latest information on what water shortage stage the City is currently in and the information on the various resolutions and ordinances in place
- **Water Conservation Services** which lists the City's several programs to help residential and commercial business save water
- **Water Meters** which provides information on the City's accelerated water meter program

In addition to the information on its website, the City also utilizes social media, including Facebook, Twitter, and Nextdoor, to advertise conservation messaging. The City also maintains a blog, the City Express, which also provides public education and outreach on water conservation.

9.2.4.2.2 RWA Efforts

From 2016 to 2020, the WEP created a series of public outreach campaigns. Below is a summary of each campaign and highlighted achievements.

Following the historic 2015 California drought, the WEP launched the "Rethink Your Yard" Campaign in 2016 with a focus on prioritizing landscape watering, putting trees first and transitioning thirsty lawn and landscaping to beautiful, low water use, River-Friendly landscapes. The WEP advertised the campaign through online ads, social media, commercial radio, Raley Field (local baseball stadium) and local billboards. The campaign featured local homeowners with their newly redesigned yards on billboards throughout the region.

The campaign launched in 2017 focused on encouraging customers to understand and deliver the amount of water their landscape really needs and to make permanent equipment changes to improve efficiency such as installing weather-based irrigation controllers, more efficient sprinklers, and drip irrigation. The WEP partnered on this messaging with local nurseries through a "Get Growing this Fall" initiative to encourage residents to plant in the fall when days are cooler and plants don't need as much water to establish roots.

From 2018 through 2020, the regional campaign focused on tackling the landscape overwatering problem with a "Check and Save" message encouraging residents to check the soil moisture with a moisture meter before turning on sprinklers. To support this message, the WEP provided free froggy moisture meters via an online request form and at events. In 2019, WEP distributed 3,000 moisture meters to customers throughout the region.

These campaigns are implemented through both paid advertising buys and earned media from public service announcements. Every year the campaigns can be heard on local radio stations such as Capital Public Radio and online through google, Facebook and YouTube advertisements. From 2016-2020, the WEP public outreach campaigns produced:

- Radio Advertising (2016-2020): 3,443 radio advertisements ran; 17.2 million impressions
- Digital Advertising (Facebook, Google Display Network and Spotify) (2016-2020): 24.3 million impressions; 262,900 clicks
- Additional advertising (billboards in 2016): 1.8 million digital advertisements ran; 51.6 million impressions

- Public Service Announcements (Television and Radio) (2016-2020): 20 million impressions; $570,000 in value had they been purchased as advertising

The WEP also continues messaging through its own Facebook page. From 2016 to 2020, the WEP created about 60 Facebook posts a year featuring water saving tips and other relevant information. The WEP hosted several Facebook sweepstake contests including: Tree Hugger in 2016, where participates submitted pictures hugging a tree to raise awareness about the importance of healthy trees and the Under/Over Debate in 2020, where participates were asked to weigh in what is the proper way to hang toilet paper to raise awareness of toilet leaks. The winner of the Under/Over Debate sweepstakes received a case of toilet paper delivered via mail and gift card to a local hardware store.

The WEP continues to utilize the public outreach website to reach customers throughout the region. The website contains regional and local water provider information on rebates and services, top ways to save, an interactive watering and water waste information map, a water-wise gardening database, recent press releases, the Sacramento Smart Irrigation Scheduler tool, and more. Educational information and customer services were modified to address the COVID-19 pandemic in 2020 including online water efficiency lessons for kids, a list of nurseries that offered curbside pickup, virtual water wise house calls and numerous virtual educational customer workshops. Between 2016 and 2020, the website averaged 96,000 unique visitors per year.

For more targeted outreach, the WEP distributed quarterly e-newsletters to participating residents. The e-newsletters are filled with water savings tips, upcoming events, and other interesting articles. They are usually timed around changes in the weather to help signal the need for residents to adjust their irrigation systems, such as daylight savings coupled with a message to dial back sprinkler systems. The e-newsletter reaches 6,300 households.

Every year the WEP selects 3 public events to attend for the public to interact with local water efficiency staff. This provides an opportunity for the region to communicate its messages in person. Events have included the Sacramento Home & Landscape Show at Cal Expo, Creek Week, Harvest Day, Farm-to-Fork Festival and several Earth Day events. Additionally, RWA, in coordination with participating local water providers, hosts an annual Mulch Mayhem event in which customers can pick up a truck load of free mulch from selected locations throughout the region. All in-person regional events were canceled in 2020 due to the COVID-19 pandemic.

The WEP is also very active in communicating to local media outlets such as the Sacramento Bee. Between 2016 and 2020, RWA issued 50 press releases on WEP activities and regionally significant news and participated in nearly 30 radio public affairs interviews. The RWA and the WEP were mentioned in dozens of news articles published by local and regional media outlets both within and outside of the Sacramento region during the same time frame.

To support public outreach messaging and water savings tips, the WEP also coordinated several regional rebate programs, which were partially funded by state and federal grants. A variety of rebate options were provided including toilets, clothes washers, and irrigation efficiencies. Collectively, these rebates and installations will produce an estimated lifetime (10 years) savings of 6 billion gallons of water and 6.4 million kWh of energy.

RWA also continued to implement its school education activities. WEP hosted the Water Spots Video Contest for high school and middle school students to prepare 30 second public service announcements.

Between 2016 and 2019, 450 videos were submitted (average of 90 videos a year). The 2020 Water Spots Video Contest was canceled due to the COVID-19 pandemic.

9.2.4.3 Plans for Continued Implementation

Implementation of this DMM is expected to help the City continue to achieve its water use objectives by educating water users about the importance of water use efficiency and avoiding water waste.

9.2.5 Programs to Assess and Manage Distribution System Real Loss

9.2.5.1 DMM Description

A system water audit is a process of accounting for water use throughout a water system in order to quantify the unaccounted-for water. Unaccounted-for water is the difference between metered production and metered consumption on a system-wide basis. As the City becomes more fully metered, it is more able to quantify unaccounted-for water. A leak detection program typically consists of both visual inspection as well as audible inspection. Visual inspection includes the inspection of distribution system appurtenances (e.g., fire hydrants, valves, meters, etc.) to identify obvious signs of leakage. To perform audible leak detection, specialized electronic listening equipment is used to detect the sounds associated with distribution system leakage. This process allows the agency to pinpoint the location of suspected leaks.

The City performs an annual water audit that conforms to the AWWA Method 36. The City's Fiscal Years 2016 to 2020 AWWA Water Loss Audits are included in Appendix E and summarized in Chapter 4.

9.2.5.2 Implementation over the Past Five Years to Achieve Water Use Targets

As part of its meter installation project discussed in Section 9.2.2, the City rehabilitated and replaced older, leaking water infrastructure. The City has made significant progress in reducing its gallons lost per service connection per day.

9.2.5.3 Plans for Continued Implementation

Implementation of this DMM is ongoing and is a vital element of the City's Water Conservation Plan and Sustainability practices. This effort will help the City achieve its water use objectives by identifying sources of water loss quickly so repairs can be conducted, and losses minimized. The State of California is currently developing water loss targets for Urban Retail Water Suppliers (URWS) and the City will be evaluating the impact of those targets as they develop.

9.2.6 Water Conservation Program Coordination and Staffing Support

9.2.6.1 DMM Description

The City has designated staff to actively develop, promote, enforce, and maintain water conservation programs. In 2001, the City established a Water Conservation Coordinator. Currently, the Water Conservation Coordinator leads a team of staff members, including three water conservation specialists, one customer service representative, three water conservation representatives, one office administrator, and typically up to two interns. Their contact information is available on the City's water conservation website. The public can reach any of the team members via email at waterconservation@cityofsacramento.org or by phone at 916-808-1337.

9.2.6.2 Implementation over the Past Five Years to Achieve Water Use Targets

Over the past five years, the City maintained and expanded the water conservation program team from eight to nine full time staff members. The Water Conservation Office has an annual budget of approximately $2.6 million per year.

9.2.6.3 Plans for Continued Implementation

Implementation of this DMM is ongoing and is a vital element of the success of the City's Water Conservation Plan. The water conservation team implements the City's water conservation program so that the City may meet its water use objectives.

With the new AB 1668 and SB 606 setting new water conservation targets for each urban water agency, the Water Conservation Plan update will be reviewing the program growth and resources needed.

9.3 OTHER DEMAND MEASURES

In addition to the six DMMs described above, the City also implements the following programs:

- Residential Water Wise Rebates
- Residential Water Wise Services
- Business Water Wise Rebates
- Business Water Wise Services
- Water Wise Tools

9.3.1 Residential Conservation Programs

The City provides Water Wise rebates and services for residential customers and promotes them on its water conservation website. Implementation of these programs is expected to help the City achieve its water use objectives by reducing the amount of water consumed by its residential customers.

9.3.1.1 Rebate Programs

The City's rebate programs implementation are briefly described and summarized in Table 9-2 for 2016 through 2020. The rebate programs are available to property owners, their tenants, commercial, industrial, institutional, and multi-family customers. The rebates are subject to water conservation staff inspections and the terms and conditions provided on the City's water conservation website. Some rebates may be combined with rebates from the Sacramento Municipal Utility District, the residents' electric service provider.

Overall, these programs allowed thousands of its residential customers to improve their water use efficiency. The City's average total annual budget for the residential rebate programs between 2016 and 2020 is $1.2 million.

Table 9-2. City Residential and CII (Business) Rebate Programs Implementation (2016-2020)

Program	Description	Rebate Amount, dollars	Number of Rebates Issued
Outdoor Rebates			
Turf Conversion	Replace lawns (all customer types) with low water use River Friendly landscape	$1.50 per square foot; up to $3,000, may include up to $500 in labor if completed by a licensed landscape contractor and can include an additional $150 for landscape design assistance	Over 553,700 square feet of turfgrass converted
Irrigation Upgrade	Convert sprinkler nozzles and heads to high efficiency sprinkler nozzles (using 0.85 inches per hour or less), or to drip irrigation	Up to $400 for materials; Up to $150 for contractor cost	Over 430 water efficient irrigation upgrades completed
Smart Irrigation Controller	Install weather-based smart irrigation controllers	Up to $400; may include up to $150 in labor if installed by a licensed landscape contractor (C27). Instant rebates offered on the SMUD Smart Energy store website, beginning in 2018	Over 4,490 smart controllers rebated, 1960 (44%) through the SMUD Smart Energy store
Rain Barrel	Rebates for the installation of rain barrels to store rainfall runoff for landscape use and distribution events	Up to $150 Annual rain barrel distribution event started in 2018.	Over 700 rain barrels distributed and rebated
Laundry-to-Landscape	Install grey water system to capture water from washing machines for landscape use	Up to $100	
Indoor Rebates			
High-Efficiency Toilets	Replace older PRE-1992 toilet with a new high-efficiency toilet (1.28 gallons per flush or less)	Up to $125; rebate provided in partnership with the Regional Water Authority and the Regional San	Over 5,000 rebates and 4,900 HETs and HE urinals installed as part of a grant administered by the Regional Water Authority in 2017 and 2018 that targeted multi-family and commercial properties located within the City's Disadvantaged Communities
High-Efficiency Washing Machine	Purchase a Tier III High-Efficiency Clothes Washer	Up to $125. Administered by SMUD until December 31, 2020.	Over 1,460 rebates
Multi-Family Residential Rebate			
Re-Do the Loo	Replace older, pre 1992 toilets located within Disadvantaged Communities	$250 per toilet, includes labor if installed by a licensed plumber	180 in 2020 (start of program)

Source: http://www.cityofsacramento.org/Utilities/Water/Conservation/Residents/Residential-Rebates

9.3.1.2 Residential Water Wise Services

The City provides a free home water use inspection service known as the Water Wise House Call Program and, during the COVID-19 pandemic, began to offer this service virtually for most of 2020. Inspections are conducted by trained water conservation specialists and help identify potential water savings for the customer. To schedule, customers can call the City's conservation hotline (916-264-5011 or 311 from within the City). Between 2016 and 2020, the City scheduled 2,960 house calls.

The City also offers a no-cost direct install leak repair assistance to eligible single family homes through its Leak Free Sacramento Program. Under this program, a City-approved contractor comes to the customer's home to evaluate leaks and make repairs at no cost to the customer. Repairs apply to both indoor and outdoor leaks. This program originally started as a grant in late 2016 and the grant funds were fully expended in late 2017. In 2018, the program was relaunched as a pilot program with a small budget. This program helped the City bring water efficiency programs to the disadvantaged and low-income residents of the City that typically are not able to take advantage of other City conservation programs. Over the years, the program has scaled up to be funded at $150,000 on an annual basis and is in the process of hiring additional plumbers and irrigation technicians. Through the launch of this program, the City was able to start addressing the gap in participation in the water efficiency rebate programs from the disadvantaged and low-income residents, for whom the upfront cost and reimbursement model of the rebate programs were an impediment. Between 2016 and 2020, 348 leak free repairs were completed in addition to installation of water efficient plumbing fixtures.

9.3.2 Commercial Water Wise Business Calls

Similar to Water Wise House Calls for residential customers, the City offers Water Wise Business Calls for commercial customers. Site visits are conducted by trained water conservation specialists at no cost to the business. The water conservation specialists help identify potential water-savings for the business and identify rebates for which the business may be eligible. Businesses can call the City's conservation hotline (916-264-5011 or 311 from within the City) to schedule their site visit.

9.4 DEMAND MEASURES FOR WHOLESALE AGENCIES

Wholesale water suppliers are required to provide a description of the DMMs implemented associated with the following:

- Metering;
- Public education and outreach; and
- Water conservation program coordination and staffing support.

In addition, a narrative of asset management and wholesale supplier assistance programs is required.

For each DMM, the City's current program is described, followed by a description of how the DMM was implemented over the previous five years.

9.4.1 Metering

The City's wholesale water deliveries are fully metered, and calibration is verified on an annual basis. All facilities are fully equipped with SCADA and security alarms, and are maintained by City mechanical, electrical, and instrumentation staff. Maintenance is performed per contract with the receiving wholesale customer.

9.4.2 Public Education and Outreach

As discussed in Section 9.2.4, the City fully participates in the RWA Public Information Campaign. The RWA members include three of the City's wholesale customers. The City's public education and outreach materials are available to its wholesale customers through the City's website.

9.4.3 Water Conservation Program Coordination and Staff Support

The City utilizes the same Water Conservation Program staff for wholesale conservation as it does for retail conservation. Retail Water Conservation Program Coordination and Staff Support is described in Section 9.2.6.

9.4.4 Asset Management

As infrastructure assets continue to age and deteriorate, the need to restore parts of the water system is becoming of higher importance. Significant portions of the water infrastructure including critical pipelines, reservoirs, wells, and treatment plants are approaching, or already passed, their designed life span. As a result, the City is utilizing an asset management process for its capital improvement program to systematically prioritize and rank its rehabilitation and replacement needs, ensuring long-term infrastructure sustainability and its ability to maintain a reliable and high-quality water supply. Much of DOU's asset management strategy focuses on core framework areas such as long-range planning, life-cycle costing, proactive operations and maintenance, long-term funding strategies, and capital replacement plans that provide the foundation for many asset management best practices.

9.4.5 Wholesale Supplier Assistance Programs

The City provides conservation assistance to its wholesale customers via participation in the RWA Water Efficiency Program Advisory Committee. The Committee meets monthly and the City actively participates. Through this meeting, the Committee members provide water conservation program updates and coordinate on activities.

9.5 WATER USE OBJECTIVES (FUTURE REQUIREMENTS)

In 2018, the State Legislature enacted two policy bills, (SB 606 (Hertzberg) and AB 1668 (Friedman)), to establish long-term water conservation and drought planning to adapt to climate change and the associated longer and more intense droughts in California. These two policy bills build on SB X7-7 and set authorities and requirements for urban water use efficiency. The legislation sets standards for indoor residential use and requires the State Water Board, in coordination with DWR, to adopt efficiency standards for outdoor residential use, water losses, and CII outdoor landscape areas with dedicated irrigation meters. At the time of preparation of this UWMP, DWR and the State Water Board are in the process of developing new standards for water loss and indoor and outdoor residential water use. These

standards will require urban water retailers to develop agency-wide water use objectives, provide annual reports, and update their UWMP.

The Legislature established indoor residential water use standards as 55 GPCD until January 2025, 52.5 GPCD from 2025 to 2029, and 50 GPCD in January 2030, or a greater standard recommended by DWR and the State Water Board. By June 30, 2022, the State Water Board is anticipated to adopt an outdoor residential use standard, a standard for CII outdoor landscape area with dedicated irrigation meters, and performance measures for CII water uses. At that time, the State Water Board will adopt guidelines and methodologies for calculating the water use objectives. In accordance with CWC §10609.20(c), the water use objective for urban water retailers will be based on the estimated efficient indoor and outdoor residential water use, efficient outdoor irrigation of CII landscaped areas, estimated water losses, and estimated water use for variances approved by the State Water Board aggregated across the population in its water service area.

By November 1, 2023, and November 1 of every year thereafter, the City will calculate its urban water use objective and actual water use and provide an annual report to the State. By January 1, 2024, the City will prepare a UWMP supplement incorporating DMMs and other water efficiency standards that it plans to implement to achieve its water use objective by January 1, 2027.

9.6 MEMBERS OF CALIFORNIA WATER EFFICIENCY PARTNERSHIP

In 2018, the California Water Efficiency Partnership (CalWEP) was established to combine expertise on California water issues, challenges, and opportunities to advance water efficiency both on the agency wide and statewide level. CalWEP follows on from the CUWCC, which administered an agreement between DWR, water utilities, environmental organizations, and other interested groups to implement best water management practices to reduce the consumption of California's water resources. The City was a participating member from 1995 to 2018, when CUWCC evolved to become CalWEP, and is an active member of CalWEP. CalWEP provides opportunities for networking and partnerships to improve water efficiency and conservation. Members are voluntarily organized into two main committees. The Research and Evaluation Committee collaboratively identify and pursue research projects to benefit its members. The Program Committee shares needs, successes, and challenges, and identifies actionable step for addressing water conservation program needs.

CHAPTER 10
Plan Adoption, Submittal, and Implementation

This chapter provides information regarding the notification, public hearing, adoption, and submittal of the City's 2020 UWMP and updated WSCP. It also includes discussion on plan implementation and the process of amending the UWMP and the WSCP.

10.1 INCLUSION OF ALL 2020 DATA

Because 2020 is the final compliance year for SB X7-7, the 2020 UWMPs must contain data through the end of 2020. If a water supplier bases its accounting on a fiscal year (July through June) the data must be through the end of the 2020 fiscal year (June 2020). If the water supplier bases its accounting on a calendar year, the data must be through the end of the 2020 calendar year (December 2020).

As indicated in Chapter 2 (Section 2.4) of this plan, the City uses a calendar year for water supply and demand accounting, and therefore this 2020 UWMP includes data through December 2020.

10.2 NOTICE OF PUBLIC HEARING

In accordance with the Act, the City must provide an opportunity for the public to provide input on this 2020 UWMP and the updated WSCP. The City must consider all public input prior to its adoption. There are two audiences to be notified for the public hearing: cities and counties, and the public.

10.2.1 Notices to Cities and Counties

The City provided greater than a 60-day notice regarding the preparation of its 2020 UWMP and update to its WSCP to cities and counties in its service area as discussed in Chapter 2 (Section 2.5) of this plan. In addition, the City provided notices to the following agencies:

- California American Water Company
- Del Paso Manor Water District
- Florin County Water District
- Golden State Water Company
- Natomas Central Mutual Water Company
- Rio Linda/Elverta Community Water District
- Regional Water Authority
- Sacramento Groundwater Authority
- Sacramento County Water Agency
- Sacramento Regional Sanitation District
- Sacramento Suburban Water District
- Sacramento County
- Tokay Park Water Company
- City of West Sacramento

The City coordinated the preparation of its UWMP and WSCP update internally, with the County, and with the above listed agencies. The notices of preparation are included as Appendix D. Upon substantial completion of this 2020 UWMP, the City provided the agencies listed above, including internally within the City and County, notice of public hearing (Appendix D.)

Notifications to cities and counties, in accordance with the Act, are summarized in Table 10-1 and Table 10-2.

Table 10-1. Retail Notification to Cities and Counties (DWR Table 10-1 Retail)

City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Sacramento	Yes	Yes
County Name *Drop Down List*	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Sacramento County	Yes	Yes

Table 10-2. Wholesale Notification to Cities and Counties (DWR Table 10-1 Wholesale)

City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Sacramento	Yes	Yes
County Name *Drop Down List*	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Sacramento County	Yes	Yes

10.2.2 Notice to the Public

The City issued a Notice of Public Hearing to the public and provided a public review period following the notice and prior to adoption, to allow ample time for public comments to be prepared and received.

A Notice of Public Hearing was issued in accordance with Government Code Section 6066 and was published twice in the Sacramento Bee newspaper to notify all customers and local governments of the public hearing. In addition, the notice was posted on the City's website. A copy of the published Notice of Public Hearing is included in Appendix D.

10.3 PUBLIC HEARING AND ADOPTION

The City encouraged community participation in the development of this 2020 UWMP, including its WSCP, using public notices and web-based communication. The notice included the time and place of the public hearing, as well as the location where the plan is available for public inspection.

The public hearing provided an opportunity for City water users and the general public to become familiar with the 2020 UWMP, and ask questions about its water supply, the City's continuing plans for providing a reliable, safe, high-quality water supply, and the plans to mitigate various potential water shortage conditions. Copies of the draft UWMP, including the WSCP, were made available for public inspection at the City's offices, at local public libraries, and on the City website.

10.3.1 Public Hearing

A public hearing was held on June 29, 2021. As part of the public hearing, the City provided a report on the City's compliance with the Water Conservation Act of 2009. The report included information on the City's baseline, water use targets, compliance, and implementation, as discussed previously in Chapter 5 of this plan.

10.3.2 Adoption

Subsequent to the public hearing, this 2020 UWMP was adopted by the City Council on June 29, 2021. The City Council adopted the updated WSCP separately, so that it may be adjusted as necessary. Copies of the adopted resolutions are included in Appendix N.

10.4 PLAN SUBMITTAL

This 2020 UWMP will be submitted to DWR within 30 days of adoption and by July 1, 2021. The adopted 2020 UWMP will be submitted electronically to DWR using the Water Use Efficiency (WUE) data submittal tool. A copy of the adopted 2020 UWMP will also be submitted to the California State Library.

No later than 30 days after adoption, a copy of the adopted 2020 UWMP, including the WSCP, will be provided to the County.

10.5 PUBLIC AVAILABILITY

No later than 30 days after submittal to DWR, copies of this Plan, including the adopted WSCP, will be available at the City's offices for public review during normal business hours. An electronic copy of this 2020 UWMP will also be available for review and download on the City's website.

10.6 AMENDING AN ADOPTED UWMP OR WATER SHORTAGE CONTINGENCY PLAN

The City may amend its 2020 UWMP and WSCP jointly or separately. If the City amends one or both documents, the City will follow the notification, public hearing, adoption, and submittal process described in Sections 10.3 through 10.5 above. In addition to submitting amendments to DWR through the WUE data portal, copies of amendments or changes to the plans will be submitted to the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

Appendix A

Legislative Requirements

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WATER CODE - WAT

DIVISION 6. CONSERVATION, DEVELOPMENT, AND UTILIZATION OF STATE WATER RESOURCES [10000 - 12999]
(Heading of Division 6 amended by Stats. 1957, Ch. 1932.)

PART 2.55. SUSTAINABLE WATER USE AND DEMAND REDUCTION [10608 - 10609.42] *(Part 2.55 added by Stats.2009, 7th Ex. Sess., Ch. 4, Sec. 1.)*

CHAPTER 1. General Declarations and Policy [10608 - 10608.8] *(Chapter 1 added by Stats. 2009, 7th Ex. Sess., Ch. 4, Sec. 1.)*

10608.

The Legislature finds and declares all of the following:

(a) Water is a public resource that the California Constitution protects against waste and unreasonable use.

(b) Growing population, climate change, and the need to protect and grow California's economy while protecting and restoring our fish and wildlife habitats make it essential that the state manage its water resources as efficiently as possible.

(c) Diverse regional water supply portfolios will increase water supply reliability and reduce dependence on the Delta.

(d) Reduced water use through conservation provides significant energy and environmental benefits, and can help protect water quality, improve stream flows, and reduce greenhouse gas emissions.

(e) The success of state and local water conservation programs to increase efficiency of water use is best determined on the basis of measurable outcomes related to water use or efficiency.

(f) Improvements in technology and management practices offer the potential for increasing water efficiency in California over time, providing an essential water management tool to meet the need for water for urban, agricultural, and environmental uses.

(g) The Governor has called for a 20 percent per capita reduction in urban water use statewide by 2020.

(h) The factors used to formulate water use efficiency targets can vary significantly from location to location based on factors including weather, patterns of urban and suburban development, and past efforts to enhance water use efficiency.

(i) Per capita water use is a valid measure of a water provider's efforts to reduce urban water use within its service area. However, per capita water use is less useful for measuring relative water use efficiency between different water providers. Differences in weather, historical patterns of urban and suburban development, and density of housing in a particular location need to be considered when assessing per capita water use as a measure of efficiency.

(*Added* by Stats. 2009, 7th Ex. Sess., Ch. 4, Sec. 1. (SB 7 7x) Effective February 3, 2010.)

10608.4

It is the intent of the Legislature, by the enactment of this part, to do all of the following:

(a) Require all water suppliers to increase the efficiency of use of this essential resource.

(b) Establish a framework to meet the state targets for urban water conservation identified in this part and called for by the Governor.

(c) Measure increased efficiency of urban water use on a per capita basis.

(d) Establish a method or methods for urban retail water suppliers to determine targets for achieving increased water use efficiency by the year 2020, in accordance with the Governor's goal of a 20-percent reduction.

(e) Establish consistent water use efficiency planning and implementation standards for urban water suppliers and agricultural water suppliers.

(f) Promote urban water conservation standards that are consistent with the California Urban Water Conservation Council's adopted best management practices and the requirements for demand management in Section 10631.

(g) Establish standards that recognize and provide credit to water suppliers that made substantial capital investments in urban water conservation since the drought of the early 1990s.

(h) Recognize and account for the investment of urban retail water suppliers in providing recycled water for beneficial uses.

(i) Require implementation of specified efficient water management practices for agricultural water suppliers.

(j) Support the economic productivity of California's agricultural, commercial, and industrial sectors.

(k) Advance regional water resources management.

(Added by Stats. 2009, 7th Ex. Sess., Ch. 4, Sec. 1. (SB 7 7x) Effective February 3, 2010.)

10608.8

(a) (1) Water use efficiency measures adopted and implemented pursuant to this part or Part 2.8 (commencing with Section 10800) are water conservation measures subject to the protections provided under Section 1011.

(2) Because an urban agency is not required to meet its urban water use target until 2020 pursuant to subdivision (a) of Section 10608.24, an urban retail water supplier's failure to meet those targets shall not establish a violation of law for purposes of any state administrative or judicial proceeding prior to January 1, 2021. Nothing in this paragraph limits the use of data reported to the department or the board in litigation or an administrative proceeding. This paragraph shall become inoperative on January 1, 2021.

(3) To the extent feasible, the department and the board shall provide for the use of water conservation reports required under this part to meet the requirements of Section 1011 for water conservation reporting.

(b) This part does not limit or otherwise affect the application of Chapter 3.5 (commencing with Section 11340), Chapter 4 (commencing with Section 11370), Chapter 4.5 (commencing with Section 11400), and Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.

(c) This part does not require a reduction in the total water used in the agricultural or urban sectors, because other factors, including, but not limited to, changes in agricultural economics or population growth may have greater effects on water use. This part does not limit the economic productivity of California's agricultural, commercial, or industrial sectors.

(d) The requirements of this part do not apply to an agricultural water supplier that is a party to the Quantification Settlement Agreement, as defined in subdivision (a) of Section 1 of Chapter 617 of the Statutes of 2002, during the period within which the Quantification Settlement Agreement remains in effect. After the expiration of the Quantification Settlement Agreement, to the extent conservation water projects implemented as part of the Quantification Settlement Agreement remain in effect, the conserved water created as part of those projects shall be credited against the obligations of the agricultural water supplier pursuant to this part.

(Added by Stats. 2009, 7th Ex. Sess., Ch. 4, Sec. 1. (SB 7 7x) Effective February 3, 2010.)

WATER CODE - WAT

DIVISION 6. CONSERVATION, DEVELOPMENT, AND UTILIZATION OF STATE WATER RESOURCES [10000 - 12999] *(Heading of Division 6 amended by Stats. 1957, Ch. 1932.)*

PART 2.55. SUSTAINABLE WATER USE AND DEMAND REDUCTION [10608 - 10609.42] *(Part 2.55 added by Stats. 2009, 7th Ex. Sess., Ch. 4, Sec. 1.)*

CHAPTER 9. Urban Water Use Objectives and Water Use Reporting [10609 - 10609.38] *(Chapter 9 added by Stats. 2018, Ch. 15, Sec. 7.)*

10609. (a) The Legislature finds and declares that this chapter establishes a method to estimate the aggregate amount of water that would have been delivered the previous year by an urban retail water supplier if all that water had been used efficiently. This estimated aggregate water use is the urban retail water supplier's urban water use objective. The method is based on water use efficiency standards and local service area characteristics for that year. By comparing the amount of water actually used in the previous year with the urban water use objective, local urban water suppliers will be in a better position to help eliminate unnecessary use of water; that is, water used in excess of that needed to accomplish the intended beneficial use.

(b) The Legislature further finds and declares all of the following:

(1) This chapter establishes standards and practices for the following water uses:

(A) Indoor residential use.

(B) Outdoor residential use.

(C) CII water use.

(D) Water losses.

(E) Other unique local uses and situations that can have a material effect on an urban water supplier's total water use.

(2) This chapter further does all of the following:

(A) Establishes a method to calculate each urban water use objective.

(B) Considers recycled water quality in establishing efficient irrigation standards.

(C) Requires the department to provide or otherwise identify data regarding the unique local conditions to support the calculation of an urban water use objective.

(D) Provides for the use of alternative sources of data if alternative sources are shown to be as accurate as, or more accurate than, the data provided by the department.

(E) Requires annual reporting of the previous year's water use with the urban water use objective.

(F) Provides a bonus incentive for the amount of potable recycled water used the previous year when comparing the previous year's water use with the urban water use objective, of up to 10 percent of the urban water use objective.

(3) This chapter requires the department and the board to solicit broad public participation from stakeholders and other interested persons in the development of the standards and the adoption of regulations pursuant to this chapter.

(4) This chapter preserves the Legislature's authority over long-term water use efficiency target setting and ensures appropriate legislative oversight of the implementation of this chapter by doing all of the following:

(A) Requiring the Legislative Analyst to conduct a review of the implementation of this chapter, including compliance with the adopted standards and regulations, accuracy of the data, use of alternate data, and other

issues the Legislative Analyst deems appropriate.

(B) Stating legislative intent that the director of the department and the chairperson of the board appear before the appropriate Senate and Assembly policy committees to report on progress in implementing this chapter.

(C) Providing one-time-only authority to the department and board to adopt water use efficiency standards, except as explicitly provided in this chapter. Authorization to update the standards shall require separate legislation.

(c) It is the intent of the Legislature that the following principles apply to the development and implementation of long-term standards and urban water use objectives:

(1) Local urban retail water suppliers should have primary responsibility for meeting standards-based water use targets, and they shall retain the flexibility to develop their water supply portfolios, design and implement water conservation strategies, educate their customers, and enforce their rules.

(2) Long-term standards and urban water use objectives should advance the state's goals to mitigate and adapt to climate change.

(3) Long-term standards and urban water use objectives should acknowledge the shade, air quality, and heat-island reduction benefits provided to communities by trees through the support of water-efficient irrigation practices that keep trees healthy.

(4) The state should identify opportunities for streamlined reporting, eliminate redundant data submissions, and incentivize open access to data collected by urban and agricultural water suppliers.

(Amended by Stats. 2019, Ch. 497, Sec. 287. (AB 991) Effective January 1, 2020.)

10609.2. (a) The board, in coordination with the department, shall adopt long-term standards for the efficient use of water pursuant to this chapter on or before June 30, 2022.

(b) Standards shall be adopted for all of the following:

(1) Outdoor residential water use.

(2) Outdoor irrigation of landscape areas with dedicated irrigation meters in connection with CII water use.

(3) A volume for water loss.

(c) When adopting the standards under this section, the board shall consider the policies of this chapter and the proposed efficiency standards' effects on local wastewater management, developed and natural parklands, and urban tree health. The standards and potential effects shall be identified by May 30, 2022. The board shall allow for public comment on potential effects identified by the board under this subdivision.

(d) The long-term standards shall be set at a level designed so that the water use objectives, together with other demands excluded from the long-term standards such as CII indoor water use and CII outdoor water use not connected to a dedicated landscape meter, would exceed the statewide conservation targets required pursuant to Chapter 3 (commencing with Section 10608.16).

(e) The board, in coordination with the department, shall adopt by regulation variances recommended by the department pursuant to Section 10609.14 and guidelines and methodologies pertaining to the calculation of an urban retail water supplier's urban water use objective recommended by the department pursuant to Section 10609.16.

(Added by Stats. 2018, Ch. 15, Sec. 7. (AB 1668) Effective January 1, 2019.)

10609.4. (a) (1) Until January 1, 2025, the standard for indoor residential water use shall be 55 gallons per capita daily.

(2) Beginning January 1, 2025, and until January 1, 2030, the standard for indoor residential water use shall be the greater of 52.5 gallons per capita daily or a standard recommended pursuant to subdivision (b).

(3) Beginning January 1, 2030, the standard for indoor residential water use shall be the greater of 50 gallons per capita daily or a standard recommended pursuant to subdivision (b).

(b) (1) The department, in coordination with the board, shall conduct necessary studies and investigations and may jointly recommend to the Legislature a standard for indoor residential water use that more appropriately reflects best practices for indoor residential water use than the standard described in subdivision (a). A report on the results of the studies and investigations shall be made to the chairpersons of the relevant policy committees of each house of the Legislature by January 1, 2021, and shall include information necessary to support the recommended standard, if there is one. The studies and investigations shall also include an analysis of the benefits and impacts of how the changing standard for indoor residential water use will impact water and wastewater

management, including potable water usage, wastewater, recycling and reuse systems, infrastructure, operations, and supplies.

(2) The studies, investigations, and report described in paragraph (1) shall include collaboration with, and input from, a broad group of stakeholders, including, but not limited to, environmental groups, experts in indoor plumbing, and water, wastewater, and recycled water agencies.

(Added by Stats. 2018, Ch. 15, Sec. 7. (AB 1668) Effective January 1, 2019.)

10609.6. (a) (1) The department, in coordination with the board, shall conduct necessary studies and investigations and recommend, no later than October 1, 2021, standards for outdoor residential use for adoption by the board in accordance with this chapter.

(2) (A) The standards shall incorporate the principles of the model water efficient landscape ordinance adopted by the department pursuant to the Water Conservation in Landscaping Act (Article 10.8 (commencing with Section 65591) of Chapter 3 of Division 1 of Title 7 of the Government Code).

(B) The standards shall apply to irrigable lands.

(C) The standards shall include provisions for swimming pools, spas, and other water features. Ornamental water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, shall be analyzed separately from swimming pools and spas.

(b) The department shall, by January 1, 2021, provide each urban retail water supplier with data regarding the area of residential irrigable lands in a manner that can reasonably be applied to the standards adopted pursuant to this section.

(c) The department shall not recommend standards pursuant to this section until it has conducted pilot projects or studies, or some combination of the two, to ensure that the data provided to local agencies are reasonably accurate for the data's intended uses, taking into consideration California's diverse landscapes and community characteristics.

(Added by Stats. 2018, Ch. 15, Sec. 7. (AB 1668) Effective January 1, 2019.)

10609.8. (a) The department, in coordination with the board, shall conduct necessary studies and investigations and recommend, no later than October 1, 2021, standards for outdoor irrigation of landscape areas with dedicated irrigation meters or other means of calculating outdoor irrigation use in connection with CII water use for adoption by the board in accordance with this chapter.

(b) The standards shall incorporate the principles of the model water efficient landscape ordinance adopted by the department pursuant to the Water Conservation in Landscaping Act (Article 10.8 (commencing with Section 65591) of Chapter 3 of Division 1 of Title 7 of the Government Code).

(c) The standards shall include an exclusion for water for commercial agricultural use meeting the definition of subdivision (b) of Section 51201 of the Government Code.

(Added by Stats. 2018, Ch. 15, Sec. 7. (AB 1668) Effective January 1, 2019.)

10609.9. For purposes of Sections 10609.6 and 10609.8, "principles of the model water efficient landscape ordinance" means those provisions of the model water efficient landscape ordinance applicable to the establishment or determination of the amount of water necessary to efficiently irrigate both new and existing landscapes. These provisions include, but are not limited to, all of the following:

(a) Evapotranspiration adjustment factors, as applicable.

(b) Landscape area.

(c) Maximum applied water allowance.

(d) Reference evapotranspiration.

(e) Special landscape areas, including provisions governing evapotranspiration adjustment factors for different types of water used for irrigating the landscape.

(Added by Stats. 2018, Ch. 15, Sec. 7. (AB 1668) Effective January 1, 2019.)

10609.10. (a) The department, in coordination with the board, shall conduct necessary studies and investigations and recommend, no later than October 1, 2021, performance measures for CII water use for adoption by the board in accordance with this chapter.

(b) Prior to recommending performance measures for CII water use, the department shall solicit broad public participation from stakeholders and other interested persons relating to all of the following:

(1) Recommendations for a CII water use classification system for California that address significant uses of water.

(2) Recommendations for setting minimum size thresholds for converting mixed CII meters to dedicated irrigation meters, and evaluation of, and recommendations for, technologies that could be used in lieu of requiring dedicated irrigation meters.

(3) Recommendations for CII water use best management practices, which may include, but are not limited to, water audits and water management plans for those CII customers that exceed a recommended size, volume of water use, or other threshold.

(c) Recommendations of appropriate performance measures for CII water use shall be consistent with the October 21, 2013, report to the Legislature by the Commercial, Industrial, and Institutional Task Force entitled "Water Use Best Management Practices," including the technical and financial feasibility recommendations provided in that report, and shall support the economic productivity of California's commercial, industrial, and institutional sectors.

(d) (1) The board, in coordination with the department, shall adopt performance measures for CII water use on or before June 30, 2022.

(2) Each urban retail water supplier shall implement the performance measures adopted by the board pursuant to paragraph (1).

(Added by Stats. 2018, Ch. 15, Sec. 7. (AB 1668) Effective January 1, 2019.)

10609.12. The standards for water loss for urban retail water suppliers shall be the standards adopted by the board pursuant to subdivision (i) of Section 10608.34.

(Added by Stats. 2018, Ch. 15, Sec. 7. (AB 1668) Effective January 1, 2019.)

10609.14. (a) The department, in coordination with the board, shall conduct necessary studies and investigations and, no later than October 1, 2021, recommend for adoption by the board in accordance with this chapter appropriate variances for unique uses that can have a material effect on an urban retail water supplier's urban water use objective.

(b) Appropriate variances may include, but are not limited to, allowances for the following:

(1) Significant use of evaporative coolers.

(2) Significant populations of horses and other livestock.

(3) Significant fluctuations in seasonal populations.

(4) Significant landscaped areas irrigated with recycled water having high levels of total dissolved solids.

(5) Significant use of water for soil compaction and dust control.

(6) Significant use of water to supplement ponds and lakes to sustain wildlife.

(7) Significant use of water to irrigate vegetation for fire protection.

(8) Significant use of water for commercial or noncommercial agricultural use.

(c) The department, in recommending variances for adoption by the board, shall also recommend a threshold of significance for each recommended variance.

(d) Before including any specific variance in calculating an urban retail water supplier's water use objective, the urban retail water supplier shall request and receive approval by the board for the inclusion of that variance.

(e) The board shall post on its Internet Web site all of the following:

(1) A list of all urban retail water suppliers with approved variances.

(2) The specific variance or variances approved for each urban retail water supplier.

(3) The data supporting approval of each variance.

(Added by Stats. 2018, Ch. 15, Sec. 7. (AB 1668) Effective January 1, 2019.)

10609.15. To help streamline water data reporting, the department and the board shall do all of the following:

(a) Identify urban water reporting requirements shared by both agencies, and post on each agency's Internet Web site how the data is used for planning, regulatory, or other purposes.

(b) Analyze opportunities for more efficient publication of urban water reporting requirements within each agency, and analyze how each agency can integrate various data sets in a publicly accessible location, identify priority actions, and implement priority actions identified in the analysis.

(c) Make appropriate data pertaining to the urban water reporting requirements that are collected by either agency available to the public according to the principles and requirements of the Open and Transparent Water Data Act (Part 4.9 (commencing with Section 12400)).

(Added by Stats. 2018, Ch. 15, Sec. 7. (AB 1668) Effective January 1, 2019.)

10609.16. The department, in coordination with the board, shall conduct necessary studies and investigations and recommend, no later than October 1, 2021, guidelines and methodologies for the board to adopt that identify how an urban retail water supplier calculates its urban water use objective. The guidelines and methodologies shall address, as necessary, all of the following:

(a) Determining the irrigable lands within the urban retail water supplier's service area.

(b) Updating and revising methodologies described pursuant to subparagraph (A) of paragraph (1) of subdivision (h) of Section 10608.20, as appropriate, including methodologies for calculating the population in an urban retail water supplier's service area.

(c) Using landscape area data provided by the department or alternative data.

(d) Incorporating precipitation data and climate data into estimates of a urban retail water supplier's outdoor irrigation budget for its urban water use objective.

(e) Estimating changes in outdoor landscape area and population, and calculating the urban water use objective, for years when updated landscape imagery is not available from the department.

(f) Determining acceptable levels of accuracy for the supporting data, the urban water use objective, and compliance with the urban water use objective.

(Added by Stats. 2018, Ch. 15, Sec. 7. (AB 1668) Effective January 1, 2019.)

10609.18. The department and the board shall solicit broad public participation from stakeholders and other interested persons in the development of the standards and the adoption of regulations pursuant to this chapter. The board shall hold at least one public meeting before taking any action on any standard or variance recommended by the department.

(Added by Stats. 2018, Ch. 15, Sec. 7. (AB 1668) Effective January 1, 2019.)

10609.20. (a) Each urban retail water supplier shall calculate its urban water use objective no later than January 1, 2024, and by January 1 every year thereafter.

(b) The calculation shall be based on the urban retail water supplier's water use conditions for the previous calendar or fiscal year.

(c) Each urban water supplier's urban water use objective shall be composed of the sum of the following:

(1) Aggregate estimated efficient indoor residential water use.

(2) Aggregate estimated efficient outdoor residential water use.

(3) Aggregate estimated efficient outdoor irrigation of landscape areas with dedicated irrigation meters or equivalent technology in connection with CII water use.

(4) Aggregate estimated efficient water losses.

(5) Aggregate estimated water use in accordance with variances, as appropriate.

(d) (1) An urban retail water supplier that delivers water from a groundwater basin, reservoir, or other source that is augmented by potable reuse water may adjust its urban water use objective by a bonus incentive calculated pursuant to this subdivision.

(2) The water use objective bonus incentive shall be the volume of its potable reuse delivered to residential water users and to landscape areas with dedicated irrigation meters in connection with CII water use, on an acre-foot basis.

(3) The bonus incentive pursuant to paragraph (1) shall be limited in accordance with one of the following:

(A) The bonus incentive shall not exceed 15 percent of the urban water supplier's water use objective for any potable reuse water produced at an existing facility.

(B) The bonus incentive shall not exceed 10 percent of the urban water supplier's water use objective for any potable reuse water produced at any facility that is not an existing facility.

(4) For purposes of this subdivision, "existing facility" means a facility that meets all of the following:

(A) The facility has a certified environmental impact report, mitigated negative declaration, or negative declaration on or before January 1, 2019.

(B) The facility begins producing and delivering potable reuse water on or before January 1, 2022.

(C) The facility uses microfiltration and reverse osmosis technologies to produce the potable reuse water.

(e) (1) The calculation of the urban water use objective shall be made using landscape area and other data provided by the department and pursuant to the standards, guidelines, and methodologies adopted by the board. The department shall provide data to the urban water supplier at a level of detail sufficient to allow the urban water supplier to verify its accuracy at the parcel level.

(2) Notwithstanding paragraph (1), an urban retail water supplier may use alternative data in calculating the urban water use objective if the supplier demonstrates to the department that the alternative data are equivalent, or superior, in quality and accuracy to the data provided by the department. The department may provide technical assistance to an urban retail water supplier in evaluating whether the alternative data are appropriate for use in calculating the supplier's urban water use objective.

(Amended by Stats. 2019, Ch. 239, Sec. 2. (AB 1414) Effective January 1, 2020.)

10609.21. (a) For purposes of Section 10609.20, and notwithstanding paragraph (4) of subdivision (d) of Section 10609.20, "existing facility" also includes the North City Project, phase one of the Pure Water San Diego Program, for which an environmental impact report was certified on April 10, 2018.

(b) This section shall become operative on January 1, 2019.

(Added by Stats. 2018, Ch. 453, Sec. 4. (SB 875) Effective September 17, 2018. Section operative January 1, 2019, by its own provisions.)

10609.22. (a) An urban retail water supplier shall calculate its actual urban water use no later than January 1, 2024, and by January 1 every year thereafter.

(b) The calculation shall be based on the urban retail water supplier's water use for the previous calendar or fiscal year.

(c) Each urban water supplier's urban water use shall be composed of the sum of the following:

(1) Aggregate residential water use.

(2) Aggregate outdoor irrigation of landscape areas with dedicated irrigation meters in connection with CII water use.

(3) Aggregate water losses.

(Amended by Stats. 2019, Ch. 239, Sec. 3. (AB 1414) Effective January 1, 2020.)

10609.24. (a) An urban retail water supplier shall submit a report to the department no later than January 1, 2024, and by January 1 every year thereafter. The report shall include all of the following:

(1) The urban water use objective calculated pursuant to Section 10609.20 along with relevant supporting data.

(2) The actual urban water use calculated pursuant to Section 10609.22 along with relevant supporting data.

(3) Documentation of the implementation of the performance measures for CII water use.

(4) A description of the progress made towards meeting the urban water use objective.

(5) The validated water loss audit report conducted pursuant to Section 10608.34.

(b) The department shall post the reports and information on its internet website.

(c) The board may issue an information order or conservation order to, or impose civil liability on, an entity or individual for failure to submit a report required by this section.

(Amended by Stats. 2019, Ch. 239, Sec. 4. (AB 1414) Effective January 1, 2020.)

10609.25. As part of the first report submitted to the department by an urban retail water supplier no later than January 1, 2024, pursuant to subdivision (a) of Section 10609.24, each urban retail water supplier shall provide a

narrative that describes the water demand management measures that the supplier plans to implement to achieve its urban water use objective by January 1, 2027.

(Added by Stats. 2019, Ch. 239, Sec. 5. (AB 1414) Effective January 1, 2020.)

10609.26. (a) (1) On and after January 1, 2024, the board may issue informational orders pertaining to water production, water use, and water conservation to an urban retail water supplier that does not meet its urban water use objective required by this chapter. Informational orders are intended to obtain information on supplier activities, water production, and conservation efforts in order to identify technical assistance needs and assist urban water suppliers in meeting their urban water use objectives.

(2) In determining whether to issue an informational order, the board shall consider the degree to which the urban retail water supplier is not meeting its urban water use objective, information provided in the report required by Section 10609.24, and actions the urban retail water supplier has implemented or will implement in order to help meet the urban water use objective.

(3) The board shall share information received pursuant to this subdivision with the department.

(4) An urban water supplier may request technical assistance from the department. The technical assistance may, to the extent available, include guidance documents, tools, and data.

(b) On and after January 1, 2025, the board may issue a written notice to an urban retail water supplier that does not meet its urban water use objective required by this chapter. The written notice may warn the urban retail water supplier that it is not meeting its urban water use objective described in Section 10609.20 and is not making adequate progress in meeting the urban water use objective, and may request that the urban retail water supplier address areas of concern in its next annual report required by Section 10609.24. In deciding whether to issue a written notice, the board may consider whether the urban retail water supplier has received an informational order, the degree to which the urban retail water supplier is not meeting its urban water use objective, information provided in the report required by Section 10609.24, and actions the urban retail water supplier has implemented or will implement in order to help meet its urban water use objective.

(c) (1) On and after January 1, 2026, the board may issue a conservation order to an urban retail water supplier that does not meet its urban water use objective. A conservation order may consist of, but is not limited to, referral to the department for technical assistance, requirements for education and outreach, requirements for local enforcement, and other efforts to assist urban retail water suppliers in meeting their urban water use objective.

(2) In issuing a conservation order, the board shall identify specific deficiencies in an urban retail water supplier's progress towards meeting its urban water use objective, and identify specific actions to address the deficiencies.

(3) The board may request that the department provide an urban retail water supplier with technical assistance to support the urban retail water supplier's actions to remedy the deficiencies.

(d) A conservation order issued in accordance with this chapter may include requiring actions intended to increase water-use efficiency, but shall not curtail or otherwise limit the exercise of a water right, nor shall it require the imposition of civil liability pursuant to Section 377.

(Amended by Stats. 2019, Ch. 239, Sec. 6. (AB 1414) Effective January 1, 2020.)

10609.27. Notwithstanding Section 10609.26, the board shall not issue an information order, written notice, or conservation order pursuant to Section 10609.26 if both of the following conditions are met:

(a) The board determines that the urban retail water supplier is not meeting its urban water use objective solely because the volume of water loss exceeds the urban retail water supplier's standard for water loss.

(b) Pursuant to Section 10608.34, the board is taking enforcement action against the urban retail water supplier for not meeting the performance standards for the volume of water losses.

(Added by Stats. 2019, Ch. 203, Sec. 1. (SB 134) Effective January 1, 2020.)

10609.28. The board may issue a regulation or informational order requiring a wholesale water supplier, an urban retail water supplier, or a distributor of a public water supply, as that term is used in Section 350, to provide a monthly report relating to water production, water use, or water conservation.

(Added by Stats. 2018, Ch. 14, Sec. 12. (SB 606) Effective January 1, 2019.)

10609.30. On or before January 10, 2024, the Legislative Analyst shall provide to the appropriate policy committees of both houses of the Legislature and the public a report evaluating the implementation of the water use efficiency

standards and water use reporting pursuant to this chapter. The board and the department shall provide the Legislative Analyst with the available data to complete this report.

(a) The report shall describe all of the following:

(1) The rate at which urban retail water users are complying with the standards, and factors that might facilitate or impede their compliance.

(2) The accuracy of the data and estimates being used to calculate urban water use objectives.

(3) Indications of the economic impacts, if any, of the implementation of this chapter on urban water suppliers and urban water users, including CII water users.

(4) The frequency of use of the bonus incentive, the volume of water associated with the bonus incentive, value to urban water suppliers of the bonus incentive, and any implications of the use of the bonus incentive on water use efficiency.

(5) The early indications of how implementing this chapter might impact the efficiency of statewide urban water use.

(6) Recommendations, if any, for improving statewide urban water use efficiency and the standards and practices described in this chapter.

(7) Any other issues the Legislative Analyst deems appropriate.

(Added by Stats. 2018, Ch. 14, Sec. 13. (SB 606) Effective January 1, 2019.)

10609.32. It is the intent of the Legislature that the chairperson of the board and the director of the department appear before the appropriate policy committees of both houses of the Legislature on or around January 1, 2026, and report on the implementation of the water use efficiency standards and water use reporting pursuant to this chapter. It is the intent of the Legislature that the topics to be covered include all of the following:

(a) The rate at which urban retail water suppliers are complying with the standards, and factors that might facilitate or impede their compliance.

(b) What enforcement actions have been taken, if any.

(c) The accuracy of the data and estimates being used to calculate urban water use objectives.

(d) Indications of the economic impacts, if any, of the implementation of this chapter on urban water suppliers and urban water users, including CII water users.

(e) The frequency of use of the bonus incentive, the volume of water associated with the bonus incentive, value to urban water suppliers of the bonus incentive, and any implications of the use of the bonus incentive on water use efficiency.

(f) An assessment of how implementing this chapter is affecting the efficiency of statewide urban water use.

(Added by Stats. 2018, Ch. 14, Sec. 14. (SB 606) Effective January 1, 2019.)

10609.34. Notwithstanding Section 15300.2 of Title 14 of the California Code of Regulations, an action of the board taken under this chapter shall be deemed to be a Class 8 action, within the meaning of Section 15308 of Title 14 of the California Code of Regulations, provided that the action does not involve relaxation of existing water conservation or water use standards.

(Added by Stats. 2018, Ch. 14, Sec. 15. (SB 606) Effective January 1, 2019.)

10609.36. (a) Nothing in this chapter shall be construed to determine or alter water rights. Sections 1010 and 1011 apply to water conserved through implementation of this chapter.

(b) Nothing in this chapter shall be construed to authorize the board to update or revise water use efficiency standards authorized by this chapter except as explicitly provided in this chapter. Authorization to update the standards beyond that explicitly provided in this chapter shall require separate legislation.

(c) Nothing in this chapter shall be construed to limit or otherwise affect the use of recycled water as seawater barriers for groundwater salinity management.

(Added by Stats. 2018, Ch. 14, Sec. 16. (SB 606) Effective January 1, 2019.)

10609.38. The board may waive the requirements of this chapter for a period of up to five years for any urban retail water supplier whose water deliveries are significantly affected by changes in water use as a result of damage from a disaster such as an earthquake or fire. In establishing the period of a waiver, the board shall take into

consideration the breadth of the damage and the time necessary for the damaged areas to recover from the disaster.

(Added by Stats. 2018, Ch. 14, Sec. 17. (SB 606) Effective January 1, 2019.)

DIVISION 6. CONSERVATION, DEVELOPMENT, AND UTILIZATION OF STATE WATER RESOURCES [10000 - 12999]
(Heading of Division 6 amended by Stats. 1957, Ch. 1932.)

PART 2.6. URBAN WATER MANAGEMENT PLANNING [10610 - 10657] *(Part 2.6 added by Stats. 1983, Ch. 1009, Sec..)*

CHAPTER 1. General Declaration and Policy [10610 - 10610.4] *(Chapter 1 added by Stats. 1983, Ch. 1009, Alec. 1.)*

10610 This part shall be known and may be cited as the "Urban Water Management Planning Act."

(Added by Stats. 1983, Ch. 1009, Sec. 1.)

10610.2. (a) The Legislature finds and declares all of the following:

(1) The waters of the state are a limited and renewable resource subject to ever-increasing demands.

(2) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.

(3) A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate, and increasing long-term water conservation among Californians, improving water use efficiency within the state's communities and agricultural production, and strengthening local and regional drought planning are critical to California's resilience to drought and climate change.

(4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years now and into the foreseeable future, and every urban water supplier should collaborate closely with local land-use authorities to ensure water demand forecasts are consistent with current land-use planning.

(5) Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.

(6) Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.

(7) Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.

(8) Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.

(9) The quality of source supplies can have a significant impact on water management strategies and supply reliability.

(b) This part is intended to provide assistance to water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water.

(Amended by Stats. 201B, Ch. 14, Sec. 18. (SB 606) Effective January 1, 201 9.)

10610.4 The Legislature finds and declares that it is the policy of the state as follows:

(a) The management of urban water demands and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.

CHAPTER 2. Definitions [10611 - 1 0618] ***(Chapter 2 added by Stats. 1983, Ch. 1009, iec. 1.)***

10611. Unless the context otherwise requires, the definitions of this chapter govern the construction of this part.

(Added by Stats. 1983, Ch. 1009, Sec. 1.)

10611.3 "Customer" means a purchaser of water from a water supplier who uses the water for municipal purposes, including residential, commercial, governmental, and industrial uses.

Added by renumbering Section 10612 by Stats. 2018, Ch. 14, Sec. 20. (SB 606) Effective January 1, 2019.)

10611.5 "Demand management" means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.

(Amended by Stats. 1995, Ch. 854, Sec. 3. Effective January 1, 1996.)

10612 "Drought risk assessment" means a method that examines water shortage risks based on the driest five- year historic sequence for the agency's water supply, as described in subdivision (b) of Section 10635.

(Added by Stats. 2018, Ch. 14, Sec. 21. (SB 606) Effective January 1, 201 9.)

10613. "Efficient use" means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.

(Added by :3tats. 1983, Ch. 1009, Exec. 1.)

10614. "Person" means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of such an entity.

(Added by Stats. 1983, Ch. 1009, Sec. 1.)

10615. "Plan" means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.

(Amended by Stats. 1995, *Ch. 854, Sec. 4. Effective January 1, 1996.)*

10616. "Public agency" means any board, commission, county, city and county, city, regional agency, district, or other public entity.

(Added by Stats. 1983, Ch. 1009, Sec. 1.)

10616.5 "Recycled water" means the reclamation and reuse of wastewater for beneficial use.

(Added by Stats. 1995, Ch. 854, Sec. 5. Effective January 1, 1996)

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.

(Amended by Stats. 1996, *Ch. 1023, Sec. 428. Effective January 29, 1996.)*

10617.5. "Water shortage contingency plan" means a document that incorporates the provisions detailed in subdivision (a) of Section 10632 and is subsequently adopted by an urban water supplier pursuant to this article.

(Added by Stats. 2018, Ch. 14, Sec. 22. (SB 606) Effective January 1, 2019)

10618 "Water supply and demand assessment" means a method that looks at current year and one or more dry year supplies and demands for determining water shortage risks, as described in Section 10632.1.

(Added by Stats. 2018, Ch. 14, Sec. 23 (SB 606). Effective January 1, 2019)

CHAPTER 3. Urban Water Management Plans [10620 - 10645] *(Chapter 3 added by* Stabs. *1983, Ch. 1009, Sec. 1.)*

ARTICLE 1. General Provisions [10620 - 1 0621] *(Article 1 added by Stats. 1 983, Ch. 1009, Sec. 1.)*

10620. (a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).

(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.

(c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.

(d) (I) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation, efficient water use, and improved local drought resilience.

(2) Notwithstanding paragraph (1), each urban water supplier shall develop its own water shortage contingency plan, but an urban water supplier may incorporate, collaborate, and otherwise share information with other urban water suppliers or other governing entities participating in an areawide, regional, watershed, or basinwide urban water management plan, an agricultural management plan, or groundwater sustainability plan development.

(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.

(e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.

(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.

(Amended by Stats. 2018, Ch. 14, Sec. 24. (SB 606) Effective January 1, 2019.)

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.

(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. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.

(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.

(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)

(e) Each urban water supplier shall update and submit its 2015 plan to the department by July1, 2016

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

(Amended by Stats. 2019, Ch. 239, Sec. 7. (AB 1414) Effective January 1, 2020.)

CHAPTER 3. Urban Water Management Plans [10620 - 10645] ***(Chapter 3 added by Stats. 1983, Ch. 1009, Sec. 1.)***

ARTICLE 2. Contents of Plans [10630 - 1 0634] ***(Article 2 added by Stats. 1 983, Ch. 1009, Sec. 1.)***

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.

(Amended by Stats. 2018, Ch. 14, Sec. 26. (SB 606) Effective January 1, 201 9.)

10630.5 Each plan shall include a simple lay description of how much water the agency has on a reliable basis, how much it needs for the foreseeable future, what the agency's strategy is for meeting its water needs, the challenges facing the agency, and any other information necessary to provide a general understanding of the agency's plan.

(Added by Stats. 2018, Ch. 14, Sec. 27. (SB 606) Effective January 1, 2019.)

10631 A plan shall be adopted in accordance with this chapter that shall do all of the following:

(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.

(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.

(3) For any planned sources of water supply, a description of the measures that are being undertaken to acquire and develop those water supplies.

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

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.

(A) 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).

(B) 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.

(C) 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.

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

(d) (I) 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.

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

(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.

(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.

(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) For the supplement required of urban retail water suppliers by paragraph (2) of subdivision (f) of Section 10621, a narrative that describes the water demand management measures that the supplier plans to implement to achieve its urban water use objective by January 1, 2027, pursuant to Chapter 9 (commencing with Section 10609) of Part 2.55.

(C) 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.

(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 (C) of paragraph (1), and a narrative description of its distribution system asset management and wholesale supplier assistance programs.

(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.

(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.

(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).

(Amended by Stats. 2018, Ch. 14, Sec. 28. (SB 606) Effective January 1, 2019.)

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.

(b) It is the intent of the Legislature that the identification of projected water use for single-family and multifamily residential housing for lower income households will assist a supplier in complying with the requirement under Section 65589.7 of the Government Code to grant a priority for the provision of service to housing units affordable to lower income households.

(Added by Stats. 2005, Ch. 727, Sec. 2. Effective January 1, 2006.)

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.

(b) The department shall include in its guidance for the preparation of urban water management plans a methodology for the voluntary calculation or estimation of the energy intensity of urban water systems. The department may consider studies and calculations conducted by the Public Utilities Commission in developing the methodology.

(c) The Legislature finds and declares that energy use is only one factor in water supply planning and shall not be considered independently of other factors.

(Amended by Stats. 2018, Ch. 14, Sec. 29. *(SB* 606a *Effective January 1, 2019.)*

10632 (a) Every urban water supplier shall prepare and adopt a water shortage contingency plan as part of its urban water management plan that consists of each of the following elements:

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

(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.

(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.

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

(B) Locally appropriate operational changes.

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

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

(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.

(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.

(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.

(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.

(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.

(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.

(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.

(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.

(Repealed and added by Stats. 2018, Ch. 14, Sec. 32. (SB 606) Effective January 1, 2019.)

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 June 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 June 1 of each year, whichever is later.

(Added by Stats. 2018, Ch. 14, Sec. 33. (SB 606) Effective January 1, 2019.)

10632.2. An urban water supplier shall follow, where feasible and appropriate, the prescribed procedures and implement determined shortage response actions in its water shortage contingency plan, as identified in subdivision

(a) of Section 10632, or reasonable alternative actions, provided that descriptions of the alternative actions are submitted with the annual water shortage assessment report pursuant to Section

10632.1. Nothing in this section prohibits an urban water supplier from taking actions not specified in its water shortage contingency plan, if needed, without having to formally amend its urban water management plan or water shortage contingency plan.

(Added by Stats. 2018, Ch. 14, Sec. 34. (SB 606) Effective January 1, 2019.)

10632.3 It is the intent of the Legislature that, upon proclamation by the Governor of a state of emergency under the California Emergency Services Act (Chapter 7 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code) based on drought conditions, the board defer to implementation of locally adopted water shortage contingency plans to the extent practicable.

(Added by Stats. 2018, Ch. 14, Sec. 35. (SB 606) Effective January 1, 2019.)

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.

(Added by Stats. 2015, Ch. 681, Sec. 1. (SB 664a *Effective January 1, 2OJ* 6.g

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, 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.

(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.

(Amended by Stats. 2009, Ch. 534, Sec. 2. (AB 1465) Effective January 1, 2010.)

10634 The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

(Added by Stats. 2001, Ch. 644, Sec. 3. Effective January 1, 2002.)

CHAPTER 3. Urban Water Management Plans [10620 - 10645] ***(Chapter 3 added by*** **Stabs.** ***1983, Ch. 1009, Sec. 1.)***

ARTICLE 2.5. Water Service Reliability [10635- 10635.] ***(Article 2.5 added by Stats. 1995, Ch. 854, Sec. 11.)***

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.

(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.

(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.

(d) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.

(e) Nothing in this article is intended to change existing law concerning an urban water supplier's obligation to provide water service to its existing customers or to any potential future customers

(Amended by Stats. 2018, Ch. 14, Sec. 36. (SB 606) Effective January 1, 2019.)

CHAPTER 3. Urban Water Management Plans [10620 - 10645] ***(Chapter 3 added by*** **Stabs.** ***1983, Ch. 1009, Sec. 1.)***

ARTICLE 3. Adoption and Implementation of Plans [1 0640 - 10645] ***Article 3 added by Stats. 1983, Ch. 1009, Sec. 1.)***

10640. (a) Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630). The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

(b) Every urban water supplier required to prepare a water shortage contingency plan shall prepare a water shortage contingency plan pursuant to Section 10632. The supplier shall likewise periodically review the water shortage contingency plan as required by paragraph (10) of subdivision (a) of Section 10632 and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

(Amended by Stats. 2018, Ch. 14, Sec. 37. (SB 606a *Effective January 1, 2OJ* 9.g

10641 An urban water supplier required to prepare a plan or a water shortage contingency plan may consult with, and obtain comments from, any public agency or state agency or any person who has special expertise with respect to water demand management methods and techniques.

(Amended by Stats. 2018, Ch. 14, Sec. 38. (SB 606a *Effective January 1, 20J* 9.g

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 and the water shortage contingency plan. 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. 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. 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.

(Amended by Stats. 2018, Ch. 14, Sec. 39. (SB 606$ *Effective January 1, 70J* 9.g

10643 An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

(Added by Stats. 1983, Ch. 1009, Sec. 1.)

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.

(2) The plan, or amendments to the plan, submitted to the department pursuant to paragraph (1)

shall be submitted electronically and shall include any standardized forms, tables, or displays specified by the department.

(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.

(c) (1) (A) Notwithstanding Section 10231.5 of the Government Code, the department shall prepare and submit to the Legislature, on or before July 1, in the years ending in seven and two, a report summarizing the status of the plans and water shortage contingency plans adopted pursuant to this part. The report prepared by the department shall identify the exemplary elements of the individual plans and water shortage contingency plans. The department shall provide a copy of the report to each urban water supplier that has submitted its plan and water shortage contingency plan to the department. The department shall also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans and water shortage contingency plans submitted pursuant to this part.

(B) The department shall prepare and submit to the board, on or before September 30 of each year, a report summarizing the submitted water supply and demand assessment results along with appropriate reported water shortage conditions and the regional and statewide analysis of water supply conditions developed by the department. As part of the report, the department shall provide a summary and, as appropriate, urban water supplier specific information regarding various shortage response actions implemented as a result of annual supplier-specific water supply and demand assessments performed pursuant to Section 10632.1.

(C) The department shall submit the report to the Legislature for the 2015 plans by July 1, 2017, and the report to the Legislature for the 2020 plans and water shortage contingency plans by July 1, 2022.

(2) A report to be submitted pursuant to subparagraph (A) of paragraph (1) shall be submitted in compliance with Section 9795 of the Government Code.

(d) The department shall make available to the public the standard the department will use to identify exemplary water demand management measures.

(Amended by Stats. 2018, Ch. 14, Sec. 40. (SB 606) Effective January 1, 2019.)

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.

(Amended by Stats. 2018, Ch. 14, Sec. 41. (SB 606) Effective January 1, 201 9.)

CHAPTER 4. Miscellaneous Provisions [1 0650 - 10657] ***(Chapter 4 added by :itats. 1 983, Ch. 1009, iec. 1.)***

10650 Any actions or proceedings, other than actions by the board, to attack, review, set aside, void, or annul the acts or decisions of an urban water supplier on the grounds of noncompliance with this part shall be commenced as follows:

(a) An action or proceeding alleging failure to adopt a plan or a water shortage contingency plan shall be commenced within 18 months after that adoption is required by this part.

(b) Any action or proceeding alleging that a plan or water shortage contingency plan, or action taken pursuant to either, does not comply with this part shall be commenced within 90 days after filing of the plan or water shortage contingency plan or an amendment to either pursuant to Section 10644 or the taking of that action.

(Amended by Stats. 2018, Ch. 14, Sec. 42. (SB 606) Effective January 1, 2019.)

10651 In any action or proceeding to attack, review, set aside, void, or annul a plan or a water shortage contingency plan, or an action taken pursuant to either by an urban water supplier on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the supplier has not proceeded in a manner required by law or if the action by the water supplier is not supported by substantial evidence.

(Amended by Stats. 2018, Ch. 14, Sec. 43. (SB 606) *Effective January 1, 2019*

10652 The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant to Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any project that would significantly affect water supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.

(Amended by Stats. 1995, Ch. 854, Sec. 6. *Effective January 1, 1996.)*

10653 The adoption of a plan shall satisfy any requirements of state law, regulation, or order, including those of the board and the Public Utilities Commission, for the preparation of water management plans, water shortage contingency plans, or conservation plans; provided, that if the board or the Public Utilities Commission requires additional information concerning water conservation, drought response measures, or financial conditions to implement its existing authority, nothing in this part shall be deemed to limit the board or the commission in obtaining that information. The requirements of this part shall be satisfied by any urban water demand management plan that complies with analogous federal laws or regulations after the effective date of this part, and which substantially meets the requirements of this part, or by any existing urban water management plan which includes the contents of a plan required under this part.

(Amended by Stats. 2018, Ch. 14, Sec. 45. (SB 606) *Effective January 1, 2019)*

10654 An urban water supplier may recover in its rates the costs incurred in preparing its urban water management plan, its drought risk assessment, its water supply and demand assessment, and its water shortage contingency plan and implementing the reasonable water conservation measures included in either of the plans.

(Amended by Stats. 2018, Ch. 14, Sec. 44. (SB 606) *Effective January 1, 2019)*

10655 If any provision of this part or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of this part which can be given effect without the invalid provision or application thereof, and to this end the provisions of this part are severable.

(Amended by Stats. 1983, Ch. 1009, Sec. 1)

10656 An urban water supplier is not eligible for a water grant or loan awarded or administered by the state unless the urban water supplier complies with this part.

(Amended by Stats. 2018, Ch. 14, Sec. 46. (SB 606) *Effective January 1, 2019)*

10657 The department may adopt regulations regarding the definitions of water, water use, and reporting periods, and may adopt any other regulations deemed necessary or desirable to implement this part. In developing regulations pursuant to this section, the department shall solicit broad public participation from stakeholders and other interested persons.

(Amended by Stats. 2018, Ch. 14, Sec. 47. (SB 606) *Effective January 1, 2019)*

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Appendix B

DWR 2020 Urban Water Management Plan Tables

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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 *
Add additional rows as needed			
CA3410020	Sacramento, City of	142,946	100,483
	TOTAL	142,946	100,483
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Units are in acre-feet (AF). Volume includes wholesale and retail deliveries. The number of municipal connections does not include fire service connections.			

Submittal Table 2-2: Plan Identification			
Select Only One	**Type of Plan**		**Name of RUWMP or Regional Alliance** *if applicable* (select from drop down list)
☑	**Individual UWMP**		
	☐	Water Supplier is also a member of a RUWMP	
	☐	Water Supplier is also a member of a Regional Alliance	
☐	**Regional Urban Water Management Plan (RUWMP)**		
NOTES:			

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

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
NOTES: The City does not rely upon a wholesale agency for water supply.

Submittal Table 2-4 Wholesale: Water Supplier Information Exchange (select one)	
☐	Supplier has informed more than 10 other water suppliers of water supplies available in accordance with Water Code Section 10631. Completion of the table below is optional. If not completed, include a list of the water suppliers that were informed.
2-4	**Provide page number for location of the list.**
☑	Supplier has informed 10 or fewer other water suppliers of water supplies available in accordance with Water Code Section 10631. **Complete the table below.**
Water Supplier Name	
Add additional rows as needed	
Sacramento County Water Agency	
Sacramento Suburban Water District	
Golden State Water Company	
Del Paso Manor Water District	
California American Water Company	
Tokay Park	
Florin County Water District	
Natomas Unified School District	
NOTES:	

Submittal Table 3-1 Retail: Population - Current and Projected						
Population Served	2020	2025	2030	2035	2040	2045*(opt)*
	510,931	566,038	603,209	640,381	695,830	745,319

NOTES:
2020 data from State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties and the State , 2011-2020 with 2010 Census Benchmark* — Sacramento, California, May 2020.
2025 – 2035 projected population from the City's 2035 General Plan.
2040 projected population is based on a continuous growth rate plus the Natomas Joint Vision Study Area.
2045 projected population estimated using growth rate of previous projections.
Opt, the abbreviation for optional, is used in this table and subsequent tables throughout this UWMP.

Submittal Table 3-1 Wholesale: Population - Current and Projected						
Population Served	2020	2025	2030	2035	2040	2045*(opt)*
	617,200	669,000	725,200	787,100	828,500	887,600
NOTES: Projected wholesale population for 2020 through 2040 is from the City's 2015 UWMP. 2045 projected wholesale population estimated using growth rate of previous projections.						

Submittal Table 4-1 Retail: Demands for Potable and Non-Potable 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*
Add additional rows as needed			
Single Family		Drinking Water	44,419
Multi-Family		Drinking Water	13,979
Commercial	Includes Industrial Use Type	Drinking Water	15,984
Institutional/Governmental		Drinking Water	5,740
Landscape		Drinking Water	2,905
Other Potable		Drinking Water	650
Sales/Transfers/Exchanges to other agencies	To Wholesale Customers	Drinking Water	3,607
Losses		Drinking Water	13,197
		TOTAL	100,483
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Units are in acre-feet (AF).			

Submittal Table 4-1 Wholesale: Demands for Potable and Non-Potable 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 WUE data online submittal tool	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume*
Add additional rows as needed			
Sales to other agencies	SCWA - Airport	Drinking Water	712
Sales to other agencies	SCWA - Zone 50 Metro Air Park	Drinking Water	90
Sales to other agencies	SSWD - Arden	Drinking Water	390
Sales to other agencies	Cal Am Arden	Drinking Water	0
Sales to other agencies	Cal Am Fruitridge	Drinking Water	267
Sales to other agencies	Cal Am Parkway	Drinking Water	1,127
Sales to other agencies	Cal Am Rosemont	Drinking Water	1,022
		TOTAL	3,607
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Units are in acre-feet (AF). The City did not deliver water to Natomas Unified School District in 2020.			

Submittal Table 4-2 Retail: Use for Potable and Non-Potable Water - Projected						
Use Type	Additional Description (as needed)	Projected Water Use* *Report To the Extent that Records are Available*				
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		2025	2030	2035	2040	2045 (opt)
Add additional rows as needed						
Single Family		46,913	47,491	48,069	48,647	51,098
Multi-Family		15,334	16,085	16,837	17,588	18,474
Commercial	Includes Industrial Use Type	17,871	19,068	20,266	21,464	22,545
Institutional/Governmental		6,094	6,200	6,306	6,412	6,736
Landscape		5,087	7,144	9,200	11,257	11,824
Other Potable		2,366	4,054	5,742	7,430	7,804
Losses		13,767	13,767	13,766	13,766	14,460
	TOTAL	107,432	113,809	120,187	126,564	132,942
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Units are in acre-feet (AF).						

Submittal Table 4-2 Wholesale: Use for Potable and Raw Water - Projected						
Use Type	Additional Description (as needed)	Projected Water Use * Report To the Extent that Records are Available				
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.		2025	2030	2035	2040	2045 (opt)
Add additional rows as needed						
Sales to other agencies	SCWA - Airport	1,056	1,400	1,400	1,400	1,400
Sales to other agencies	SCWA - Zone 50 Metro Air Park	2,545	5,000	5,000	5,000	5,000
Sales to other agencies	SSWD - Arden	1,945	3,500	14,782	26,064	26,064
Sales to other agencies	SSWD - Northridge	0	0	2,130	4,260	4,260
Sales to other agencies	Golden State Water Company	0	0	518	1,037	1,037
Sales to other agencies	Del Paso Manor Water District	0	0	672	1,344	1,344
Sales to other agencies	Cal Am Arden	457	913	1,384	1,855	1,855
Sales to other agencies	Cal Am Fruitridge	4,479	8,692	8,692	8,692	8,692
Sales to other agencies	Cal Am Parkway	2,803	4,480	6,258	8,036	8,036
Sales to other agencies	Cal Am Rosemont	3,591	6,160	8,163	10,166	10,166
Sales to other agencies	SCWA - Arden Park	0	0	2,106	4,211	4,211
Sales to other agencies	SCWA - Zone 41 CSA Wholesale	4,800	9,600	10,122	10,644	10,644
Sales to other agencies	SCWA - Zone 41 NSA, CSA, and SSA	6,661	13,321	12,836	12,350	12,350
Sales to other agencies	Tokay Park	0	0	47	95	95
Sales to other agencies	Florin County Water District	0	0	919	1,837	1,837
Sales to other agencies	Natomas Unified School District	69	69	69	69	69
	TOTAL	28,406	53,135	75,098	97,060	97,060

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

NOTES: Units are in acre-feet (AF). Projected wholesale water use estimates were developed in the on-going Water Master Plan Update. 2030 wholesale projected water use is equal to the probable estimate (average likely water delivery in the on-going Water Master Plan Update) of future wholesale demands. 2040 and 2045 wholesale projected water use is equal to the maximum estimate assuming that all water agencies in the American River Place of Use Boundary receive wholesale water. Interim years (2025 and 2035) were linearly interpolated. The City estimates that it will deliver approximately 69 AF to Natomas Unified School District.

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 *From Tables 4-1R and 4-2 R*	100,483	107,432	113,809	120,187	126,564	132,942
Recycled Water Demand *From Table 6-4*	29	1,000	1,000	1,000	1,000	1,000
Optional Deduction of Recycled Water Put Into Long-Term Storage[1]						
TOTAL WATER USE	100,512	108,432	114,809	121,187	127,564	133,942

[1] *Long term storage means water placed into groundwater or surface storage that is not removed from storage in the same year. Supplier* ***may*** *deduct recycled water placed in long-term storage from their reported demand. This value is manually entered into Table 4-3.*

NOTES: Units are in acre-feet (AF). Table references refer to DWR table numbers.

Submittal Table 4-3 Wholesale: Total Water Use (Potable and Non-Potable)						
	2020	2025	2030	2035	2040	2045 (opt)
Potable and Raw Water From Tables 4-1W and 4-2W	3,607	28,406	53,135	75,098	97,060	97,060
Recycled Water Demand* From Table 6-4W	0	0	0	0	0	0
TOTAL WATER DEMAND	3,607	28,406	53,135	75,098	97,060	97,060
NOTES: Units are in acre-feet (AF). Table references refer to DWR table numbers.						

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]
07/2015	9,856
07/2016	6,801
07/2017	8,391
07/2018	9,160
07/2019	10,097
[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: Units are in acre-feet (AF). Water loss audits are prepared based on the fiscal year.	

OPTIONAL Table 4-4 Wholesale: Last Five Years of Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss [1,2]
-	-
[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: Water loss audit reporting for the City's wholesale customers is included in the Retail Water Loss Audit reporting as the City's water distribution system for wholesale and retail customers is a single system.	

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) *Drop down list (y/n)*	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.	California Code of Regulations, Title 23 Waters, Division 2 DWR, Chapter 2.7 Model Water Efficient Landscape Ordinance (MWELO), updated 2015. [a]
Are Lower Income Residential Demands Included In Projections? *Drop down list (y/n)*	Yes
NOTES: (a) MWELO applied only to irrigation demand projections.	

Submittal Table 5-1 Baselines and Targets Summary
From SB X7-7 Verification Form
Retail Supplier or Regional Alliance Only

Baseline Period	Start Year *	End Year *	Average Baseline GPCD*	Confirmed 2020 Target*
10-15 year	*1996*	*2005*	*282*	*225*
5 Year	*2003*	*2007*	*274*	

**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)*

NOTES:

Submittal Table 5-2: 2020 Compliance
From SB X7-7 2020 Compliance Form
Retail Supplier or Regional Alliance Only

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)*		
169	*0*	*169*	*225*	*Yes*

**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)*

NOTES:

Submittal Table 6-1 Retail: Groundwater Volume Pumped						
☐	Supplier does not pump groundwater. The supplier will not complete the table below.					
☐	All or part of the groundwater described below is desalinated.					
Groundwater Type ***Drop Down List*** *May use each category multiple times*	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
Add additional rows as needed						
Alluvial Basin	North American Subbasin	16,723	23,301	22,842	19,443	19,022
Alluvial Basin	South American Subbasin	863	2,619	2,467	1,524	1,407
	TOTAL	17,586	25,920	25,309	20,967	20,429
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Unit are in acre-feet (AF).						

Submittal Table 6-1 Wholesale: Groundwater Volume Pumped						
☐	Supplier does not pump groundwater. The supplier will not complete the table below.					
☐	All or part of the groundwater described below is desalinated.					
Groundwater Type	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
Add additional rows as needed						
Alluvial Basin	North American Subbasin	428	427	655	903	712
	TOTAL	428	427	655	903	712
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Units are in acre-feet (AF).						

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

☐	There is no wastewater collection system. The supplier will not complete the table below.
	Percentage of 2015 service area covered by wastewater collection system *(optional)*
	Percentage of 2015 service area population covered by wastewater collection system *(optional)*

Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? *Drop Down List*	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? *Drop Down List*	Is WWTP Operation Contracted to a Third Party? *(optional)* *Drop Down List*
City of Sacramento	Estimated	0	City of Sacramento	Combined Wastewater Treatment Plant	Yes	
City of Sacramento	Estimated	15,689	Regional County Sanitation District	Sacramento Regional Wastewater Treatment Plant	No	
Sacramento Area Sewer District	Estimated	24,652	Regional County Sanitation District	Sacramento Regional Wastewater Treatment Plant	No	
Total Wastewater Collected from Service Area in 2020:		40,341				

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

NOTES: Units are in acre-feet (AF). Combined wastewater treatment plant includes flow from stormwater as it is a combined system. Volume collected is for the 2020 fiscal year, July 2019 through June 2020.

Submittal Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020

☐ **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 *Drop down list*	Does This Plant Treat Wastewater Generated Outside the Service Area? *Drop down list*	Treatment Level *Drop down list*	2020 volumes [1]				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area [3]	Recycled Outside of Service Area	Instream Flow Permit Requirement
Pioneer	Pioneer (EFF-006)	Sacramento River		River or creek outfall	No		0	0	0	0	0
Combined Wastewater Treatment Plant	CWTP	Sacramento River		River or creek outfall	No		0	0	0	0	0
						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: Units are in acre-feet (AF). Pioneer and CWTP provide primary treatment only during large storm events. Volume collected is for the 2020 fiscal year, July 2019 through June 2020.

Submittal Table 6-3 Wholesale: Wastewater Treatment and Discharge Within Service Area in 2020

☑ Wholesale Supplier neither distributes nor provides supplemental treatment to recycled water.
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 *Drop down list*	Does This Plant Treat Wastewater Generated Outside the Service Area? *Drop down list*	Treatment Level *Drop down list*	2020 volumes [1] Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
Add additional rows as needed											
						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: Table left intentionally blank.

Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area

☐	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:	Sacramento Regional County Sanitation District
Name of Supplier Operating the Recycled Water Distribution System:	City of Sacramento
Supplemental Water Added in 2020 (volume) *Include units*	
Source of 2020 Supplemental Water	

Beneficial Use Type *Insert additional rows if needed.*	**Potential** Beneficial Uses of Recycled Water (Describe)	Amount of **Potential** Uses of Recycled Water (Quantity) *Include volume units* [1]	General Description of 2020 Uses	Level of Treatment *Drop down list*	2020 [1]	2025 [1]	2030 [1]	2035 [1]	2040 [1]	2045 [1] (opt)
Agricultural irrigation										
Landscape irrigation (exc golf courses)										
Golf course irrigation										
Commercial use										
Industrial use		Tertiary	SPA Cogen Facility	Tertiary	29	1,000	1,000	1,000	1,000	1,000
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:	29	1,000	1,000	1,000	1,000	1,000
				2020 Internal Reuse						

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

NOTES: The City started supplying the Cogen Facility in 2020 with recycled water. The Cogen Facility will receive 1,000 AFY of recycled water in the future.

Submittal Table 6-4 Wholesale: Current and Projected Retailers Provided Recycled Water Within Service Area							
☑	Recycled water is not directly treated or distributed by the Supplier. The Supplier will not complete the table below.						
Name of Receiving Supplier or Direct Use by Wholesaler	Level of Treatment *Drop down list*	2020*	2025*	2030*	2035*	2040*	2045* *(opt)*
Add additional rows as needed							
	Total	0	0	0	0	0	0
* **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.							
NOTES: Table intentionally left blank.							

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

☐	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]
Insert additional rows as needed.		
Agricultural irrigation		
Landscape irrigation (exc golf courses)		
Golf course irrigation		
Commercial use		
Industrial use	1,000	29
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	1,000	29

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

NOTES: Regional San started supplying the Cogen Facility in 2020.

Submittal Table 6-5 Wholesale: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual		
☑	Recycled water was not used or distributed by the supplier in 2015, nor projected for use or distribution in 2020. The wholesale supplier will not complete the table below.	
Name of Receiving Supplier or Direct Use by Wholesaler	2015 Projection for 2020*	2020 Actual Use*
Add additional rows as needed		
Total	0	0
Units of measure (AF, CCF, MG) *must remain consistent throughout the UWMP as reported in Table 2-3.*		
NOTES: Table intentionally left blank.		

Submittal Table 6-6 Retail: Methods to Expand Future Recycled Water Use			
☑	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
6-25	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use *
Add additional rows as needed			
		Total	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Table intentionally left blank.			

Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs						
☐	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.					
☑	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.					
6-24	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 *Drop Down List*	Expected Increase in Water Supply to Supplier* *This may be a range*
	Drop Down List (y/n)	*If Yes, Supplier Name*				
Add additional rows as needed						
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Table intentionally left blank.						

Submittal Table 6-7 Wholesale: Expected Future Water Supply Projects or Programs						
☐	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.					
☑	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.					
6-24	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 *Drop Down list*	Expected Increase in Water Supply to Supplier*
	Drop Down Menu	*If Yes, Supplier Name*				
Add additional rows as needed						
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Table intentionally left blank.						

Submittal Table 6-8 Retail: Water Supplies — Actual				
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	Additional Detail on Water Supply	Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
Add additional rows as needed				
Surface water (not desalinated)	American River	28,443	Drinking Water	
Surface water (not desalinated)	Sacramento River	39,578	Drinking Water	
Groundwater (not desalinated)		20,429	Drinking Water	
Purchased or Imported Water	Groundwater Substitution Transfer	8,427	Drinking Water	
Recycled Water		29	Recycled Water	
	Total	96,905		0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*				
NOTES: Units are in acre-feet (AF).				

Submittal Table 6-8 Wholesale: 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				
Surface water (not desalinated)	American River	2,895	Drinking Water	
Groundwater (not desalinated)	North American Subbasin	712	Drinking Water	
	Total	3,607		0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*				
NOTES: Units are in acre-feet (AF).				

Submittal Table 6-9 Retail: Water Supplies — Projected

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	Additional Detail on Water Supply	**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											
Surface water (not desalinated)	Sacramento River	81,800	81,800	81,800	81,800	81,800	81,800	81,800	81,800	81,800	81,800
Surface water (not desalinated)	American River	228,000	228,000	245,000	245,000	245,000	245,000	245,000	245,000	245,000	245,000
Groundwater (not desalinated)	City-owned wells	22,400	41,400	22,400	41,400	22,400	41,400	22,400	41,400	22,400	41,400
Recycled Water	SRWWTP	1,000		1,000		1,000		1,000		1,000	
	Total	333,200	351,200	350,200	368,200	350,200	368,200	350,200	368,200	350,200	368,200

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

NOTES: Units are in acre-feet (AF).

Refer to Table 6-8 for details on the maximum annual and combined annual diversion allowed from the City's surface water supplies.

The City may divert up to 81,800 AF of Sacramento River water as long as the total combined diversion from both the Sacramento and American Rivers does not exceed the Maximum Combined Diversion specified in Schedule A. The Sacramento River water is available to the City for all hydrologic years.

The City may divert up to the Maximum Diversion from the American River as long as the total combined diversion from both the Sacramento and American Rivers does not exceed the Maximum Combined Diversion specified in Schedule A. American River water right can be diverted south of the confluence through the City's existing Sacramento River diversion point.

The City's groundwater supply is not anticipated to be impacted by drought conditions. Volumes shown are the City's existing sustainable groundwater capacity, 20 MGD or 22,400 AF, as estimated in the City's on-going Water Master Plan Update.

Submittal Table 6-9 Wholesale: Water Supplies — Projected

Water Supply		Projected Water Supply* Report To the Extent Practicable									
		2025		2030		2035		2040		2045 (opt)	
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	Additional Detail on Water Supply	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											
Surface water (not desalinated)	American River	22,006		46,735		68,698		90,660		90,660	
Groundwater (not desalinated)	City-owned Wells	6,400		6,400		6,400		6,400		6,400	
Total		28,406		53,135		75,098		97,060		97,060	

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

NOTES: Units are in acre-feet (AF).
Groundwater projected supply is assumed to be equal to the projected water use for SCWA Airport and Metro Air Park as reported in Table 4-8 (DWR Table 4-2 Wholesale).

Table O-1B: Recommended Energy Reporting - Total Utility Approach				
Enter Start Date for Reporting Period	7/1/2019	Urban Water Supplier Operational Control		
End Date	6/30/2020			
Is upstream embedded in the values reported?	☐	Sum of All Water Management Processes	Non-Consequential Hydropower	
Water Volume Units Used	*AF*	Total Utility	Hydropower	Net Utility
Volume of Water Entering Process (volume unit)		*103,873*	*0*	*103,873*
Energy Consumed (kWh)		*31,684,676*	*0*	*31,684,676*
Energy Intensity (kWh/volume)		*305.0*	*0.0*	*305.0*

Quantity of Self-Generated Renewable Energy

kWh

Data Quality *(Estimate, Metered Data, Combination of Estimates and Metered Data)*

Metered Data

Data Quality Narrative:

Water production and energy data associated with each water production facility was provided by the City of Sacramento. SCADA is used to measure the volume of water production at each water facility.

Narrative:

The City of Sacramento provided energy data, kWh, for each water facility for the 2020 Fiscal Year (July 2019 through June 2020). The water facilities include the City's two water treatment plants, SRWTP and EAFWTP, water storage tanks, groundwater wells, and booster pump stations located throughout the City's water service area. The water production data is summarized for the 2020 Fiscal Year.

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

		Urban Water Supplier Operational Control			
Enter Start Date for Reporting Period	7/1/2019	Water Management Process			
End Date	6/30/2020				
Is upstream embedded in the values reported?	☐	Collection / Conveyance	Treatment	Discharge / Distribution	Total
Volume of Water Units Used	AF				
Volume of Wastewater Entering Process (volume units selected above)		*15,689*	*0*	*0*	*15,689*
Wastewater Energy Consumed (kWh)		*5,055,789*	*0*	*0*	*5,055,789*
Wastewater Energy Intensity (kWh/volume)		*322*	*0*	*0*	*322*
Volume of Recycled Water Entering Process (volume units selected above)		*0*	*0*	*0*	*0*
Recycled Water Energy Consumed (kWh)		*0*	*0*	*0*	*0*
Recycled Water Energy Intensity (kWh/volume)		*0.0*	*0.0*	*0.0*	*0.0*

Quantity of Self-Generated Renewable Energy related to recycled water and wastewater operations

kWh

Data Quality *(Estimate, Metered Data, Combination of Estimates and Metered Data)*

Combination of Estimates and Metered Data

Data Quality Narrative:

The wastewater volume and the energy consumption data is for the 2020 Fiscal Year (July 2019 through June 2020). Energy consumption data for the 2020 Fiscal Year was provided by the City of Sacramento for its Combined Sewer System, which collects wastewater and drainage. The energy consumption data is metered and the wastewater volume is estimated.

Narrative:

As reported in DWR Table 6-2 Retail, the City of Sacramento collected approximately 15,689 AF of wastewater and draingage in its Combined Sewer System and Seperated Sewer System that was delivered to the SRWWTP for treatment during the 2020 Fiscal Year. Sacramento Area Sewer District collected approximately 25,000 AF of wastewater in the City's service area from its Seperated Sewer System but is not included in this energy reporting. The City's Pioneer and Combined wastewater treatment plants did not treat wastewater during the 2020 Fiscal Year. Recycled water is treated at the SRWWTP and delivered to the Cogen Facility. Therefore, energy consumption data associated with the City's recycled water is not included.

Submittal Table 7-1 Retail: Basis of Water Year Data for the Sacramento River (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	
		☐	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		☑	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available *	% of Average Supply
Normal Year	2005	81,800	100%
Single-Dry Year	1977	81,800	100%
Consecutive Dry Years 1st Year	1929	81,800	100%
Consecutive Dry Years 2nd Year	1930	81,800	100%
Consecutive Dry Years 3rd Year	1931	81,800	100%
Consecutive Dry Years 4th Year	1932	81,800	100%
Consecutive Dry Years 5th Year	1933	81,800	100%

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.

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

NOTES: Units are in acre-feet (AF). Volume available based on USBR Settlement Contract.

Submittal Table 7-1 Retail: Basis of Water Year Data for the American River (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	
		☐	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		☑	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available *	% of Average Supply
Normal Year	2005	208,500	100%
Single-Dry Year	1977	208,500	100%
Consecutive Dry Years 1st Year	1929	212,500	102%
Consecutive Dry Years 2nd Year	1930	216,500	104%
Consecutive Dry Years 3rd Year	1931	220,000	106%
Consecutive Dry Years 4th Year	1932	224,000	107%
Consecutive Dry Years 5th Year	1933	228,000	109%

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.

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

NOTES: Units are in acre-feet (AF).
Source: Lower American River Flow Management System (CALSIMII) Hodge Criteria from 1922 through 1994. Diversion from the EAFWTP is limited to not greater than 155 cfs and not greater than 50,000 AFY for single-dry year. The remainder of American River entitlements may be diverted at the SRWTP for all year types up to the combined maximum diversion specified in the USBR Settlement Contract. The volumes specified above are based on the USBR Settlement Contract's year 2020 through 2025 amounts.

Submittal Table 7-1 Retail: Basis of Water Year Data for Groundwater Supply (Reliability			
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	
		☐ Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____	
		☑ Quantification of available supplies is provided in this table as either volume only, percent only, or both.	
		Volume Available *	% of Average Supply
Normal Year	2005	22,400	100%
Single-Dry Year	1977	22,400	100%
Consecutive Dry Years 1st Year	1929	22,400	100%
Consecutive Dry Years 2nd Year	1930	22,400	100%
Consecutive Dry Years 3rd Year	1931	22,400	100%
Consecutive Dry Years 4th Year	1932	22,400	100%
Consecutive Dry Years 5th Year	1933	22,400	100%

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.

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

NOTES: Units are in acre-feet (AF). The City's groundwater supply is not anticipated to be impacted by drought conditions. Volumes shown are the City's existing sustainable groundwater capacity, 20 MGD or 22,400 AF, as estimated in the City's on-going Water Master Plan Update.

Submittal Table 7-1 Retail: Basis of Water Year Data for Recycled Water Supply (Reliability			
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**	
		☑	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location Section 7.1.2.4
		☐	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available *	**% of Average Supply**
Normal Year			100%

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.

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

NOTES: Table intentionally left blank.

Submittal Table 7-1 Wholesale: 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 1999-2000, use 2000	**Available Supplies if Year Type Repeats**	
		☑	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location Section 7.1.2.5
		☐	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available *	**% of Average Supply**
Normal Year			100%
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. Suppliers may create an additional worksheet for the additional tables.			
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Table left intentionally blank.			

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 *(Opt)*
Supply totals *(autofill from Table 6-9)*	333,200	350,200	350,200	350,200	350,200
Demand totals *(autofill from Table 4-3)*	108,432	114,809	121,187	127,564	133,942
Difference	224,769	235,391	229,014	222,636	216,258
NOTES: Units are in acre-feet (AF). Table references refer to DWR table numbers.					

Submittal Table 7-2 Wholesale: Normal Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 *(Opt)*
Supply totals *(autofill from Table 6-9)*	28,406	53,135	75,098	97,060	97,060
Demand totals *(autofill from Table 4-3)*	28,406	53,135	75,098	97,060	97,060
Difference	0	0	0	0	0
NOTES: Units are in acre-feet (AF). Table references refer to DWR table numbers.					

Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 (Opt)
Supply totals*	333,200	350,200	350,200	350,200	350,200
Demand totals*	108,432	114,809	121,187	127,564	133,942
Difference	224,769	235,391	229,014	222,636	216,258
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*					
NOTES: Units are in acre-feet (AF).					

Submittal Table 7-3 Wholesale: Single Dry Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 (Opt)
Supply totals*	28,406	53,135	75,098	97,060	97,060
Demand totals*	28,406	53,135	75,098	97,060	97,060
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: Units are in acre-feet (AF).					

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	333,200	350,200	350,200	350,200	350,200
	Demand totals	108,432	114,809	121,187	127,564	133,942
	Difference	224,769	235,391	229,014	222,636	216,258
Second year	Supply totals	333,200	350,200	350,200	350,200	350,200
	Demand totals	109,707	116,085	122,462	128,840	138,397
	Difference	223,493	234,116	227,738	221,360	211,803
Third year	Supply totals	333,200	350,200	350,200	350,200	350,200
	Demand totals	110,983	117,360	123,738	130,115	142,853
	Difference	222,218	232,840	226,463	220,085	207,347
Fourth year	Supply totals	333,200	350,200	350,200	350,200	350,200
	Demand totals	112,258	118,636	125,013	131,391	147,308
	Difference	220,942	231,565	225,187	218,809	202,892
Fifth year	Supply totals	333,200	350,200	350,200	350,200	350,200
	Demand totals	113,534	119,911	126,289	132,666	151,764
	Difference	219,667	230,289	223,912	217,534	198,436
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Units are in acre-feet (AF).						

Submittal Table 7-4 Wholesale: Multiple Dry Years Supply and Demand Comparison						
		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	28,406	53,135	75,098	97,060	97,060
	Demand totals	28,406	53,135	75,098	97,060	97,060
	Difference	0	0	0	0	0
Second year	Supply totals	33,351	57,528	79,490	97,060	97,060
	Demand totals	33,351	57,528	79,490	97,060	97,060
	Difference	0	0	0	0	0
Third year	Supply totals	38,297	61,920	83,883	97,060	97,060
	Demand totals	38,297	61,920	83,883	97,060	97,060
	Difference	0	0	0	0	0
Fourth year	Supply totals	43,243	66,313	88,275	97,060	97,060
	Demand totals	43,243	66,313	88,275	97,060	97,060
	Difference	0	0	0	0	0
Fifth year	Supply totals	48,189	70,705	92,668	97,060	97,060
	Demand totals	48,189	70,705	92,668	97,060	97,060
	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: Units are in acre-feet (AF).						

Submittal Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b)	
2021	**Total**
Total Water Use	108,609
Total Supplies	317,700
Surplus/Shortfall w/o WSCP Action	209,091
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	209,091
Resulting % Use Reduction from WSCP action	0%
2022	**Total**
Total Water Use	115,666
Total Supplies	321,700
Surplus/Shortfall w/o WSCP Action	206,034
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	206,034
Resulting % Use Reduction from WSCP action	0%
2023	**Total**
Total Water Use	122,723
Total Supplies	325,200
Surplus/Shortfall w/o WSCP Action	202,477
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	202,477
Resulting % Use Reduction from WSCP action	0%
2024	**Total**
Total Water Use	129,780
Total Supplies	329,200
Surplus/Shortfall w/o WSCP Action	199,420
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	199,420
Resulting % Use Reduction from WSCP action	0%
2025	**Total**
Total Water Use	136,837
Total Supplies	333,200
Surplus/Shortfall w/o WSCP Action	196,363
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	196,363
Resulting % Use Reduction from WSCP action	0%

Submittal Table 8-1 Water Shortage Contingency Plan Levels		
Shortage Level	**Percent Shortage Range**	**Shortage Response Actions** (*Narrative description*)
1	Up to 10%	Implement City internal shortage response actions per Appendix K, WSCP Table 2
2	Up to 20%	Declare water shortage emergency (mandatory restrictions)
3	Up to 30%	Stage 2 actions, increased public outreach, and expand mandatory restrictions
4	Up to 40%	Stage 3 actions, increased compliance and enforcement efforts, and expanded mandatory restrictions
5	Up to 50%	Stage 4 actions and increased mandatory restrictions
6	>50%	Stage 5 actions and require water use only for health and safety purposes
NOTES: Refer to the City's WSCP in Appendix J for more detail on the actions taken at each declared water shortage level.		

Submittal Table 8-2: Demand Reduction Actions

Shortage Level	Demand Reduction Actions ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? ***For Retail Suppliers Only*** *Drop Down List*
Add additional rows as needed				
1	Landscape - Other landscape restriction or prohibition	2 - 10%	Parks and Streetscapes asked to reduce their irrigation levels to help meet the required reduction rate.	No
1	Other	0 - 1%	Preventative Maintenance Restrictions - ask that non-essential flushing and street sweeping be reduced.	No
1	Other	0 - 1%	Cease any non-essential water usage - City Programs	No
1	Other	0 - 1%	Increase focus on reducing water system loss by accelerating leak repair	No
2	Expand Public Information Campaign	10 - 20%	Per the City's WSCP, a public information campaign will be initiated at Shortage Level 2.	Yes
2	Landscape - Limit landscape irrigation to specific days	5 - 10%	Reduce watering of parks & cemeteries: designate watering to specific days of the week	Yes
2	Landscape - Limit landscape irrigation to specific days	0 - 1%	Restrict residential car washing to watering day	Yes
2	Increase Water Waste Patrols	0 - 1%		Yes
2	Other	0 - 1%	Ask that non-essential flushing and street sweeping be reduced	No
2	Water Features - Restrict water use for decorative water features, such as fountains	0 - 1%	Ask that all ornamental or other decorative water features be turned off, except to the extent that the water feature intentionally provides habitat for aquatic species	No
2	Reduce System Water Loss	0 - 1%	Enforce hydrant use regulations	Yes
2	Reduce System Water Loss	0 - 1%	Intensify leak detection and repair program with focus on high water leaks	Yes
2	Reduce System Water Loss	0 - 5%	Intensify AMI Customer Leak Reports with Detection and Repair Assistance	Yes
3	Expand Public Information Campaign	10%	Per the City's WSCP, the Cit will intensify its public information campaign at Shortage Level 3.	Yes
3	Implement or Modify Drought Rate Structure or Surcharge	5 - 30%	Consider a Drought Surcharge under Urban Water Management Plan (implement if shortage is drought related)	Yes
3	Landscape - Limit landscape irrigation to specific times	8 - 10%	Further limit Watering of parks, cemeteries, etc., to specific hours, one day a week	Yes
3	Landscape - Limit landscape irrigation to specific times	0 - 2%	Customer watering restricted to specific hours on specified watering day	Yes
3	Landscape - Limit landscape irrigation to specific times	0 - 1%	Rescind any 3 day watering variances offered	Yes
3	Decrease Line Flushing	0 - 1%	Main flushing allowed only for emergency purposes.	Yes
3	Water Features - Restrict water use for decorative water features, such as fountains	0 - 1%	All ornamental or decorative water features be turned off, except to the extent that the water feature intentionally provides habitat for aquatic species	Yes
3	Reduce System Water Loss	1 - 4%	Increase the leak notification process and assistance offered to fix the leaks. Increase leak detection where additional staffing is made available .	Yes
3	Other	0 - 1%	Cars washed with buckets only, on specified watering day	Yes
3	Other	0 - 1%	Encourage use of pool covers	Yes
4	Reduce System Water Loss	Not specified.	Intensify leak detection program and water loss prevention efforts.	Yes
4	Increase Water Waste Patrols	Not specified.	Increase staffing or a consultant to help with water waste patrols during nights, weekends and after hours	Yes
4	Landscape - Limit landscape irrigation to specific times	5 - 20%	Customer watering restricted to 1 Day per week and for specific hours on specified watering day	Yes
4	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	0 - 1%	Known leaks must be repaired within 5 days.	Yes
4	Other water feature or swimming pool restriction	0 - 1%	All maintenance of recreational water features, including pools and spas, ceased	Yes
4	Other	2 - 5%	Limit public water use for health and safety purposes only	Yes
4	Other	0 - 1%	No car washing	Yes
5	Landscape - Prohibit certain types of landscape irrigation	0 - 50%	Landscape types include the following: - No turf watering - No median strip watering - Further reduce irrigation to parks, cemetaries, etc	Yes
5	Other	5 - 10%	Suggested to limit public water use to health and safety purposes.	Yes
6	Other	Not quantifiable.	Required to limit public water use to health and safety purposes.	Yes

NOTES: Refer to the City's WSCP in Appendix J for more detail on the actions taken at each declared water shortage level. It should be noted that the actions at each stage are cumulative. For example, if Shortage Level 3 is declared, then the actions at Shortage Level 1 and 2 shall still be implemented.

Submittal Table 8-3: Supply Augmentation and Other Actions			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*
Add additional rows as needed			
5	Exchanges	20 mgd	SSWD - emergency non-firm supply
5	Exchanges	8 mgd	SCWA - emergency non-firm supply
6	Transfers	Up to shortage gap	Coordinate with other agencies
NOTES: Refer to the City's WSCP in Appendix J for more detail on the actions taken at each declared water shortage level. It should be noted that the actions at each stage are cumulative. For example, if Shortage Level 3 is declared, then the actions at Shortage Level 1 and 2 shall still be implemented.			

Submittal Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Sacramento	Yes	Yes
County Name *Drop Down List*	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Sacramento County	Yes	Yes
NOTES:		

Submittal Table 10-1 Wholesale: Notification to Cities and Counties (select one)		
☐	Supplier has notified more than 10 cities or counties in accordance with Water Code Sections 10621 (b) and 10642. **Completion of the table below is not required. Provide a separate list of the cities and counties that were notified.**	
	Provide the page or location of this list in the UWMP.	
☑	Supplier has notified 10 or fewer cities or counties. **Complete the table below.**	
City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Sacramento	Yes	Yes
County Name *Drop Down List*	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Sacramento County	Yes	Yes
NOTES:		

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Appendix C

DWR 2020 Urban Water Management Plan Checklist

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Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (For Agency Review Use)
X	X	Chapter 1	10615	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and Overview	Executive Summary
X	X	Chapter 1	10630.5	Each plan shall include a simple description of the supplier's plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a supplier may also choose to include a simple description at the beginning of each chapter.	Summary	Executive Summary
X	X	Section 2.2	10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	Section 2.1
X	X	Section 2.6	10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	Section 2.5
X	X	Section 2.6.2	10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.	Plan Preparation	Section 2.5.2
X		Section 2.6, Section 6.1	10631(h)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.	System Supplies	N/A City does not receive wholesale supply.
	X	Section 2.6	10631(h)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	Section 2.5.1
X	X	Section 3.1	10631(a)	Describe the water supplier service area.	System Description	Section 3.2
X	X	Section 3.3	10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.4
X	X	Section 3.4	10631(a)	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	Section 3.5
X	X	Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the supplier's water management planning.	System Description	Section 3.5
X	X	Sections 3.4 and 5.4	10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Section 3.5
X	X	Section 3.5	10631(a)	Describe the land uses within the service area.	System Description	Section 3.6
X	X	Section 4.2	10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2
X	X	Section 4.2.4	10631(d)(3)(C)	Retail suppliers shall provide data to show the distribution loss standards were met.	System Water Use	Section 4.5 Section 9.5
X	X	Section 4.2.6	10631(d)(4)(A)	In projected water use, include estimates of water savings from adopted codes, plans, and other policies or laws.	System Water Use	Section 4.6

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (For Agency Review Use)
X	X	Section 4.2.6	10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System Water Use	Section 4.2.3
X	optional	Section 4.3.2.4	10631(d)(3)(A)	Report the distribution system water loss for each of the 5 years preceding the plan update.	System Water Use	Section 4.5
X	optional	Section 4.4	10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.6
X	X	Section 4.5	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System Water Use	Section 4.7
X		Chapter 5	10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Section 5.5
X		Chapter 5	10608.24(a)	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	Section 5.6
	X	Section 5.1	10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	Chapter 5 Introduction Section 9.4
X		Section 5.2	10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	N/A City did not adjust compliance GPCD.
X		Section 5.5	10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5-year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Section 5.5 Section 5.6
X		Section 5.5 and Appendix E	10608.4	Retail suppliers shall report on their compliance in meeting their water use targets. The data shall be reported using a standardized form in the SBX7-7 2020 Compliance Form.	Baselines and Targets	Section 5.6 Appendix F
X	X	Sections 6.1 and 6.2	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought.	System Supplies	Section 6.1 Chapter 7
X	X	Sections 6.1	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, *including changes in supply due to climate change.*	System Supplies	Section 6.1 Section 6.7 Chapter 7
X	X	Section 6.1	10631(b)(2)	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System Supplies	Section 6.1 Section 6.2
X	X	Section 6.1.1	10631(b)(3)	Describe measures taken to acquire and develop planned sources of water.	System Supplies	Section 6.5
X	X	Section 6.2.8	10631(b)	Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030,2035, 2040 and optionally 2045.	System Supplies	Section 6.5
X	X	Section 6.2	10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2.2

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (For Agency Review Use)
						Section 6.5.3
X	X	Section 6.2.2	10631(b)(4)(A)	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	Section 6.2.2 GSP link provided in Section 6.2.2.2
X	X	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System Supplies	Section 6.2.2.1
X	X	Section 6.2.2	10631(b)(4)(B)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	N/A
X	X	Section 6.2.2.1	10631(b)(4)(B)	For unadjudicated basins, indicate whether or not the department has identified the basin as a high or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	System Supplies	Section 6.2.2.2.1
X	X	Section 6.2.2.4	10631(b)(4)(C)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	System Supplies	Section 6.2.2.4
X	X	Section 6.2.2	10631(b)(4)(D)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Section 6.2.2.5
X	X	Section 6.2.7	10631(c)	Describe the opportunities for exchanges or transfers of water on a short-term or long- term basis.	System Supplies	Section 6.4
X	X	Section 6.2.5	10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	Section 6.2.5.2
X	X	Section 6.2.5	10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.2.5.3
X	X	Section 6.2.5	10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.2.5.3
X	X	Section 6.2.5	10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	Section 6.2.5.3
X	X	Section 6.2.5	10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	Section 6.2.5.3
X	X	Section 6.2.5	10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.2.5.3
X	X	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.3
X	X	Section 6.2.5	10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area with quantified amount of collection and treatment and the disposal methods.	System Supplies (Recycled Water)	Section 6.2.5.2

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (For Agency Review Use)
X	X	Section 6.2.8, Section 6.3.7	10631(f)	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and for a period of drought lasting 5 consecutive water years.	System Supplies	Section 6.5
X	X	Section 6.4 and Appendix O	10631.2(a)	The UWMP must include energy information, as stated in the code, that a supplier can readily obtain.	System Suppliers, Energy Intensity	Section 6.8
X	X	Section 7.2	10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	Section 7.1.1 Section 7.1.1.4
X	X	Section 7.2.4	10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Section 7.2
X	X	Section 7.3	10635(a)	Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Section 7.1.3
X	X	Section 7.3	10635(b)	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.	Water Supply Reliability Assessment	Section 7.3
X	X	Section 7.3	10635(b)(1)	Include a description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts 5 consecutive years.	Water Supply Reliability Assessment	Section 7.3.1
X	X	Section 7.3	10635(b)(2)	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water Supply Reliability Assessment	Section 7.1.3 Section 7.3.2
X	X	Section 7.3	10635(b)(3)	Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.	Water Supply Reliability Assessment	Section 7.3.3
X	X	Section 7.3	10635(b)(4)	Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.	Water Supply Reliability Assessment	Section 7.3.1
X	X	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	Appendix J
X	X	Chapter 8	10632(a)(1)	Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP	Water Shortage Contingency Planning	Section 8.1
X	X	Section 8.10	10632(a)(10)	Describe reevaluation and improvement procedures for monitoring and evaluation the water shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water Shortage Contingency Planning	Section 8.7

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (For Agency Review Use)
X	X	Section 8.2	10632(a)(2)(A)	Provide the written decision- making process and other methods that the supplier will use each year to determine its water reliability.	Water Shortage Contingency Planning	Appendix J, Section 6; WSCP Appendix A, Section 1.0
X	X	Section 8.2	10632(a)(2)(B)	Provide data and methodology to evaluate the supplier's water reliability for the current year and one dry year pursuant to factors in the code.	Water Shortage Contingency Planning	Appendix J, Section 6; WSCP Appendix A, Section 3.0
X	X	Section 8.3	10632(a)(3)(A)	Define six standard water shortage levels of 10, 20, 30, 40, 50 percent shortage and greater than 50 percent shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.	Water Shortage Contingency Planning	Section 8.3
X	X	Section 8.3	10632(a)(3)(B)	Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.	Water Shortage Contingency Planning	N/A
X	X	Section 8.4	10632(a)(4)(A)	Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water Shortage Contingency Planning	Section 8.4.3
X	X	Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water Shortage Contingency Planning	Section 8.4.1
X	X	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	Section 8.4.3
X	X	Section 8.4	10632(a)(4)(D)	Specify additional mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions are appropriate to local conditions.	Water Shortage Contingency Planning	Section 8.4.2 Appendix J, Section 9.0
X	X	Section 8.4	10632(a)(4)(E)	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.	Water Shortage Contingency Planning	Section 8.4.1 Section 8.4.3
X	X	Section 8.4.6	10632.5	The plan shall include a seismic risk assessment and mitigation plan.	Water Shortage Contingency Plan	Section 8.5
X	X	Section 8.5	10632(a)(5)(A)	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water Shortage Contingency Planning	Appendix J, Section 4.2.3
X	X	Section 8.5 and8.6	10632(a)(5)(B)10632(a)(5)(C)	Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.	Water Shortage Contingency Planning	Appendix J, Section 4.2.3
X		Section 8.6	10632(a)(6)	Retail supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water Shortage Contingency Planning	Appendix J, Section 10
X	X	Section 8.7	10632(a)(7)(A)	Describe the legal authority that empowers the supplier to enforce shortage response actions.	Water Shortage Contingency Planning	Section 8.6

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (For Agency Review Use)
X	X	Section 8.7	10632(a)(7)(B)	Provide a statement that the supplier will declare a water shortage emergency per Water Code Chapter 3.	Water Shortage Contingency Planning	Section 8.6
X	X	Section 8.7	10632(a)(7)(C)	Provide a statement that the supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.	Water Shortage Contingency Planning	Section 8.6
X	X	Section 8.8	10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Appendix J Section 11.0
X	X	Section 8.8	10632(a)(8)(B)	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Appendix J Section 11.0
X		Section 8.8	10632(a)(8)(C)	Retail suppliers must describe the cost of compliance with Water Code Chapter 3.3: Excessive Residential Water Use During Drought	Water Shortage Contingency Planning	Appendix J Section 10.0
X		Section 8.9	10632(a)(9)	Retail suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water Shortage Contingency Planning	Appendix J Section 12.0
X		Section 8.11	10632(b)	Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.	Water Shortage Contingency Planning	Section 8.8
X	X	Sections 8.12 and10.4	10635(c)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 30 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Section 8.9
X	X	Section 8.14	10632(c)	Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 days after adopted the plan.	Water Shortage Contingency Planning	Section 8.9
	X	Sections 9.1 and 9.3	10631(e)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	Section 9.4
X		Sections 9.2 and 9.3	10631(e)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	Section 9.2
X		Chapter 10	10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).	Plan Adoption, Submittal, and Implementation	Section 10.3.1
X	X	Section 10.2.1	10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Reported in Table 10-1.	Plan Adoption, Submittal, and Implementation	Section 2.5 Section 10.2.1
X	X	Section 10.4	10621(f)	Each urban water supplier shall update and submit its 2020 plant the department by July 1, 2021.	Plan Adoption, Submittal, and Implementation	Section 10.4

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (For Agency Review Use)
X	X	Sections 10.2.2,10.3, and 10.5	10642	Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.	Plan Adoption, Submittal, and Implementation	Section 10.5 Appendix D
X	X	Section 10.2.2	10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Section 10.3.1
X	X	Section 10.3.2	10642	Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.6 Appendix N
X	X	Section 10.4	10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.6
X	X	Section 10.4	10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 10.6
X	X	Sections 10.4.1 and 10.4.2	10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Section 10.6
X	X	Section 10.5	10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5
X	X	Section 10.5	10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5
X	X	Section 10.6	10621(c)	If supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.	Plan Adoption, Submittal, and Implementation	N/A City is not regulated by the PUC
X	X	Section 10.7.2	10644(b)	If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.	Plan Adoption, Submittal, and Implementation	Section 10.6

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Appendix D

Agency and Public Notices

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Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Friday, February 12, 2021 5:06 PM
To: CountyExecutive@SacCounty.net
Cc: Elizabeth Drayer
Subject: Notice of Preparation of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan

To: Ann Edwards, Interim County Executive
Sacramento County

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Ms. Edwards,

The City of Sacramento (City) is currently in the process of updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP). The Urban Water Management Planning Act, Water Code Section 10610 et seq., requires every urban water supplier 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 to prepare and adopt an UWMP and periodically update that plan at least every five years. Further, changes to the Act since 2015 require updates to the City's WSCP. The City's 2015 UWMP was adopted in June 2016, and the City's 2020 UWMP is required to be submitted to the California Department of Water Resources by July 1, 2021.

The UWMP is a planning document and a source document which reports, describes and evaluates water deliveries and uses, water supply sources and conservation efforts. The WSCP provides a plan for response to various water supply shortage conditions. As an urban water supplier, the City coordinates with water management agencies, relevant public agencies and other water suppliers on the preparation of the UWMP and WSCP updates. The City will be reviewing the UWMP and WSCP and will make amendments and updates, as appropriate.

If you wish to contact the City about its review process, you may do so by writing to the undersigned or by email to BEwart@cityofsacramento.org. Thank you.

Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95
916-808-1725
BEwart@cityofsacramento.org

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Friday, February 12, 2021 4:36 PM
To: 'Audie Foster'
Cc: Elizabeth Drayer
Subject: Notice of Preparation of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan

To: Audie Foster, General Manager
California American Water

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Foster,

The City of Sacramento (City) is currently in the process of updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP). The Urban Water Management Planning Act, Water Code Section 10610 et seq., requires every urban water supplier 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 to prepare and adopt an UWMP and periodically update that plan at least every five years. Further, changes to the Act since 2015 require updates to the City's WSCP. The City's 2015 UWMP was adopted in June 2016, and the City's 2020 UWMP is required to be submitted to the California Department of Water Resources by July 1, 2021.

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Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95
916-808-1725
BEwart@cityofsacramento.org

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Friday, February 12, 2021 4:56 PM
To: adam@delpasomanorwd.org
Cc: Elizabeth Drayer
Subject: Notice of Preparation of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan

To: Adam Coyan, General Manager
Del Paso Manor Water District

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Coyan,

The City of Sacramento (City) is currently in the process of updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP). The Urban Water Management Planning Act, Water Code Section 10610 et seq., requires every urban water supplier 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 to prepare and adopt an UWMP and periodically update that plan at least every five years. Further, changes to the Act since 2015 require updates to the City's WSCP. The City's 2015 UWMP was adopted in June 2016, and the City's 2020 UWMP is required to be submitted to the California Department of Water Resources by July 1, 2021.

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Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95
916-808-1725
BEwart@cityofsacramento.org

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Friday, February 12, 2021 5:01 PM
To: Bedal, Rick
Cc: Elizabeth Drayer
Subject: Notice of Preparation of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan

To: Richard Bedal, General Manager
Florin County Water District

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Bedal,

The City of Sacramento (City) is currently in the process of updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP). The Urban Water Management Planning Act, Water Code Section 10610 et seq., requires every urban water supplier 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 to prepare and adopt an UWMP and periodically update that plan at least every five years. Further, changes to the Act since 2015 require updates to the City's WSCP. The City's 2015 UWMP was adopted in June 2016, and the City's 2020 UWMP is required to be submitted to the California Department of Water Resources by July 1, 2021.

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Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95
916-808-1725
BEwart@cityofsacramento.org

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Friday, February 12, 2021 5:09 PM
To: 'Paul Schubert (pschubert@gswater.com)'
Cc: Elizabeth Drayer
Subject: Notice of Preparation of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan

To: Paul Schubert, General Manager
Golden State Water Company

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Schubert,

The City of Sacramento (City) is currently in the process of updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP). The Urban Water Management Planning Act, Water Code Section 10610 et seq., requires every urban water supplier 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 to prepare and adopt an UWMP and periodically update that plan at least every five years. Further, changes to the Act since 2015 require updates to the City's WSCP. The City's 2015 UWMP was adopted in June 2016, and the City's 2020 UWMP is required to be submitted to the California Department of Water Resources by July 1, 2021.

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Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95
916-808-1725
BEwart@cityofsacramento.org

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Friday, February 12, 2021 4:57 PM
To: bgray@natomaswater.com
Cc: Elizabeth Drayer
Subject: Notice of Preparation of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan

To: Brett Gray, General Manager
Natomas Central Mutual Water Company

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Gray,

The City of Sacramento (City) is currently in the process of updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP). The Urban Water Management Planning Act, Water Code Section 10610 et seq., requires every urban water supplier 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 to prepare and adopt an UWMP and periodically update that plan at least every five years. Further, changes to the Act since 2015 require updates to the City's WSCP. The City's 2015 UWMP was adopted in June 2016, and the City's 2020 UWMP is required to be submitted to the California Department of Water Resources by July 1, 2021.

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Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95
916-808-1725
BEwart@cityofsacramento.org

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Friday, February 12, 2021 4:53 PM
To: Tim Shaw
Cc: Elizabeth Drayer
Subject: Notice of Preparation of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan

To: Tim Shaw, General Manager
Rio Linda/Elverta CWD

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Shaw,

The City of Sacramento (City) is currently in the process of updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP). The Urban Water Management Planning Act, Water Code Section 10610 et seq., requires every urban water supplier 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 to prepare and adopt an UWMP and periodically update that plan at least every five years. Further, changes to the Act since 2015 require updates to the City's WSCP. The City's 2015 UWMP was adopted in June 2016, and the City's 2020 UWMP is required to be submitted to the California Department of Water Resources by July 1, 2021.

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Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95
916-808-1725
BEwart@cityofsacramento.org

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Friday, February 12, 2021 4:34 PM
To: Jim Peifer
Cc: Elizabeth Drayer
Subject: Notice of Preparation of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan

To: Jim Peifer, Executive Director
Regional Water Authority/Sacramento Groundwater Authority

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Peifer,

The City of Sacramento (City) is currently in the process of updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP). The Urban Water Management Planning Act, Water Code Section 10610 et seq., requires every urban water supplier 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 to prepare and adopt an UWMP and periodically update that plan at least every five years. Further, changes to the Act since 2015 require updates to the City's WSCP. The City's 2015 UWMP was adopted in June 2016, and the City's 2020 UWMP is required to be submitted to the California Department of Water Resources by July 1, 2021.

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Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95
916-808-1725
BEwart@cityofsacramento.org

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Friday, February 12, 2021 4:15 PM
To: Peterson, Michael L.
Cc: schmitzk; Elizabeth Drayer
Subject: Notice of Preparation of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan

To: Michael Peterson, Director
Sacramento County Water Agency

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Peterson,

The City of Sacramento (City) is currently in the process of updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP). The Urban Water Management Planning Act, Water Code Section 10610 et seq., requires every urban water supplier 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 to prepare and adopt an UWMP and periodically update that plan at least every five years. Further, changes to the Act since 2015 require updates to the City's WSCP. The City's 2015 UWMP was adopted in June 2016, and the City's 2020 UWMP is required to be submitted to the California Department of Water Resources by July 1, 2021.

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Sincerely,

Brett Ewart
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City of Sacramento
1395 35th Ave
Sacramento, CA 95
916-808-1725
BEwart@cityofsacramento.org

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Friday, February 12, 2021 4:41 PM
To: dobsonc@sacsewer.com
Cc: Elizabeth Drayer; Michelle Carrey
Subject: Notice of Preparation of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan

To: Christoph Dobson, Director of Policy and Planning
Sacramento Regional Sanitation District

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Dobson,

The City of Sacramento (City) is currently in the process of updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP). The Urban Water Management Planning Act, Water Code Section 10610 et seq., requires every urban water supplier 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 to prepare and adopt an UWMP and periodically update that plan at least every five years. Further, changes to the Act since 2015 require updates to the City's WSCP. The City's 2015 UWMP was adopted in June 2016, and the City's 2020 UWMP is required to be submitted to the California Department of Water Resources by July 1, 2021.

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Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95
916-808-1725
BEwart@cityofsacramento.org

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Friday, February 12, 2021 4:37 PM
To: Dan York
Cc: Elizabeth Drayer
Subject: Notice of Preparation of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan

To: Dan York, General Manager
Sacramento Suburban Water District

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. York,

The City of Sacramento (City) is currently in the process of updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP). The Urban Water Management Planning Act, Water Code Section 10610 et seq., requires every urban water supplier 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 to prepare and adopt an UWMP and periodically update that plan at least every five years. Further, changes to the Act since 2015 require updates to the City's WSCP. The City's 2015 UWMP was adopted in June 2016, and the City's 2020 UWMP is required to be submitted to the California Department of Water Resources by July 1, 2021.

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Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95
916-808-1725
BEwart@cityofsacramento.org

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Friday, February 12, 2021 4:35 PM
To: Woodling, John
Cc: Elizabeth Drayer
Subject: Notice of Preparation of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan

To: John Woodling, Executive Director
Sacramento Central Groundwater Authority

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Woodling,

The City of Sacramento (City) is currently in the process of updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP). The Urban Water Management Planning Act, Water Code Section 10610 et seq., requires every urban water supplier 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 to prepare and adopt an UWMP and periodically update that plan at least every five years. Further, changes to the Act since 2015 require updates to the City's WSCP. The City's 2015 UWMP was adopted in June 2016, and the City's 2020 UWMP is required to be submitted to the California Department of Water Resources by July 1, 2021.

The UWMP is a planning document and a source document which reports, describes and evaluates water deliveries and uses, water supply sources and conservation efforts. The WSCP provides a plan for response to various water supply shortage conditions. As an urban water supplier, the City coordinates with water management agencies, relevant public agencies and other water suppliers on the preparation of the UWMP and WSCP updates. The City will be reviewing the UWMP and WSCP and will make amendments and updates, as appropriate.

If you wish to contact the City about its review process, you may do so by writing to the undersigned or by email to BEwart@cityofsacramento.org. Thank you.

Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95
916-808-1725
BEwart@cityofsacramento.org

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Friday, February 12, 2021 5:03 PM
To: curtis kirby (tokaywater1@att.net)
Cc: Elizabeth Drayer
Subject: Notice of Preparation of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan

To: Curtis Kirby, General Manager
Tokay Park Water Company

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Kirby,

The City of Sacramento (City) is currently in the process of updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP). The Urban Water Management Planning Act, Water Code Section 10610 et seq., requires every urban water supplier 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 to prepare and adopt an UWMP and periodically update that plan at least every five years. Further, changes to the Act since 2015 require updates to the City's WSCP. The City's 2015 UWMP was adopted in June 2016, and the City's 2020 UWMP is required to be submitted to the California Department of Water Resources by July 1, 2021.

The UWMP is a planning document and a source document which reports, describes and evaluates water deliveries and uses, water supply sources and conservation efforts. The WSCP provides a plan for response to various water supply shortage conditions. As an urban water supplier, the City coordinates with water management agencies, relevant public agencies and other water suppliers on the preparation of the UWMP and WSCP updates. The City will be reviewing the UWMP and WSCP and will make amendments and updates, as appropriate.

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Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95
916-808-1725
BEwart@cityofsacramento.org

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Friday, February 12, 2021 5:08 PM
To: Roberts, William
Cc: Elizabeth Drayer
Subject: Notice of Preparation of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan

To: William Roberts, Public Works Operation and Maintenance Supervisor
City of West Sacramento

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Roberts,

The City of Sacramento (City) is currently in the process of updating its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP). The Urban Water Management Planning Act, Water Code Section 10610 et seq., requires every urban water supplier 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 to prepare and adopt an UWMP and periodically update that plan at least every five years. Further, changes to the Act since 2015 require updates to the City's WSCP. The City's 2015 UWMP was adopted in June 2016, and the City's 2020 UWMP is required to be submitted to the California Department of Water Resources by July 1, 2021.

The UWMP is a planning document and a source document which reports, describes and evaluates water deliveries and uses, water supply sources and conservation efforts. The WSCP provides a plan for response to various water supply shortage conditions. As an urban water supplier, the City coordinates with water management agencies, relevant public agencies and other water suppliers on the preparation of the UWMP and WSCP updates. The City will be reviewing the UWMP and WSCP and will make amendments and updates, as appropriate.

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Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95
916-808-1725
BEwart@cityofsacramento.org

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Phone/Fax	(916)808-6710/(916)808-7672

Order Information

Attention Name	BLAIR HONGO
Billing Reference No.	0000055830
Ad Description	NPH 2121 Urban Water Management Plan
Ad Type	Legal-GOVERNMENT - SAC CITY PUBLIC HEARING-1 PUB
Special Instructions	-

Orders Created

Order No.	Newspaper Name	Publishing Dates
3474111	THE DAILY RECORDER, CA	05/25/2021, 06/01/2021

The Ad exists as an uploaded file.
Click HERE to view file.

NOTICE OF PUBLIC HEARING
Sacramento City Council
City Hall Council Chamber
915 "I" Street, 1st Floor, Sacramento, CA 95814
www.cityofsacramento.org

Teleconference Meeting Only (COVID-19)

In response to Governor's Executive Order N-29-20 and the Resolution Declaring the Existence of a Local Emergency Relating to the COVID-19 Pandemic, adopted by the City of Sacramento City Council, City Council and other public meetings are currently **Teleconference Meetings Only** to align with local and federal guidelines and social distancing recommendations for the containment of the coronavirus. **A dedicated phone line has been established for public participation during the meeting related to a specific agenda item or matters not on the agenda. To give your public comment directly to the legislative body during the meeting, call (916) 808-7213 and follow the instructions given.**

Members of the public are encouraged to submit public comments electronically via eComment through the City's official website at http://sacramento.granicus.com/ViewPublisher.php?view_id=21 or via email at publiccomment@cityofsacramento.org.

City Council meetings are broadcast live on Metrocable, Channel 14, AT&T Broadband Cable System and/or rebroadcast on the Saturday following the date of the meeting. The live meeting broadcast on Metro Cable channel 14 can also be heard free on KUBU radio, 96.5 FM. Live video streams and indexed archives of meetings are available via the internet. Visit the City's official website at: http://sacramento.granicus.com/ViewPublisher.php?view_id=21

Tuesday, June 15, 2021 at 5:00 p.m.

Hearing Title: **Review of Draft City of Sacramento 2020 Urban Water Management Plan Update**

Location (of project): **Citywide**

Project Description: In accordance with the Urban Water Management Planning Act (California Water Code Section 10610 et seq.), the City of Sacramento is required to update its Urban Water Management Plan (UWMP) to meet the California Water Code requirements and Department of Water Resources (DWR) guidelines for a 2020 UWMP.

The City has also updated its Water Supply Shortage Contingency Plan in accordance with Senate Bill 606 and Assembly Bill 1668 which set new requirements for water shortage contingency planning (WSCP). The City has completed its draft 2020 UWMP and WSCP update and has scheduled a public hearing for the review of the updated planning documents and the City's status for meeting its urban water use target on Tuesday, June 15, 2021 at 5:00 pm in the City Hall Council Chamber located at 915 I Street, 1st Floor.

THE DAILY RECORDER
~ SINCE 1911 ~

901 H ST STE 312, SACRAMENTO, CA 95814
Telephone (916) 444-2355 / Fax (916) 444-0636

This space for filing stamp only

BLAIR HONGO
SAC. CITY CLERK
915 I ST. 5TH FLOOR
SACRAMENTO, CA - 95814

PROOF OF PUBLICATION

(2015.5 C.C.P.)

State of California)
County of SACRAMENTO) ss

Notice Type: GPHSA - SAC CITY PUBLIC HEARING-1 PUB

Ad Description:
NPH 2121 Urban Water Management Plan

I am a citizen of the United States and a resident of the State of California; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the principal clerk of the printer and publisher of the THE DAILY RECORDER, a newspaper published in the English language in the city of SACRAMENTO, county of SACRAMENTO, and adjudged a newspaper of general circulation as defined by the laws of the State of California by the Superior Court of the County of SACRAMENTO, State of California, under date 05/02/1913, Case No. 10038. That the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

05/25/2021, 06/01/2021

Executed on: 06/01/2021
At Los Angeles, California

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Signature

* A 0 0 0 0 0 0 5 7 3 6 5 4 8 *

Email

SC#: 3474111

NOTICE OF PUBLIC HEARING
Sacramento City Council
City Hall Council Chamber
915 "I" Street, 1st Floor, Sacramento, CA 95814
www.cityofsacramento.org
Teleconference Meeting Only (COVID-19)

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Tuesday, June 15, 2021 at 5:00 p.m.
Hearing Title: Review of Draft City of Sacramento 2020 Urban Water Management Plan Update
Location (of project): Citywide
Project Description: In accordance with the Urban Water Management Planning Act (California Water Code Section 10610 et seq.), the City of Sacramento is required to update its Urban Water Management Plan (UWMP) to meet the California Water Code requirements and Department of Water Resources (DWR) guidelines for a 2020 UWMP.

The City has also updated its Water Supply Shortage Contingency Plan in accordance with Senate Bill 606 and Assembly Bill 1668 which set new requirements for water shortage contingency planning (WSCP). The City has completed its draft 2020 UWMP and WSCP update and has scheduled a public hearing for the review of the updated planning documents and the City's status for meeting its urban water use target on Tuesday, June 15, 2021 at 5:00 pm in the City Hall Council Chamber located at 915 I Street, 1st Floor.

A copy of the 2020 UWMP and WSCP can be reviewed by visiting the City's website at https://www.cityofsacramento.org/Utilities/Reports

A physical copy is also available at the Sacramento Central City library, located at 828 I St, Sacramento, CA 95814. For questions concerning the document, please contact:
Brett Ewart, Senior Engineer
City of Sacramento
Department of Utilities
1395 35th Avenue
Sacramento, CA 95822
Phone: (916) 808-1725
Email: bewart@cityofsacramento.org

Written comments are requested by the close of business Monday, June 7, 2021.

Environmental Determination: N/A
Prior Commission/Committee/Director Action: The Water Committee received a presentation on the intent to prepare and submit this planning document on February 9, 2021.

The detailed staff report for this item including attachments and exhibits will be published to the City of Sacramento website by close of business on **Thursday, June 10, 2021**.

Visit http://sacramento.granicus.com/ViewPublisher.php?view_id=21 and choose "Upcoming Meetings" then select the appropriate meeting to access the agenda and staff report.

If you challenge the proposed action in court, you may be limited to raising only those issues you or someone else raised at the Public Hearing described in this notice or in written correspondence delivered to City Council at or prior to the Public Hearing.

For further information on this matter, please contact: Brett Ewart, Senior Engineer, Department of Utilities, (916) 808-1725

This notice is being delivered in the matter required by: Water Code Section 10642 and Government Code 6066.

Further information may be obtained from the Office of the City Clerk at (916) 808-7200.

/s/
Mindy Cuppy
City Clerk
5/25, 6/1/21

SC-3474111#

A copy of the 2020 UWMP and WSCP can be reviewed by visiting the City's website at https://www.cityofsacramento.org/Utilities/Reports

A physical copy is also available at the Sacramento Central City library, located at 828 I St, Sacramento, CA 95814. For questions concerning the document, please contact:

Brett Ewart, Senior Engineer
City of Sacramento
Department of Utilities
1395 35th Avenue
Sacramento, CA 95822
Phone: (916) 808-1725
Email: bewart@cityofsacramento.org

Written comments are requested by the close of business Monday, June 7, 2021.

Environmental Determination: N/A

Prior Commission/Committee/Director Action: The Water Committee received a presentation on the intent to prepare and submit this planning document on February 9, 2021.

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For further information on this matter, please contact: Brett Ewart, Senior Engineer, Department of Utilities, (916) 808-1725

This notice is being delivered in the matter required by: Water Code Section 10642 and Government Code 6066.

Further information may be obtained from the Office of the City Clerk at (916) 808-7200.

/s/
Mindy Cuppy
City Clerk

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Tuesday, May 25, 2021 1:03 PM
To: CountyExecutive@SacCounty.net
Subject: Notice of Public Hearing of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan
Attachments: Public Notice-City of Sacramento Urban Water Management Plan Hearing.pdf

To: Ann Edwards, Interim County Executive
Sacramento County

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Ms. Edwards,

In accordance with the Urban Water Management Planning Act (California Water Code Section 10610 et seq.), the City of Sacramento is required to update its Urban Water Management Plan (UWMP) to meet the California Water Code requirements and Department of Water Resources (DWR) guidelines for a 2020 UWMP

The City has also updated its Water Supply Shortage Contingency Plan in accordance with Senate Bill 606 and Assembly Bill 1668 which set new requirements for water shortage contingency planning (WSCP). The City has completed its draft 2020 UWMP and WSCP update and has scheduled a public hearing for the review of the updated planning documents and the City's status for meeting its urban water use target on Tuesday, June 15, 2021 at 5:00 pm in the City Hall Council Chamber located at 915 I Street, 1st Floor. The notice is attached.

A copy of the 2020 UWMP and WSCP can be reviewed by visiting the City's website at:

https://www.cityofsacramento.org/Utilities/Reports

A physical copy is also available at the Sacramento Central City library, located at 828 I St, Sacramento, CA 95814. For questions concerning the document, please contact:

If you wish to contact the City about its review process, you may do so by writing to the undersigned or by email to BEwart@cityofsacramento.org. Thank you.

Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95
916-808-1725
BEwart@cityofsacramento.org

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Tuesday, May 25, 2021 12:43 PM
To: Audie Foster - California-American ()
Cc: Evan J Jacobs; Elizabeth Drayer
Subject: Notice of Public Hearing of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan
Attachments: Public Notice-City of Sacramento Urban Water Management Plan Hearing.pdf

To: Audie Foster, General Manager
California American Water

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Foster,

In accordance with the Urban Water Management Planning Act (California Water Code Section 10610 et seq.), the City of Sacramento is required to update its Urban Water Management Plan (UWMP) to meet the California Water Code requirements and Department of Water Resources (DWR) guidelines for a 2020 UWMP

The City has also updated its Water Supply Shortage Contingency Plan in accordance with Senate Bill 606 and Assembly Bill 1668 which set new requirements for water shortage contingency planning (WSCP). The City has completed its draft 2020 UWMP and WSCP update and has scheduled a public hearing for the review of the updated planning documents and the City's status for meeting its urban water use target on Tuesday, June 15, 2021 at 5:00 pm in the City Hall Council Chamber located at 915 I Street, 1st Floor. The notice is attached.

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If you wish to contact the City about its review process, you may do so by writing to the undersigned or by email to BEwart@cityofsacramento.org. Thank you.

Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Tuesday, May 25, 2021 12:45 PM
To: Adam
Cc: Elizabeth Drayer
Subject: Notice of Public Hearing of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan
Attachments: Public Notice-City of Sacramento Urban Water Management Plan Hearing.pdf

---

To: Adam Coyan, General Manager
Del Paso Mano Water District

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Foster,

In accordance with the Urban Water Management Planning Act (California Water Code Section 10610 et seq.), the City of Sacramento is required to update its Urban Water Management Plan (UWMP) to meet the California Water Code requirements and Department of Water Resources (DWR) guidelines for a 2020 UWMP

The City has also updated its Water Supply Shortage Contingency Plan in accordance with Senate Bill 606 and Assembly Bill 1668 which set new requirements for water shortage contingency planning (WSCP). The City has completed its draft 2020 UWMP and WSCP update and has scheduled a public hearing for the review of the updated planning documents and the City's status for meeting its urban water use target on Tuesday, June 15, 2021 at 5:00 pm in the City Hall Council Chamber located at 915 I Street, 1st Floor. The notice is attached.

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Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Tuesday, May 25, 2021 12:47 PM
To: Bedal, Rick
Cc: Elizabeth Drayer
Subject: Notice of Public Hearing of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan
Attachments: Public Notice-City of Sacramento Urban Water Management Plan Hearing.pdf

To: Richard Bedal, General Manager
Florin County Water District

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Bedal,

In accordance with the Urban Water Management Planning Act (California Water Code Section 10610 et seq.), the City of Sacramento is required to update its Urban Water Management Plan (UWMP) to meet the California Water Code requirements and Department of Water Resources (DWR) guidelines for a 2020 UWMP

The City has also updated its Water Supply Shortage Contingency Plan in accordance with Senate Bill 606 and Assembly Bill 1668 which set new requirements for water shortage contingency planning (WSCP). The City has completed its draft 2020 UWMP and WSCP update and has scheduled a public hearing for the review of the updated planning documents and the City's status for meeting its urban water use target on Tuesday, June 15, 2021 at 5:00 pm in the City Hall Council Chamber located at 915 I Street, 1st Floor. The notice is attached.

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https://www.cityofsacramento.org/Utilities/Reports

A physical copy is also available at the Sacramento Central City library, located at 828 I St, Sacramento, CA 95814. For questions concerning the document, please contact:

If you wish to contact the City about its review process, you may do so by writing to the undersigned or by email to BEwart@cityofsacramento.org. Thank you.

Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Tuesday, May 25, 2021 12:42 PM
To: Paul Schubert
Cc: Elizabeth Drayer
Subject: Notice of Public Hearing of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan
Attachments: Public Notice-City of Sacramento Urban Water Management Plan Hearing.pdf

To: Paul Schubert, General Manager
Golden State Water Company

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Schubert,

In accordance with the Urban Water Management Planning Act (California Water Code Section 10610 et seq.), the City of Sacramento is required to update its Urban Water Management Plan (UWMP) to meet the California Water Code requirements and Department of Water Resources (DWR) guidelines for a 2020 UWMP

The City has also updated its Water Supply Shortage Contingency Plan in accordance with Senate Bill 606 and Assembly Bill 1668 which set new requirements for water shortage contingency planning (WSCP). The City has completed its draft 2020 UWMP and WSCP update and has scheduled a public hearing for the review of the updated planning documents and the City's status for meeting its urban water use target on Tuesday, June 15, 2021 at 5:00 pm in the City Hall Council Chamber located at 915 I Street, 1st Floor. The notice is attached.

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https://www.cityofsacramento.org/Utilities/Reports

A physical copy is also available at the Sacramento Central City library, located at 828 I St, Sacramento, CA 95814. For questions concerning the document, please contact:

If you wish to contact the City about its review process, you may do so by writing to the undersigned or by email to BEwart@cityofsacramento.org. Thank you.

Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Tuesday, May 25, 2021 12:49 PM
To: bgray@natomaswater.com
Cc: Elizabeth Drayer
Subject: Notice of Public Hearing of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan
Attachments: Public Notice-City of Sacramento Urban Water Management Plan Hearing.pdf

To: Brett Gray, General Manager
Natomas Mutual Water District

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Gray,

In accordance with the Urban Water Management Planning Act (California Water Code Section 10610 et seq.), the City of Sacramento is required to update its Urban Water Management Plan (UWMP) to meet the California Water Code requirements and Department of Water Resources (DWR) guidelines for a 2020 UWMP

The City has also updated its Water Supply Shortage Contingency Plan in accordance with Senate Bill 606 and Assembly Bill 1668 which set new requirements for water shortage contingency planning (WSCP). The City has completed its draft 2020 UWMP and WSCP update and has scheduled a public hearing for the review of the updated planning documents and the City's status for meeting its urban water use target on Tuesday, June 15, 2021 at 5:00 pm in the City Hall Council Chamber located at 915 I Street, 1st Floor. The notice is attached.

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https://www.cityofsacramento.org/Utilities/Reports

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Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Tuesday, May 25, 2021 12:52 PM
To: Tim Shaw
Cc: Elizabeth Drayer
Subject: Notice of Public Hearing of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan
Attachments: Public Notice-City of Sacramento Urban Water Management Plan Hearing.pdf

To: Tim Shaw, General Manager
Rio Linda/Elverta CWD

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Shaw,

In accordance with the Urban Water Management Planning Act (California Water Code Section 10610 et seq.), the City of Sacramento is required to update its Urban Water Management Plan (UWMP) to meet the California Water Code requirements and Department of Water Resources (DWR) guidelines for a 2020 UWMP

The City has also updated its Water Supply Shortage Contingency Plan in accordance with Senate Bill 606 and Assembly Bill 1668 which set new requirements for water shortage contingency planning (WSCP). The City has completed its draft 2020 UWMP and WSCP update and has scheduled a public hearing for the review of the updated planning documents and the City's status for meeting its urban water use target on Tuesday, June 15, 2021 at 5:00 pm in the City Hall Council Chamber located at 915 I Street, 1st Floor. The notice is attached.

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https://www.cityofsacramento.org/Utilities/Reports

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If you wish to contact the City about its review process, you may do so by writing to the undersigned or by email to BEwart@cityofsacramento.org. Thank you.

Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Tuesday, May 25, 2021 12:53 PM
To: Jim Peifer
Cc: Elizabeth Drayer
Subject: Notice of Public Hearing of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan
Attachments: Public Notice-City of Sacramento Urban Water Management Plan Hearing.pdf

To: Jim Peifer, Executive Director
Regional Water Authority/Sacramento Groundwater Authority

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Peifer,

In accordance with the Urban Water Management Planning Act (California Water Code Section 10610 et seq.), the City of Sacramento is required to update its Urban Water Management Plan (UWMP) to meet the California Water Code requirements and Department of Water Resources (DWR) guidelines for a 2020 UWMP

The City has also updated its Water Supply Shortage Contingency Plan in accordance with Senate Bill 606 and Assembly Bill 1668 which set new requirements for water shortage contingency planning (WSCP). The City has completed its draft 2020 UWMP and WSCP update and has scheduled a public hearing for the review of the updated planning documents and the City's status for meeting its urban water use target on Tuesday, June 15, 2021 at 5:00 pm in the City Hall Council Chamber located at 915 I Street, 1st Floor. The notice is attached.

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Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95

Elizabeth Drayer

From:	Brett Ewart <BEwart@cityofsacramento.org>
Sent:	Tuesday, May 25, 2021 1:01 PM
To:	John Woodling
Subject:	Notice of Public Hearing of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan
Attachments:	Public Notice-City of Sacramento Urban Water Management Plan Hearing.pdf

To: John Woodling, Interim Executive Director
Sacramento Central Groundwater Authority

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Woodling,

In accordance with the Urban Water Management Planning Act (California Water Code Section 10610 et seq.), the City of Sacramento is required to update its Urban Water Management Plan (UWMP) to meet the California Water Code requirements and Department of Water Resources (DWR) guidelines for a 2020 UWMP

The City has also updated its Water Supply Shortage Contingency Plan in accordance with Senate Bill 606 and Assembly Bill 1668 which set new requirements for water shortage contingency planning (WSCP). The City has completed its draft 2020 UWMP and WSCP update and has scheduled a public hearing for the review of the updated planning documents and the City's status for meeting its urban water use target on Tuesday, June 15, 2021 at 5:00 pm in the City Hall Council Chamber located at 915 I Street, 1st Floor. The notice is attached.

A copy of the 2020 UWMP and WSCP can be reviewed by visiting the City's website at:

https://www.cityofsacramento.org/Utilities/Reports

A physical copy is also available at the Sacramento Central City library, located at 828 I St, Sacramento, CA 95814. For questions concerning the document, please contact:

If you wish to contact the City about its review process, you may do so by writing to the undersigned or by email to BEwart@cityofsacramento.org. Thank you.

Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95
916-808-1725
BEwart@cityofsacramento.org

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Tuesday, May 25, 2021 12:56 PM
To: Peterson, Michael L.
Cc: Elizabeth Drayer; Kerry Schmitz; Mike Huot
Subject: Notice of Public Hearing of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan
Attachments: Public Notice-City of Sacramento Urban Water Management Plan Hearing.pdf

To: Michael Peterson, Director
Sacramento County Water Agency

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Peterson,

In accordance with the Urban Water Management Planning Act (California Water Code Section 10610 et seq.), the City of Sacramento is required to update its Urban Water Management Plan (UWMP) to meet the California Water Code requirements and Department of Water Resources (DWR) guidelines for a 2020 UWMP

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Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Tuesday, May 25, 2021 12:58 PM
To: Chris Dobson (dobsonc@sacsewer.com)
Cc: Elizabeth Drayer
Subject: FW: Notice of Public Hearing of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan
Attachments: Public Notice-City of Sacramento Urban Water Management Plan Hearing.pdf

To: Christoph Dobson, Executive Director of Policy and Planning
Sacramento Regional County Sanitation District

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Dobson,

In accordance with the Urban Water Management Planning Act (California Water Code Section 10610 et seq.), the City of Sacramento is required to update its Urban Water Management Plan (UWMP) to meet the California Water Code requirements and Department of Water Resources (DWR) guidelines for a 2020 UWMP

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Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Tuesday, May 25, 2021 12:59 PM
To: Dan York
Cc: Elizabeth Drayer
Subject: FW: Notice of Public Hearing of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan
Attachments: Public Notice-City of Sacramento Urban Water Management Plan Hearing.pdf

To: Dan York, General Manager
Sacramento Suburban Water District

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. York,

In accordance with the Urban Water Management Planning Act (California Water Code Section 10610 et seq.), the City of Sacramento is required to update its Urban Water Management Plan (UWMP) to meet the California Water Code requirements and Department of Water Resources (DWR) guidelines for a 2020 UWMP

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Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95

Elizabeth Drayer

From:	Brett Ewart <BEwart@cityofsacramento.org>
Sent:	Tuesday, May 25, 2021 1:04 PM
To:	curtis kirby (tokaywater1@att.net)
Subject:	Notice of Public Hearing of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan
Attachments:	Public Notice-City of Sacramento Urban Water Management Plan Hearing.pdf

To: Curtis Kirby, General Manager
Tokay Park Water District

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Kirby,

In accordance with the Urban Water Management Planning Act (California Water Code Section 10610 et seq.), the City of Sacramento is required to update its Urban Water Management Plan (UWMP) to meet the California Water Code requirements and Department of Water Resources (DWR) guidelines for a 2020 UWMP

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Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95
916-808-1725
BEwart@cityofsacramento.org

Elizabeth Drayer

From: Brett Ewart <BEwart@cityofsacramento.org>
Sent: Tuesday, May 25, 2021 1:10 PM
To: Jessica Law
Cc: Elizabeth Drayer; Jim Peifer; Anne Sanger
Subject: Notice of Public Hearing of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan
Attachments: Public Notice-City of Sacramento Urban Water Management Plan Hearing.pdf

To: Jessica Law, Executive Director
Water Forum

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Ms. Law,

In accordance with the Urban Water Management Planning Act (California Water Code Section 10610 et seq.), the City of Sacramento is required to update its Urban Water Management Plan (UWMP) to meet the California Water Code requirements and Department of Water Resources (DWR) guidelines for a 2020 UWMP

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Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95

Elizabeth Drayer

From:	Brett Ewart <BEwart@cityofsacramento.org>
Sent:	Tuesday, May 25, 2021 1:08 PM
To:	Roberts, William
Subject:	Notice of Public Hearing of the City of Sacramento's 2020 Urban Water Management Plan and Water Shortage Contingency Plan
Attachments:	Public Notice-City of Sacramento Urban Water Management Plan Hearing.pdf

To: William Roberts, Public Works Operation and Maintenance Supervisor
City of West Sacramento

SUBJECT: Preparation of 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Dear Mr. Roberts,

In accordance with the Urban Water Management Planning Act (California Water Code Section 10610 et seq.), the City of Sacramento is required to update its Urban Water Management Plan (UWMP) to meet the California Water Code requirements and Department of Water Resources (DWR) guidelines for a 2020 UWMP

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Sincerely,

Brett Ewart
Senior Engineer
City of Sacramento
1395 35th Ave
Sacramento, CA 95
916-808-1725
BEwart@cityofsacramento.org

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Appendix E

Distribution System Water Loss Audits

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AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

? Click to access definition
+ Click to add a comment

Water Audit Report for: City of Sacramento Department of Utilities
Reporting Year: 2016 7/2015 - 6/2016

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

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

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

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

					Pcnt:	Value:	
Volume from own sources:	7	84,960.640	acre-ft/yr	3			acre-ft/yr
Water imported:	8	0.000	acre-ft/yr				acre-ft/yr
Water exported:	8	938.100	acre-ft/yr	7			acre-ft/yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 84,022.540 acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	3	47,637.000	acre-ft/yr			
Billed unmetered:	4	26,319.000	acre-ft/yr			
Unbilled metered:	n/a	0.000	acre-ft/yr			
Unbilled unmetered:	5	210.056	acre-ft/yr		210.056	acre-ft/yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: ? 74,166.056 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption) 9,856.484 acre-ft/yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:		210.056 acre-ft/yr	0.25%		acre-ft/yr

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

Customer metering inaccuracies:	6	972.184	acre-ft/yr	2.00%	acre-ft/yr
Systematic data handling errors:		119.093	acre-ft/yr	0.25%	acre-ft/yr

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

Apparent Losses: ? 1,301.333 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: ? 8,555.151 acre-ft/yr

WATER LOSSES: 9,856.484 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: ? 10,066.540 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	9	1,686.0	miles
Number of active AND inactive service connections:	6	159,533	
Service connection density:		95	conn./mile main

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

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

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

Average operating pressure:	8	45.0	psi

COST DATA

Total annual cost of operating water system:	10	$86,913,327	$/Year
Customer retail unit cost (applied to Apparent Losses):	8	$1.00	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	6	$130.68	$/acre-ft

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 64 out of 100 *****

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

PRIORITY AREAS FOR ATTENTION:

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

1: Volume from own sources
2: Billed metered
3: Billed unmetered

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

? Click to access definition
+ Click to add a comment

Water Audit Report for: City of Sacramento Department of Utilities (3410020)
Reporting Year: 2017 7/2016 - 6/2017

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

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

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

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

					Pcnt:	Value:	
Volume from own sources:	7	87,018.700	acre-ft/yr	3	0.00%		acre-ft/yr
Water imported:	n/a	0.000	acre-ft/yr				acre-ft/yr
Water exported:	7	937.700	acre-ft/yr	7	0.00%		acre-ft/yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 86,081.000 acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

			Pcnt:	Value:	
Billed metered:	5	55,171.000	acre-ft/yr			
Billed unmetered:	4	23,894.000	acre-ft/yr			
Unbilled metered:	n/a	0.000	acre-ft/yr			
Unbilled unmetered:	5	215.203	acre-ft/yr		215.203	acre-ft/yr

Use buttons to select percentage of water supplied OR value

AUTHORIZED CONSUMPTION: 79,280.203 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption)

6,800.798 acre-ft/yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:		215.203	acre-ft/yr	0.25%		acre-ft/yr

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

Customer metering inaccuracies:	5	1,125.939	acre-ft/yr	2.00%	acre-ft/yr
Systematic data handling errors:		137.928	acre-ft/yr	0.25%	acre-ft/yr

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

Apparent Losses: 1,479.069 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 5,321.729 acre-ft/yr

WATER LOSSES: 6,800.798 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 7,016.000 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	9	1,686.0	miles
Number of active AND inactive service connections:	6	154,049	
Service connection density:		91	conn./mile main

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

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

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

Average operating pressure:	7	45.0	psi

COST DATA

Total annual cost of operating water system:	10	$89,685,448	$/Year
Customer retail unit cost (applied to Apparent Losses):	8	$1.10	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	6	$121.82	$/acre-ft ☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 65 out of 100 *****

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

PRIORITY AREAS FOR ATTENTION:

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

1: Volume from own sources
2: Billed metered
3: Billed unmetered

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

? Click to access definition
+ Click to add a comment

Water Audit Report for: City of Sacramento Department of Utilities (3410020)
Reporting Year: 2018 7/2017 - 6/2018

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

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

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

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

					Pcnt:	Value:	
Volume from own sources:	5	94,221.300	acre-ft/yr	3	0.00%		acre-ft/yr
Water imported:	5	111.500	acre-ft/yr	7			acre-ft/yr
Water exported:	5	2,470.600	acre-ft/yr	7	0.00%		acre-ft/yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 91,862.200 acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	5	64,066.866	acre-ft/yr			
Billed unmetered:	4	19,175.000	acre-ft/yr			
Unbilled metered:	n/a	0.000	acre-ft/yr			
Unbilled unmetered:	5	229.656	acre-ft/yr		229.656	acre-ft/yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: ? 83,471.521 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption) 8,390.679 acre-ft/yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:		229.656	acre-ft/yr	0.25%		acre-ft/yr

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

Customer metering inaccuracies:	5	1,307.487	acre-ft/yr	2.00%	acre-ft/yr
Systematic data handling errors:		160.167	acre-ft/yr	0.25%	acre-ft/yr

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

Apparent Losses: ? 1,697.310 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: ? 6,693.369 acre-ft/yr

WATER LOSSES: 8,390.679 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: ? 8,620.334 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	9	1,695.3	miles
Number of active AND inactive service connections:	6	154,929	
Service connection density:	?	91	conn./mile main

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

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

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

Average operating pressure: 7 45.0 psi

COST DATA

Total annual cost of operating water system:	10	$103,293,720	$/Year	
Customer retail unit cost (applied to Apparent Losses):	10	$1.21	$/100 cubic feet (ccf)	
Variable production cost (applied to Real Losses):	7	$87.34	$/acre-ft	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 60 out of 100 *****

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

PRIORITY AREAS FOR ATTENTION:

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

1: Volume from own sources
2: Billed metered
3: Billed unmetered

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

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\+ Click to add a comment

Water Audit Report for: City of Sacramento Department of Utilities (3410020)
Reporting Year: 2019 7/2018 - 6/2019

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

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

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

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

					Pcnt:	Value:	
Volume from own sources:	5	86,085.100	acre-ft/yr	7			acre-ft/yr
Water imported:	7	3,874.600	acre-ft/yr	7			acre-ft/yr
Water exported:	5	1,343.200	acre-ft/yr	7			acre-ft/yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 88,616.500 acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	5	68,035.000	acre-ft/yr			
Billed unmetered:	4	11,200.000	acre-ft/yr			
Unbilled metered:	n/a	0.000	acre-ft/yr			
Unbilled unmetered:	5	221.540	acre-ft/yr		221.540	acre-ft/yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: ? 79,456.540 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption) 9,159.960 acre-ft/yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:		221.541	acre-ft/yr	0.25%		acre-ft/yr

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

Customer metering inaccuracies:	5	1,388.469	acre-ft/yr	2.00%		acre-ft/yr
Systematic data handling errors:		170.088	acre-ft/yr	0.25%		acre-ft/yr

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

Apparent Losses: ? 1,780.098 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: ? 7,379.862 acre-ft/yr

WATER LOSSES: 9,159.960 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: ? 9,381.500 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	9	1,743.5	miles
Number of active AND inactive service connections:	8	143,716	
Service connection density:		82	conn./mile main

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

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

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

Average operating pressure: 7 45.0 psi

COST DATA

Total annual cost of operating water system:	10	$100,130,033	$/Year
Customer retail unit cost (applied to Apparent Losses):	10	$1.33	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	7	$92.81	$/acre-ft

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 60 out of 100 *****

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

PRIORITY AREAS FOR ATTENTION:

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

1: Volume from own sources
2: Billed metered
3: Billed unmetered

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Reporting Worksheet

WAS v5.0

? Click to access definition
+ Click to add a comment

Water Audit Report for: City of Sacramento Department of Utilities (3410020)
Reporting Year: 2020 7/2019 - 6/2020

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

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

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

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

				Pcnt:	Value:	
Volume from own sources:	5	101,001.500	acre-ft/yr			acre-ft/yr
Water imported:	n/a	0.000	acre-ft/yr			acre-ft/yr
Water exported:	5	9,813.900	acre-ft/yr			acre-ft/yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 91,187.600 acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

			Pcnt:	Value:	
Billed metered:	7	78,346.580	acre-ft/yr			
Billed unmetered:	7	2,132.000	acre-ft/yr			
Unbilled metered:	9	383.763	acre-ft/yr			
Unbilled unmetered:	5	227.969	acre-ft/yr		227.969	acre-ft/yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 81,090.312 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption) 10,097.288 acre-ft/yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:		227.969	acre-ft/yr	0.25%		acre-ft/yr

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

Customer metering inaccuracies:	5	1,606.742	acre-ft/yr	2.00%	acre-ft/yr
Systematic data handling errors:		195.866	acre-ft/yr	0.25%	acre-ft/yr

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

Apparent Losses: 2,030.577 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 8,066.711 acre-ft/yr

WATER LOSSES: 10,097.288 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 10,709.020 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	9	1,747.3	miles
Number of active AND inactive service connections:	9	144,502	
Service connection density:		83	conn./mile main

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

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

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

Average operating pressure: 7 45.0 psi

COST DATA

Total annual cost of operating water system:	10	$105,754,535	$/Year
Customer retail unit cost (applied to Apparent Losses):	10	$1.46	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	7	$94.77	$/acre-ft

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 66 out of 100 *****

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

PRIORITY AREAS FOR ATTENTION:

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

1: Volume from own sources
2: Customer metering inaccuracies
3: Billed metered

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Appendix F

SB X7-7 Compliance Form

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SB X7-7 Table 0: Units of Measure Used in 2020 UWMP* *(select one from the drop down list)*
Acre Feet
**The unit of measure must be consistent throughout the UWMP, as reported in Submittal Table 2-3.*
NOTES:

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

SB X7-7 Table 3: 2020 Service Area Population	
2020 Compliance Year Population	
2020	510,931
NOTES:	

SB X7-7 Table 4: 2020 Gross Water Use							
Compliance Year 2020	2020 Volume Into Distribution System *This column will remain blank until SB X7-7 Table 4-A is completed.*	2020 Deductions					2020 Gross Water Use
		Exported Water *	Change in Dist. System Storage* (+/-)	Indirect Recycled Water *This column will remain blank until SB X7-7 Table 4-B is completed.*	Water Delivered for Agricultural Use*	Process Water *This column will remain blank until SB X7-7 Table 4-D is completed.*	
	96,877			-		-	**96,877**

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

NOTES:

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source	American River
This water source is *(check one)* **:**	
☑	The supplier's own water source
☐	A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
	28,443	-	28,443

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

[2] ***Meter Error Adjustment*** *- See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES: Units are in acre-feet (AF).

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s) Meter Error Adjustment

Complete one table for each source.

Name of Source	Sacramento River
This water source is *(check one)* **:**	
☑	The supplier's own water source
☐	A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
	39,578		39,578

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

[2] ***Meter Error Adjustment*** *- See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES: Units are in acre-feet (AF).

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source	Groundwater
This water source is *(check one)* **:**	
☑	The supplier's own water source
☐	A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
	20,429		20,429

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

[2] ***Meter Error Adjustment*** *- See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES: Units are in acre-feet (AF).

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source	Mutual Aid
This water source is *(check one)* **:**	
☐	The supplier's own water source
☑	A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
	8,427		8,427

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

[2] ***Meter Error Adjustment*** *- See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES: Units are in acre-feet (AF).

SB X7-7 Table 5: 2020 Gallons Per Capita Per Day (GPCD)		
2020 Gross Water *Fm SB X7-7 Table 4*	**2020 Population** *Fm SB X7-7 Table 3*	**2020 GPCD**
96,877	510,931	**169**
NOTES: 2020 Gross Water Use is in acre-feet (AF).		

SB X7-7 Table 9: 2020 Compliance							
Actual 2020 GPCD[1]	Optional Adjustments to 2020 GPCD Enter "0" if Adjustment Not Used Extraordinary Events[1]	Weather Normalization[1]	Economic Adjustment[1]	TOTAL Adjustments[1]	Adjusted 2020 GPCD [1] *(Adjusted if applicable)*	2020 Confirmed Target GPCD [1, 2]	**Did Supplier Achieve Targeted Reduction for 2020?**
169	-	-	-	-	169	225	**YES**

[1] *All values are reported in GPCD*

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

NOTES:

Appendix G

Water Forum Agreement – Purveyor Specific Agreement

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CITY OF SACRAMENTO

A. INTRODUCTION

The City of Sacramento (City) purveys water within the City limits and a small area outside the City limits in the Fruitridge area. The City serves approximately 121,000 connections of which about 110,000 are residential customers.

The City of Sacramento has surface water entitlements on both the American and Sacramento Rivers and also uses groundwater. The City has a permanent agreement with the United States Bureau of Reclamation guaranteeing the accessibility of their entitlements. The authorized place of use under the City's water rights do not encompass the entire metropolitan area. The Sacramento River rights apply to the City limits; the American River rights cover an area of approximately 96,000 acres within and adjacent to the City.

The City has existing diversion, treatment, storage and pumping facilities on both of the rivers. The Sacramento River plant is located just downstream of the confluence with the American River. The American River plant known as the E. A. Fairbairn Water Treatment Plant (FWTP) is located near Howe Avenue approximately 16 miles downstream from Nimbus Dam.

B. SEVEN ELEMENTS OF THE *WATER FORUM AGREEMENT*: INTEGRATED PACKAGE

In order to achieve the Water Forum's two coequal objectives, providing a safe reliable water supply and preserving the values of the Lower American River, all signatories to the *Water Forum Agreement* need to endorse and, where appropriate, participate in each of seven complementary actions.

- Increased Surface Water Diversions
- Actions to Meet Customers' Needs While Reducing Diversion Impacts in Drier Years
- Support for an Improved Pattern of Fishery Flow Releases from Folsom Reservoir
- Lower American River Habitat Management Element
- Water Conservation Element
- Groundwater Management Element
- Water Forum Successor Effort

For each interest to get its needs met, it has to endorse all seven elements. Based on this linkage, signatories agree to endorse and, where appropriate, participate in all seven of these elements.

C. BASELINE DIVERSIONS

Baseline diversions represent the historic maximum amount of water diverted annually from the American River through the year 1995.

Although the City has the physical capacity to divert up to 112,000 AF, the baseline for the City's American River diversion is 50,000 AF. The rest of the City's surface water demand is met by Sacramento River diversion.

D. AGREEMENT FOR MEETING THE CITY OF SACRAMENTO'S WATER SUPPLY NEEDS TO THE YEAR 2030

TEXT OF CITY AGREEMENT:

1. Use of E. A. Fairbairn Water Treatment Plant (FWTP) Diversion Capacity

a. In extremely dry years (i.e., years in which the State of California Department of Water Resources [DWR] annual projected unimpaired inflow into Folsom Reservoir would be 550,000 Acre-Feet Annually (AFA) or less, also referenced as the March through November projected unimpaired flow into Folsom Reservoir being less than 400,000 acre feet) the City would limit its diversions of City Water[12] at the FWTP to not greater than 155 cubic feet per second (cfs) and not greater than 50,000 AFA. Any additional water needs would be met by diversions at other locations and/or other sources.

City water diverted at the FWTP in extremely dry years in accordance with the foregoing limitations could be used anywhere within the City's authorized Place of Use (POU) as it exists now and in the future[13].

b. In all other years, (i.e. when the DWR annual projected unimpaired runoff into Folsom Reservoir is greater than 550,000 AF, or the March through November projected unimpaired inflow into Folsom Reservoir is greater than 400,000 AF) the City may divert City Water at the FWTP in accordance with the following criteria.

(1) Diversion up to 310 cfs (200 mgd) so long as the flow bypassing the diversion at the FWTP is greater than the Hodge Flow Criteria[14].

(2) Whenever flow bypassing the diversion at the FWTP is less than the Hodge Flow Criteria, City diversions may not be greater than the following:

January through May	120 cfs
June through August	155 cfs
September	120 cfs
October through December	100 cfs

c. **Retail Water Service**. City Water diverted at FWTP in accordance with Article (b) of this section may be delivered anywhere: (1) within the City limits as they exist now

[12]The term "City Water" refers to water diverted pursuant to the City's water rights and entitlements.
[13]The City's POU, as it existed on January 1, 1997, is shown on Attachment I.
[14] The "Hodge Flow Criteria" is defined in Appendix C.

and in the future, and (2) within the City Retail Service Area[15] as it exists now and in the future but not including the area designated on Attachment II expected to be served by agencies other than the City.

d. **Wholesale Water Service - Above Hodge**. Whenever the flow bypassing the diversion at the FWTP is greater than the Hodge Flow Criteria the City may deliver City Water diverted or treated at the FWTP to public or private water purveyors on a wholesale basis, pursuant to wholesale agreements, anywhere within the POU as it existed on January 1, 1997. If it is proposed in the future to expand the POU this provision will be revisited by the Water Forum Successor Effort.

e. **Wholesale and Wheeling Water Service - Below Hodge.** Whenever flow bypassing the diversion at the FWTP is less than the Hodge Flow Criteria, any water diverted or treated at the FWTP may be delivered on a wholesale (City Water) or wheeling (non-City water) basis to any public or private water purveyors provided the rate of pumpback[16] is equal to or exceeds the rate of delivery for these purposes on a daily basis.

f. **Wholesale Delivery to Arcade and Citizens Utilities - Interim Period.** During the interim period prior to expansion of the FWTP and construction of a pumpback facility, delivery of City water may be provided to Arcade Water District and Citizens Utilities service areas within the City's POU whenever the flow bypassing the diversion at the FWTP is greater than the Hodge Flow Criteria. Such wholesale deliveries may also be made if it can be demonstrated[17] that such delivery does not originate from diversion at the FWTP. Citizens Utilities Southgate Service Area is exempt from this specific restriction.

g. **Environmental Signatories Support.** Environmental signatories' support for wholesale water deliveries from the City under articles d, e, and f of this section is contingent on those purveyors signing and implementing the *Water Forum Agreement*. Citizens Utilities Southgate Service Area is exempt from this contingency.

[15] The "City Retail Service Area" refers to the area where the City provides retail water service.

[16] This Agreement uses the term "pumpback" which assumes the existence of a metered raw water conveyance facility delivering water from near the confluence of the Sacramento and American rivers to the FWTP.

[17] Demonstration would consist of either the FWTP being out of service and/or the water quality of the water delivered having characteristics (i.e. electrical conductivity, total dissolved solids, hardness, etc..) of Sacramento River water.

2. Divert and Treat an Additional 155 cubic feet per second at the Fairbairn Water Treatment Plant.

a. Currently the 310 cubic feet per second diversion capacity at the Fairbairn Water Treatment Plant is constrained to 155 cubic feet per second by the City's ability to treat the water.

The City may rehabilitate its FWTP diversion facility and expand its FWTP treatment capacity by another 100 million gallons per day. This will allow the City to divert and treat an additional 155 cubic feet per second consistent with the terms of Section 1 above.

b. Concurrent with the expansion of the FWTP the City will also construct other facilities such as expansion/rehabilitation of the Sacramento River Water Treatment Plant and river intake to assure that a reliable alternative supply (groundwater, pumpback and/or diversion from the Sacramento River) is available whenever it is needed.

3. Continuing studies of the Lower American River

a. Upon receipt by the City of all necessary regulatory approvals to construct the additional capacity referred to in Section 2(a), above, completion of the City's environmental review for the project, and construction of said additional capacity, the City will commence a study program to monitor and evaluate the impacts of using the additional diversion capacity, in accordance with the diversion limits described in Section 1, upon the public trust values of the American River below the FWTP.

b. Not later than five years after the study program has commenced the results will be evaluated as follows:

(1) If the City and the Water Forum Successor Effort agree that results show that use of the additional diversion capacity pursuant to Section 1 above would have a significant adverse impact not considered in the City's prior environmental review, the City will reduce its use of the additional diversion capacity to levels that will not have such significant adverse impact.

(2) If at some time in the future, the City determines that it needs additional capacity and the Water Forum Successor Effort agrees that results demonstrate that increased diversions will not have significant adverse impacts, the City will have the support of all signatories if it chooses to pursue regulatory approvals for appropriate higher diversion limits and for the construction of more diversion and treatment capacity at FWTP for use within the POU.

(3) If the City and the Water Forum Successor Effort cannot agree on the results of (1) above, the limits will remain as specified in Section 1, the studies will continue and the evaluation of results will be repeated, as above, at intervals not exceeding three years.

E. SPECIFIC AGREEMENTS FOR COMPLYING WITH THE SEVEN ELEMENTS

(Agreements in italics are common in all Specific Agreements.)

1. All signatories to the *Water Forum Agreement* will endorse all water entitlements needed for the diversions specified in each Purveyor Specific Agreement.

2. All signatories will endorse construction of facilities to divert, treat and distribute water consistent with this Purveyor Specific Agreement and the Water Forum Agreement including diversion structures, treatment plants, pumping stations, wells, storage facilities, and major transmission piping. Endorsement is also to be provided for necessary rights-of-ways, permits, and other endorsements which may be needed, in the context of the following five points:

a. All signatories agree that implementation of the Water Forum Agreement including an Improved Pattern of Fishery Flow Releases, the Updated Lower American River flow standard, the Lower American River Habitat Management Element, Actions to Meet Customers' Needs While Reducing Diversion Impacts in Drier Years, and the Water Conservation Element constitute reasonable and feasible mitigation for any cumulative impacts on the Lower American River caused by diversions included in the Water Forum Agreement.

b. *Environmental impacts of facilities to divert, treat and distribute water will be subject to site-specific environmental review. It is understood that signatories may provide comments on site specific impacts. All signatories will work in good faith to agree on reasonable and feasible mitigation for any site-specific impacts.*

c. To the extent that the water facilities are consistent with the Water Forum Agreement, signatories agree that they will not object to those water facilities based on the cumulative impacts to the Lower American River. Nor will signatories object to water facilities consistent with the Water Forum Agreement based on the planned growth to be served by those water facilities. (See Section Four IV, Relationship of Water Forum Agreement to Land Use Decision Making.)

d. In the planning for new water diversion, treatment, and distribution facilities identified in the Water Forum Agreement, water purveyors signatory to the Agreement will either provide for a public participation process, such as meeting with already established citizen advisory committees, or other appropriate means to help design and implement these projects.

e. All signatories retain their existing ability to provide input on specific details of facility design, financing, and construction.

3. Endorsement of the water entitlements and related facilities in the Water Forum Agreement means that signatories will expend reasonable efforts to:

a. Speak before stakeholder boards and regulatory bodies,

b. Provide letters of endorsement,

c. Provide supportive comments to the media,

d. Advocate the Water Forum Agreement to other organizations, including environmental that are not signatory to the Water Forum Agreement, and

e. Otherwise respond to requests from other signatories to make public their endorsement of the Water Forum Agreement.

4. *All signatories agree that participation in the Water Forum, and the Successor Effort is in the best interests of water consumers and the region as a whole. Participation in the Water Forum is the most economically feasible method of ensuring that water demands of the future will be met. Furthermore, provisions for groundwater management, conjunctive use, conservation programs, improved pattern of fishery flow releases from Folsom Reservoir, habitat management, and a reliable dry year supply are in the public interest, and represent reasonable and beneficial use of the water resource.*

5. All signatories will not oppose and will endorse where appropriate needed rates and fees applied equitably. This includes endorsement at the California Public Utilities Commission for investor owned utilities' ability to recover all costs of conservation programs, including residential meter retrofit, through rates.

6. All signatories will endorse an Improved Pattern of Fishery Flow Releases from Folsom Reservoir and reduced daily flow fluctuations for the Lower American River. (Reference Section Three, III.)

7. All signatories will endorse formal assurances that the diversions will be consistent with the conditions in the Water Forum Agreement and that an Improved Pattern of Fishery Flow Releases from Folsom Reservoir will be implemented.

8. All signatories will endorse and participate where appropriate in all provisions of the Water Forum Agreement, including all agreements pertaining to other signatories and executed as part of this Agreement.

9. All signatories will participate in education efforts and advocate the Water Forum Agreement to regulatory bodies and signatory stakeholder boards as appropriate.

10. All signatories will participate in the Water Forum Successor Effort to oversee, monitor and report on the implementation of the Water Forum Agreement. (Reference Section Three, VII., Water Forum Successor Effort). This includes participating with other signatories in carrying out procedural agreements as identified in the Water Forum Agreement. To the extent that conditions change in the future, all signatories will work together in good faith to identify ways to ensure that the two coequal goals of the Water Forum will still be met.

11. All signatories will endorse and, where appropriate, financially participate in the Lower American River Habitat Management Element (Reference Section Three, IV.,Lower American River Habitat Management Element).

12. All signatories will endorse and, where appropriate, implement the Water Conservation Element of the Agreement (Reference Section Three, V., Water Conservation Element). This purveyor's implementation of water conservation will be as specified in its Water Conservation Plan which is incorporated as Appendix J to the Water Forum Agreement.

13. All signatories will endorse and, where appropriate, participate in implementation of the Sacramento North Area Groundwater Management Authority to maintain a North Area estimated average annual sustainable yield of 131,000 acre feet.

14. All signatories will endorse development of a groundwater management arrangement for the South Area and where appropriate participate in its development, to maintain a South Area estimated average annual sustainable yield of 273,000 acre feet.

15. All signatories will endorse development of a groundwater management arrangement for the Galt Area and where appropriate participate in its development, to maintain a Galt Area estimated average annual sustainable yield of 115,000 acre feet.

16. Signatories authorizing individuals to represent them in matters included within the Water Forum Agreement will ensure that representations made by those individuals are consistent with the Water Forum Agreement and are upheld by the signatories.

17. This Agreement is in force and effect for all signatories for the term of the Memorandum of Understanding, December 31, 2030.

18. Any solution that provides for future needs will have costs. New diversion, treatment, and distribution facilities, wells, conservation programs, and required environmental mitigation will be needed. This Agreement identifies that these solutions must be equitable, fiscally responsible, and make the most efficient use of the public's money.

Water suppliers have both capital costs for facilities and operations and maintenance costs. This Agreement recommends that charges imposed to recover capital costs associated with water acquisition, treatment, or delivery be equitable. Any costs for facilities funded through bonds will be recovered as provided by law. In addition, signatories to the Water Forum Agreement agree that operational, maintenance and replacement costs should be recovered from beneficiaries of the system in accordance with California Government Code Sections 53720 to 53730 (Proposition 62) and California Constitution, Articles XIII, C and XIII, D (Proposition 218) and other laws to the extent they are applicable.

19. All signatories to the *Agreement* will endorse County/SCWA agreements with the City of Sacramento for wheeling and wholesaling of surface water prior to and after completion of the City's capacity expansion.

20. All signatories agree to endorse, and where appropriate, participate in Sacramento River Supply for North Sacramento County and Placer County (Reference Section Four, III).

21. All signatories will endorse, and where appropriate, participate in the section of the Water Forum Agreement entitled "Relationship of Water Forum Agreement to Land Use Decision Making" (Reference Four, IV).

22. All signatories will endorse, and where appropriate, participate in the Folsom Reservoir Recreation Program (Reference Section Four, V).

23. Purveyors signatory to the Water Forum Agreement will reference the Water Forum Agreement, including agreed upon estimated average annual sustainable yields of each of the three subareas of the groundwater basin in Sacramento County and limits to diversions from the American River in their water master plans and urban water management plans, which are used in providing information to cities and counties as required under Chapter 881 of the Statutes of 1995.

24. Any transfers of American River water by signatories will be delivered in a manner consistent with an Improved Pattern of Fishery Flow Releases as referenced in the Water Forum Agreement.

F. ASSURANCES AND CAVEATS

Because the *Water Forum Agreement* is a comprehensive set of linked elements, it is absolutely essential that adequate assurances be secured for every element. In an agreement that will extend over three decades, the timing of these assurances is critical. Full implementation of all seven elements cannot occur simultaneously. Therefore all signatories agree with the provisions in the Assurances and Caveats Section of this *Water Forum Agreement*.

Two particularly important assurances are the updated Lower American River Flow Standard and Upstream American River Diversion Agreements.

All signatories agree they will recommend to the State Water Resources Control Board an updated American River flow standard and updated Declaration of Full Appropriation to protect the fishery, wildlife, recreational and aesthetic values of the Lower American River. The recommendation will include requirements for U.S. Bureau of Reclamation releases to the Lower American River. In addition, the City of Sacramento's Fairbairn diversion will be required to comply with the diversion limitations of the City's Purveyor Specific Agreement. The *Water Forum Agreement* also includes agreed upon dry year reductions by purveyors upstream of Nimbus Dam. The recommendation for an updated Lower American River standard will be consistent with:

Water Forum Agreement provisions on water diversions including dry year diversions, and

Implementation of the Improved Pattern of Fishery Flow Releases which optimizes the release of water for the fisheries.

The recommendation will also address related issues such as principles to guide water management in the driest years, flexibility in the standard to allow adaptive management, and amending the existing "Declaration of Full Appropriation for the American River."

Purveyors signatory to the *Water Forum Agreement* who divert from upstream of Nimbus Dam agree they will enter into contract with the Bureau that will provide assurances that the upstream diverters will divert only the agreed upon amounts, which include provisions for reductions in dry year and/or other equivalent measures.

In order to have a durable agreement it is necessary to include the following caveats. These are statements describing actions or conditions that must exist for the *Agreement* to be operative.

1. As specified below, each purveyor's commitment to implementing all provisions of the *Water Forum Agreement* is contingent on it successfully obtaining its water supply entitlements and facilities.

a. If a purveyor receives support from the other signatories to the *Agreement* for all of its facilities and entitlements as shown on the chart in Section Three, I., of the *Water Forum Agreement*, "*Major Water Supply Projects that Will Receive Support Upon Signing the Water Forum Agreement*" and if it receives all necessary approvals for some or all of those facilities and entitlements, then the purveyor will fully support and participate in the following provisions of the *Water Forum Agreement*:

(1) Support for the Improved Pattern of Fishery Flow Releases
(2) Water Forum Successor Effort
(3) Water Conservation Element
(4) Lower American River Habitat Management Element
(5) Support for the Updated Lower American River flow standard
(6) Restriction of diversions or implementation of other actions to reduce diversion impacts in drier years as specified in its Purveyor Specific Agreement.

and

b. If a purveyor is not successful in obtaining all necessary approvals for all of its facilities and entitlements as shown on the chart in Section Three, I., of the *Water Forum Agreement*, "*Major Water Supply Projects that will Receive Support Upon Signing the Water Forum Agreement,*" that would constitute a changed condition that would be considered by the Water Forum Successor Effort.

2. All signatories agree that business, citizens, and environmental signatories' obligation to support, and where specified, implement all provisions of the *Water Forum Agreement* is contingent on implementation of those provisions of the *Agreement* that meet their interests.

3. A stakeholder's support for water supply entitlements and facilities is contingent on:

a. Project-specific compliance with the California Environmental Quality Act, and where applicable, the National Environmental Policy Act, federal Endangered Species Act and California Endangered Species Act.

b. Purveyors' commitment in their project-specific EIRs and CEQA findings to: all seven elements of the *Water Forum Agreement*; support for updating the Lower American River flow standard; commitment by those purveyors that divert from upstream of Nimbus Dam to entering into signed diversion agreements with the U.S. Bureau of Reclamation; commitment by the City of Sacramento to inclusion of the terms of the diversion provisions of its Purveyor Specific Agreement into its water rights.

c. Signed diversion agreements between purveyors that divert upstream of Nimbus Dam and the U.S. Bureau of Reclamation. Other signatories to the *Water Forum Agreement* shall be third party beneficiaries to the diversion agreements solely for the purpose of seeking specific performance of the diversion agreements relating to reductions in surface water deliveries and/or diversions if Reclamation fails to enforce any of those provisions. The status of a signatory to the *Water Forum Agreement* as a third party beneficiary to the diversion agreements is dependent on that signatory complying with all the terms of the *Water Forum Agreement*, including support for the purveyor specific agreement for the purveyor's project. This is not to intend to create any other third party beneficiaries to the diversion agreements, and expressly denies the creation of any third party beneficiary rights hereunder for any other person or entity.

d. Adequate progress on the updated Lower American River standard. The schedule for obtaining the updated standard is in Section Four, I., of the *Water Forum Agreement*.

e. Adequate progress in construction of the Temperature Control Device.

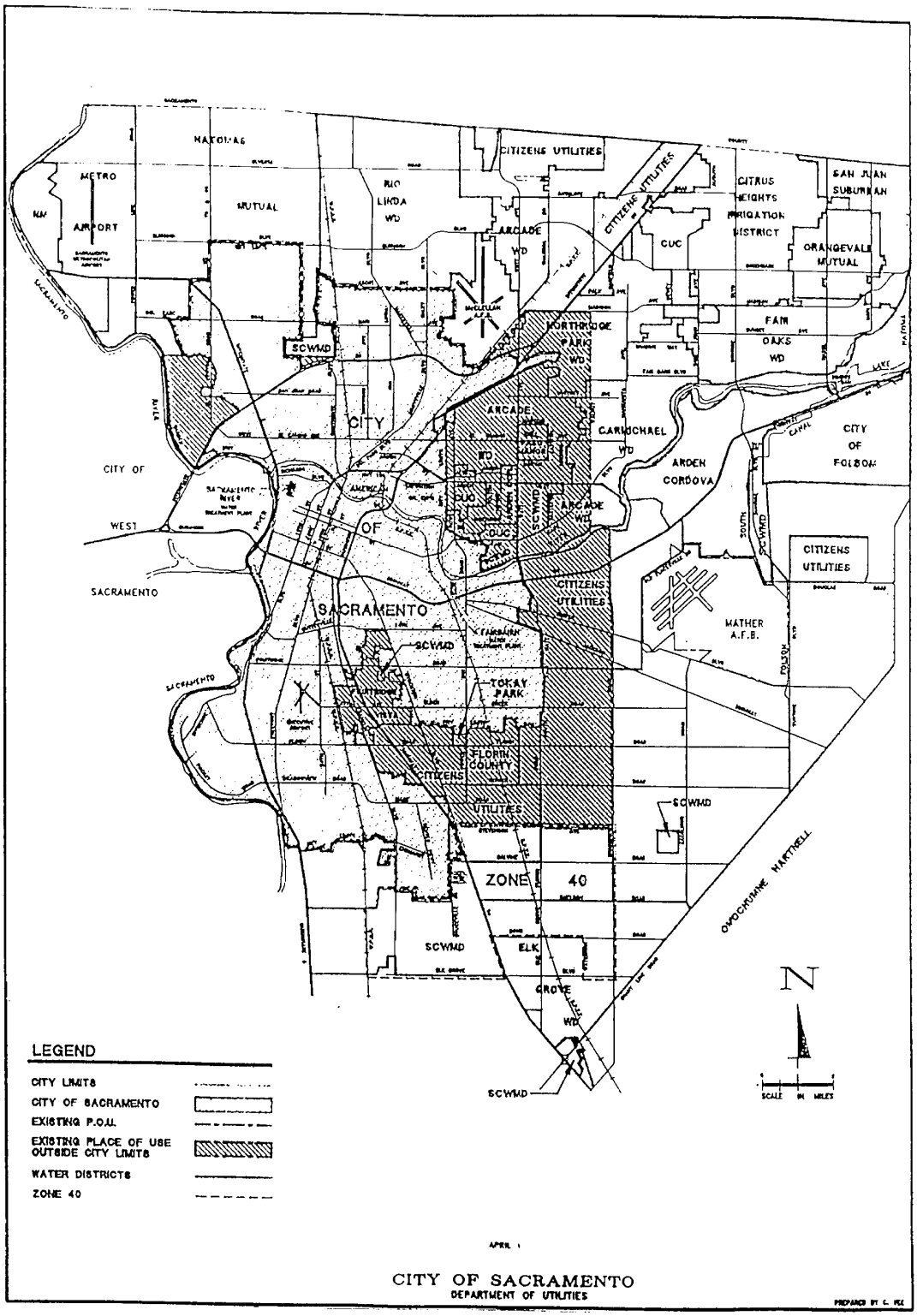
f. Adequate progress in addressing the Sacramento River and Bay-Delta conditions associated with implementation of the *Water Forum Agreement*.

4. Environmental stakeholders' support for facilities and entitlements is dependent upon the future environmental conditions in the Lower American River being substantially equivalent to or better than the conditions projected in the Water Forum EIR. If the future environmental conditions in Lower American River environment are significantly worse than the conditions projected in the EIR, this would constitute a changed condition that would be considered by the Water Forum Successor Effort. Significant new information on the needs of the Lower American River fisheries, which was not known at the time of execution of the *Water Forum Agreement*, would also constitute a changed condition that would be considered by the Water Forum Successor Effort.

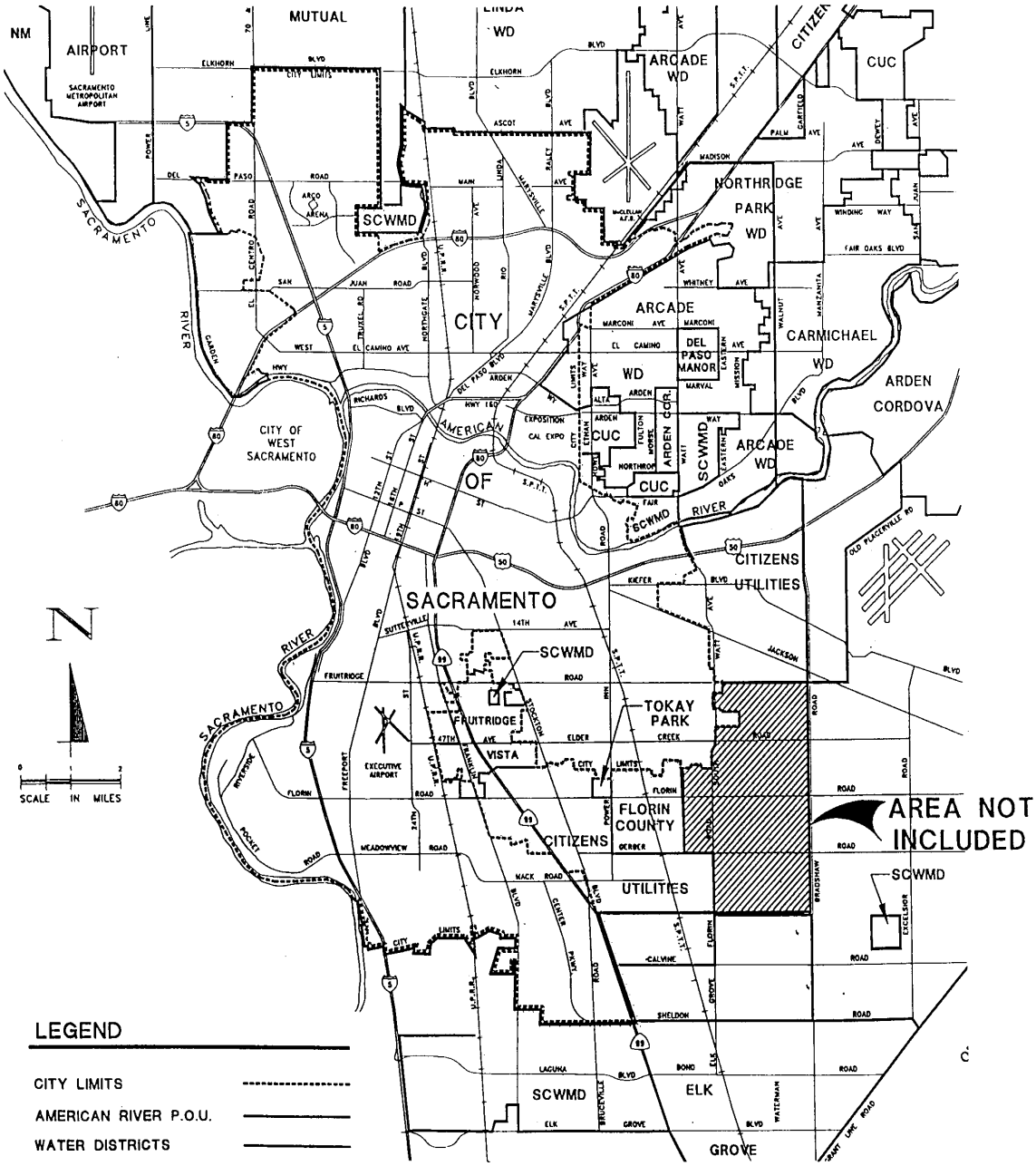
G. REMAINING ISSUES

Development of a groundwater management arrangement for the South Area.

Attachment I
Map of City POU as of 1/1/97



Attachment II
Retail Service Area Exception



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Appendix H

Recycled Water Feasibility Study Executive Summary

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REGIONALSAN
TAKING THE WASTE OUT OF WATER
Sacramento Regional County Sanitation District

SRCSD / SPA / City of Sacramento

Recycled Water Feasibility Study

Prepared by:

RMC water and environment

January 2015

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Sacramento Regional County Sanitation District
SRCSD / SPA / City of Sacramento Recycled Water Feasibility Study

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RMC
Water and Environment

January 2015

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Table of Contents

List of Tables

List of Figures

Appendices

List of Abbreviations

AF	acre-feet
AFY	acre-feet per year
APE	Area of Potential Effect
CDFG	California Department of Fish and Game
CDPH	California Department of Public Health
CECs	Constituents of Emerging Concern
CEQA	California Environmental Quality Act
cfs	cubic feet per second
DWR	California Department of Water Resources
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ET	Evapotranspiration
FE	Federally endangered
FRWP	Freeport Regional Water Project
FT	Federally threatened
gpd	gallons per day
GWR	Groundwater recharge
HP	Horsepower
kWh	kilowatt hour
LAFCO	Local Agency Formation Commission
LADWP	Los Angeles Department of Water and Power
LF	Linear Feet
M&I	Municipal and Industrial
mg	milligrams
mgd	million gallons per day
MWh	Megawatt hour
NCCP	Natural Community Conservation Planning
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPV	net present value
NTU	Nephelometric Turbidity Units
NWR	National Wildlife Refuge

O&M	Operations & Maintenance
PER	Sacramento County Planning and Environmental Review
Reclamation	United States Bureau of Reclamation
RO	Reverse Osmosis
RW	Recycled Water
RWQCB	Regional Water Quality Control Board
SAR	Sodium Adsorption Ratio
SCGA	Sacramento Central Groundwater Authority
SCWA	Sacramento County Water Agency
SGA	Sacramento Groundwater Authority
SHPO	State Historic Preservation Office
SMUD	Sacramento Municipal Utility District
SRCSD	Sacramento Regional County Sanitation District
SRWTP	Sacramento Regional Wastewater Treatment Plant
SSHCP	South Sacramento Habitat Conservation Plan
SWRCB	State Water Resources Control Board
TDS	Total Dissolved Solids
TM	Technical Memorandum
TMDL	Total Maximum Daily Load
TNC	The Nature Conservancy
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Service
WDR	Waste Discharge Requirements
WRF	Water Recycling Facility
WW	wastewater

This study was prepared to meet the requirements of the United States Bureau of Reclamation (Reclamation) Directives and Standards for the Title XVI Water Reclamation and Reuse Program (WTR 11-01). The Directives and Standards provide a minimum report contents. The following table summarizes the minimum report contents by WTR 11-01 Chapter and Subchapter; the third column of the table indicates where in this study the information can be found.

Reclamation Chapter & Subchapter Reference Table

RECLAMATION Chapter	RECLAMATION Subchapter	Corresponding Section/Page # in this Study
Introductory Information	1a. Identification of the non-Federal project sponsor	• 1.1.1
	1b. A description of the study area and an area/project map	• 1.2
	1c. A definition of the study area in terms of both the site-specific project area where the reclaimed water supply will be needed and developed, and any reclaimed water distribution systems.	• 2.4
Statement of Problems and Needs	2a. Description of the problem and needs for a water reclamation and reuse project	• 2.1
	2b. Description of current and projected water supplies, include water rights, and potential sources of additional water, other than the proposed Title XVI project, and plans for new facilities.	• 2.2.1 • 2.2.2
	2c. Description of current and projected water demands	• 2.2.3
	2d. Description of any water quality concerns for the current and projected water supply.	• 2.5
	2e. Description of current and projected wastewaters and disposal options other than the proposed Title XVI project, and plans for new wastewater facilities, including projected costs.	• 2.3.1
Water Reclamation and Reuse Opportunities	3a. Description of all uses for reclaimed water, or categories of potential uses (included but not limited to, environmental restoration, fish and wildlife, groundwater recharge, municipal, domestic, industrial, agricultural, power generation, and recreation). Identify any associated water quality, and associated treatment requirements.	• 3.1
	3b.Description of the water market available to utilize recycled water to be produced, including: 1. (i) Identification of: 1. Potential users,	• 3.2.1
	2. Expected use, peak use	• 3.2.3
	3. On-site conversion costs,	• 5.5.1
	4. Desire to use recycled water, including letters of intent if available.	• 3.3
	2. (ii) Description of any consultation with potential recycled water customers.	• 3.3

RECLAMATION Chapter	RECLAMATION Subchapter	Corresponding Section/Page # in this Study
	3. (iii) Description of the market assessment procedures used.	• 3.2.2
	3c. Discussion of considerations which may prevent implementing a water reuse project. Identify methods or community incentives to stimulate recycled water demand, and methods to eliminate obstacles which may inhibit the use of reclaimed water, including pricing.	• 3.3.1
	3d. Identification of all the water and wastewater agencies that have jurisdiction in the potential service area or over the sources of reclaimed water.	• 2.2.1 (Water) • 2.3.1 (Wastewater)
	3e. Description of potential sources of water to be reclaimed, including impaired surface and ground waters.	• 2.3.1
	3f. Description and location of the source water facilities, including: 1. Capacities, plans for future facilities	• 2.3.1
	2. Treatment processes	• 2.3.1
	3. Plans for future source water facilities	• 2.3.1
	4. Existing flows, quantities of impaired water available to meet new reclaimed and reused water demands	• 2.3.1
	3g. Description of the current water reuse taking place, including a list of reclaimed water uses, type and amount of reuse, and a map of existing pipelines and use sites.	• 2.4
	3h. Summary of water reclamation and reuse technology currently in use, and opportunities for development of improved technologies.	• 2.3.1
Description of Alternatives	4a. Description of non-Federal funding condition. The reasonably foreseeable future actions that the non-Federal project sponsor would take if Federal funding were not provided for the proposed water reclamation and reuse project, including estimated costs.	• 8.4.2
	4b. Statement of the objectives all alternatives are designed to meet.	• 5.1
	4c. Description of the other water supply alternatives considered to accomplish the objectives to be addressed by the proposed Title XVI project, including benefits to be gained by each alternative, total project cost, life cycle cost, and corresponding cost of the project water produced expressed in dollars per million gallons (MG), and/or dollars per acre-foot. An appraisal level cost estimates, or better, is acceptable for these alternatives.	• 5.4

RECLAMATION Chapter	RECLAMATION Subchapter	Corresponding Section/Page # in this Study
	4d. Description of the proposed Title XVI project including detailed project cost estimate; annual operation, maintenance, and replacement cost estimate; and life cycle costs shall be provided with sufficient detail to permit a more in-depth evaluation of the project, including non-construction costs.	• 5.5 • 5.8 (Life Cycle)
	4e. Description of waste-stream discharge treatment and disposal water quality requirements for the proposed Title XVI project.	• 2.3
	4f. Description of at least two alternative measures, or technologies available for water reclamation, distribution, and reuse for the project under consideration. These alternatives must be approvable by the state(s) or tribal authorities in which the project will be located.	• 2.3
Economic Analysis	5a. The economic analysis included in the feasibility study report shall describe the conditions that exist in the area and provide projections of the future with, and without, the project. Emphasis in the analysis must be given to the contributions that the plan could make toward alleviation of economic problems and the meeting of future demand.	• 5.6
	5b. The Title XVI feasibility study must include a cost comparison of alternatives that would satisfy the same demand as the proposed Title XVI project. Alternatives used for comparison must be likely and realistic, and developed with the same standards with respect to interest rates and period of analysis.	• 5.6
	5c. When a Title XVI project provides water supplies for municipal and industrial use, the benefits of the Title XVI project can be measured in terms of the cost of the alternatives most likely to be implemented in the absence of the project. This is assuming that the two alternatives would provide comparable levels of service.	• 5.7.1
	5d. Some Title XVI project benefits may be difficult to quantify; for example, a drought tolerant water supply, reduced water importation, and other social or environmental benefits. These benefits shall be documented and described qualitatively as completely as possible. These qualitative benefits can be considered as part of the justification for a Title XVI project in conjunction with the comparison of project costs.	• 5.9

RECLAMATION Chapter	RECLAMATION Subchapter	Corresponding Section/Page # in this Study
Selection of the Proposed Title XVI Project	6a. Provide an analysis of whether the proposed Title XVI project would address the following: 1. (i) Reduction, postponement, or elimination of development of new or expanded water supplies; 2. (ii) Reduction or elimination of the use of existing diversions from natural watercourses, or withdrawals from aquifers; 3. (iii) Reduction of demand on existing Federal water supply facilities; and 4. (iv) Reduction, postponement, or elimination of new or expanded wastewater facilities.	• 5.3

RECLAMATION Chapter	RECLAMATION Subchapter	Corresponding Section/Page # in this Study
Environmental Consideration and Potential Effects	7a. The Title XVI feasibility study report must include sufficient information on each alternative to allow Reclamation to assess the potential measures and costs that may be necessary to comply with NEPA, and any other applicable Federal law. Accordingly, the following information is required: 1. (i) Discussion whether, and to what extent, the proposed Title XVI project will have potentially significant impacts on endangered or threatened species, public health or safety, natural resources, regulated waters of the United States, or cultural resources. 2. (ii) Discuss whether, and to what extent, the project will have potentially significant environmental effects, or will involved unique or undefined environmental risks. 3. (iii) Description of the status of required Federal, state, tribal, and/or local environmental compliance measures for the proposed Title XVI project including copies of any documents that have been prepared, or results of any relevant studies. 4. (iv) Any other information available to the study lead that would assist with assessing the measures that may be necessary to comply with NEPA, and other applicable Federal, state or local environmental laws such as the Endangered Species Act or the Clean Water Act. 5. (v) Discussion of how the proposed Title XVI project will affect water supply and water quality from the perspective of a regional, watershed, aquifer or river basin condition. 6. (vi) Discussion of the extent to which the public was involved in the feasibility study, and a summary of comments received, if any. 7. (vii) Description of the potential effects the project may have on historic properties. Discussion must include potential mitigation measures, the potential for adaptive reuse of facilities, an analysis of historic preservation costs, and the potential for heritage education, if necessary.	Items (i) – (v) Chapter 6 Item (vi) • 3.3 Item (vii) • 6.2.3
Legal and Institutional Requirements	8a. Analysis of any water rights issues potentially resulting from implementation of the proposed water reclamation and reuse project. All proposed Title XVI projects must comply with state water law.	• 7.1

RECLAMATION Chapter	RECLAMATION Subchapter	Corresponding Section/Page # in this Study
	8b. Discussion of legal and institutional requirements, state, and/or local requirements with the potential to affect implementation of the project. Title XVI projects using Reclamation project water must address contractual requirements.	• 7.2
	8c. Discussion of the need for multi-jurisdictional or interagency agreements, any coordination undertaken, and any planned coordination activities.	• 7.2.1
	8d. Discussion of permitting procedures required for the implementation of water reclamation projects in the study area, and any measures that the non-Federal project sponsor can implement that could speed the permitting process.	• 7.3
	8e. Discussion of any unresolved issues associated with implementing the proposed water reclamation and reuse project, how and when such issues will be resolved, and how the project would be affected if such issues are not resolved.	• 7.5
	8f. Identification of current and projected wastewater discharge requirements resulting from the proposed Title XVI project.	• 7.4
	8g. Description of rights to wastewater discharges resulting from implementation of the proposed Title XVI project.	• 7.1
Financial Capability of Sponsor	9a. Proposed schedule for project implementation.	• 8.2
	9b. Discussion of the willingness of the non-Federal project sponsor to pay for its share of capital costs and the full operation, maintenance, and replacement costs.	• 8.4.1
	9c. A plan for funding the proposed water reclamation and reuse project's construction, operation, maintenance, and replacement costs, including an analysis of how the non-Federal project sponsor will pay construction and annual operation, maintenance, and replacement costs.	• 8.4.2
	9d. Description of all Federal and non-Federal sources of funding and any restrictions on such sources, for example, minimum or maximum cost-share limitations. Generally, for Title XVI authorized projects, the Federal cost share is limited to 25 percent, of $20,000,000, whichever is less.	• 8.4.3
Research Needs	At a minimum the report must include a statement on whether the proposed water reclamation and reuse project includes basic research needs, and the extent that the proposed Title XVI project will use proven technologies and conventional system components.	• Chapter 9

Executive Summary

ES-1 Introduction

The Sacramento Regional County Sanitation District (SRCSD) is a special district providing regional wastewater conveyance and treatment services throughout the cities of Citrus Heights, Elk Grove, Folsom, Rancho Cordova, Sacramento and West Sacramento, the communities of Courtland and Walnut Grove and unincorporated Sacramento County, California. SRCSD is the non-Federal project sponsor for this feasibility study.

In 2007, SRCSD completed the Water Recycling Opportunities Study. This study took a county-wide look at a variety of potential recycled water projects. The WROS concluded that water recycling projects near the vicinity of the Sacramento Regional Wastewater Treatment Plant (SRWTP) are the most promising projects for implementation since they are the closest to a recycled water supply.

In 2009, the City initiated the process to update its Water Supply Master Plan (WSMP). As part of this effort, the City is evaluating the feasibility of using recycled water within its service area. So far, the most promising recycled water opportunities identified in the WSMP evaluation are located in the southwest portion of the City due to their close proximity to the SRWTP. In particular, the Sacramento Power Authority (SPA) Cogeneration Plant (Cogen Plant) located in unincorporated Sacramento County is currently using potable water from the City of Sacramento to supply its cooling tower water needs, and could be converted to recycled water without significant changes to its operation.

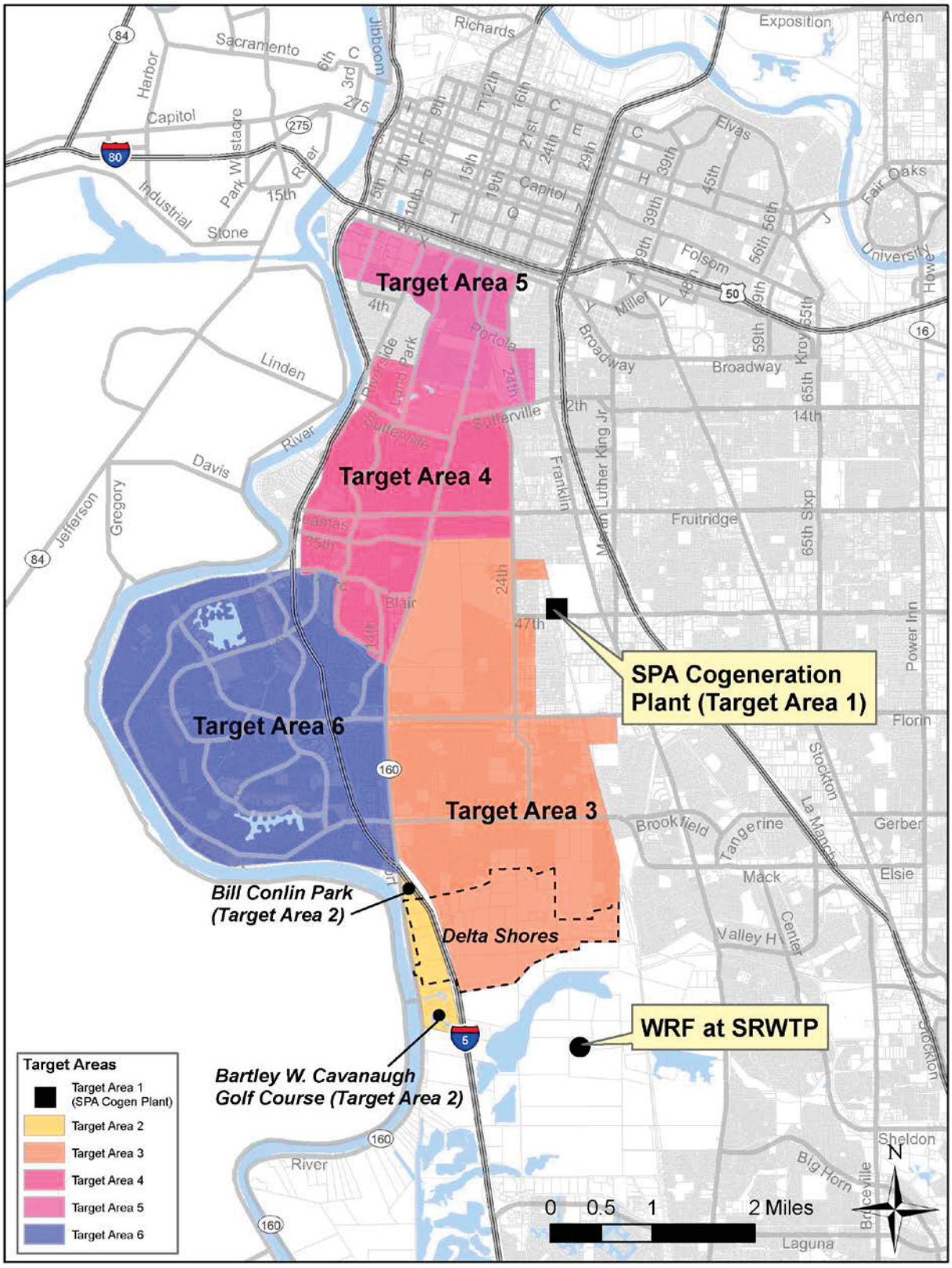
This feasibility study focuses on further evaluating the feasibility of the SRCSD / SPA / City of Sacramento Recycled Water Project (Project), and was funded in part by a grant from the United States Bureau of Reclamation (Reclamation). This report is a summary of the study that is applicable to the Reclamation determination of program feasibility. The complete series of technical memoranda (TM) prepared are included as Appendices and are referenced throughout this report. The TMs by title are as follows:

- TM 1: Market Assessment (Appendix A)
- TM 2: Current Water Supplies Evaluation (Appendix B)
- TM 3: Groundwater Recharge (Appendix C)
- TM 4: Seasonal Storage Analysis (Appendix D)
- TM 5: Conveyance Facilities Alternatives Development (Appendix E)
- TM 6: Environmental, Regulatory, Legal and Institutional Requirements (Appendix F)
- TM 7: Recycled Water Project Alternatives Evaluation Environmental, Regulatory, Legal and Institutional Requirements (Appendix G)

ES-1.1 Study Area

The Project Study Area is located north of the SRWTP, east of the Sacramento River, south of Broadway, and west of Franklin Boulevard. This study area was developed to leverage the proposed pipeline to the SPA Cogen Plant to supply additional recycled water to other potential nearby customers. The SPA Cogen Plant would serve as an anchor customer, and other customers would be included based on connection cost-effectiveness. Most significant nearby potential customers are located to the west of Franklin Boulevard; therefore, the study area did not include areas further east. The majority of the Project Study Area, with the exception of the proposed Delta Shores Development, has been developed. The Project Study Area is divided into five target areas to implement flexible recycled water projects that can be built in phases as financing becomes available. These five target areas are shown in Figure ES-1.

Figure ES-1: Study Area



ES-2 Recycled Water Market Assessment

The recycled water demand for customers within the target area was estimated based on the irrigated area of the customers and typical irrigation rates for the region. Demand by the SPA Cogen Plant was estimated based on conversations with staff at the Cogen Plant.

Table ES-1: Recycled Water Demand Summary

Target Area	# Customers	Irrigated Area (acres)	Annual Average Demand (AFY)	Maximum Day Demand (mgd)	Peak Hour Demand (gpm)
1	1	0	1,000	0.89	620
2	6	127	420	0.81	1,009
3	43	395	1,303	2.50	5,211
4	13	307	1,012	2.00	4,160
5	9	99	326	0.63	1,302
6	14	179	589	1.13	2,356
Total	**87**	**1,106**	**4,650**	**7.96**	**14,657**

ES-2.1 Recycled Water Stakeholder and Customer Outreach

Select customer outreach and collaboration has been completed with large customers such as the SPA Cogen Plant and the Bartley Cavanaugh Golf Course. Additional customer outreach efforts are planned for the near future with landscape irrigation customers.

ES-3 Recycled Water Project Screening

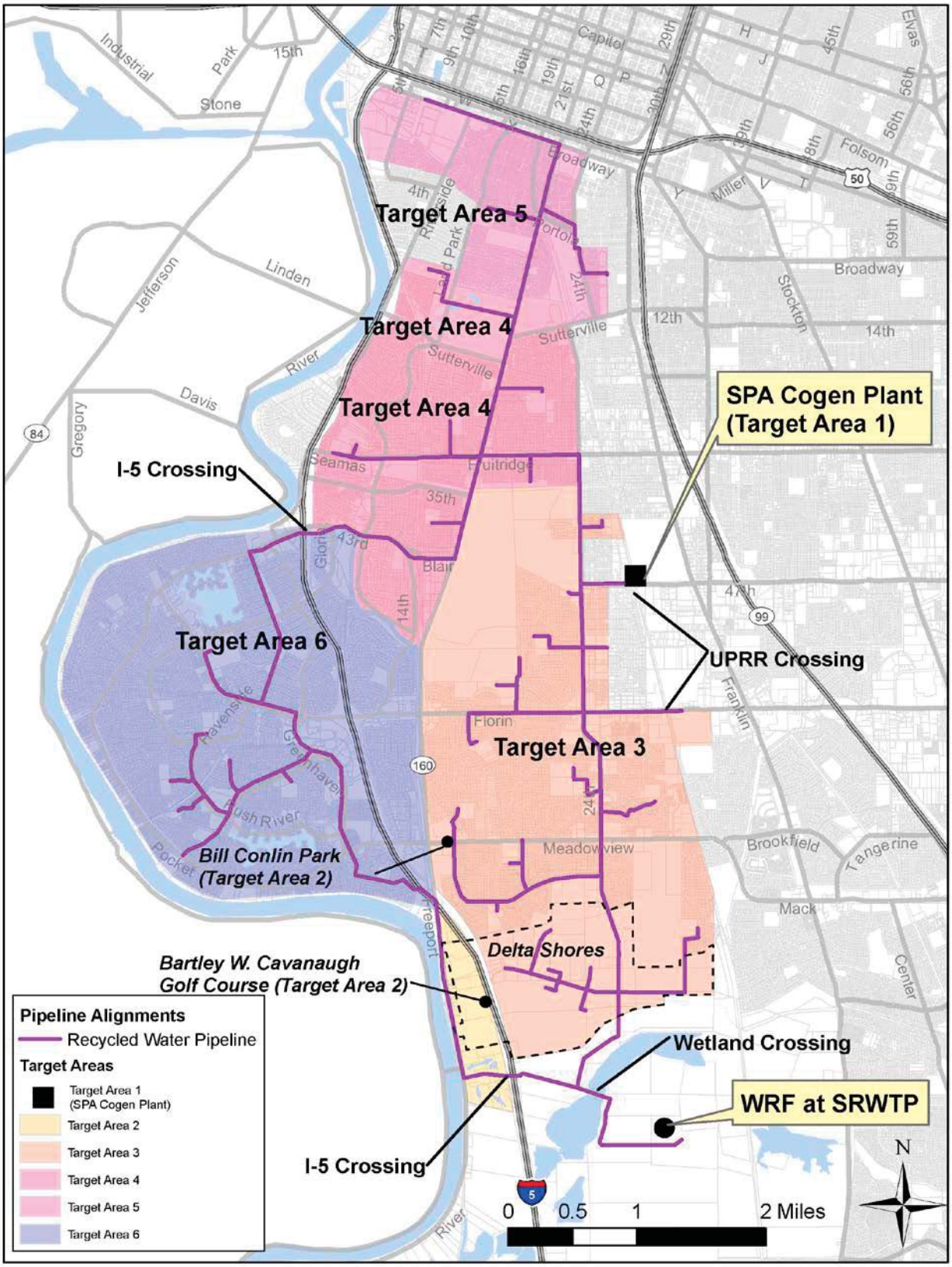
Based on the results of the recycled water market assessment, six recycled water alternatives were developed to serve customers in target areas 1 through 6. Each alternative was developed with the facilities needed to serve all the customers identified in the Market Assessment. The target areas served under each alternative, and the resulting demands, are summarized in Table ES-2. The pipeline alignments that would deliver flow to the target areas are shown in Figure ES-4. All alternatives had the following objectives:

- Maximize water served while minimizing total construction costs.
- Provide recycled water to customers to offset existing potable water usage.
- Reduce groundwater pumping of any potential customers in the Target Areas.

Table ES-2: Project Alternative Summary

Alternative	Target Areas	# Customers	Total Length of Pipeline (ft)	Irrigated Area (acres)	Annual Average Demand (AFY)	Maximum Day Demand (mgd)	Peak Hour Demand (gpm)
1	1	1	31,060	0	1,000	0.89	620
2	1-2	7	41,874	127	1,420	1.70	1,629
3	1-3	50	98,421	522	2,723	4.20	6,839
4	1-4	63	139,934	829	3,735	6.20	10,999
5	1-5	72	162,382	927	4,061	6.82	12,301
6	1-6	87	207,109	1,106	4,650	7.96	14,657

Figure ES-2: Pipeline Alignments



ES-4 Recommended Project Evaluation

ES-4.1 Recommended Project

Alternative 3 is the Recommended Project and meets the following objectives:

- Achieves the project objective of 2,723 acre-feet per year.
- Maximizes water served while minimizing total construction costs, by targeting large customers near the SRWTP or near the pipeline that would serve the SPA Cogen Plant.
- Expands region's water supply portfolio, helping improve overall reliability for recycled water customers and potentially improves groundwater basin conditions.
- Provides recycled water to customers to offset existing potable water usage and reduces the quantity of discharge to the Sacramento River.
- Reduces groundwater pumping of any potential customers in the Target Areas.

Facilities associated with the Recommended Project are shown in Figure 5-1. Estimated capital and O&M costs for the project alternatives are summarized in Table ES-4.

Table ES-3: Alternative Capital Costs

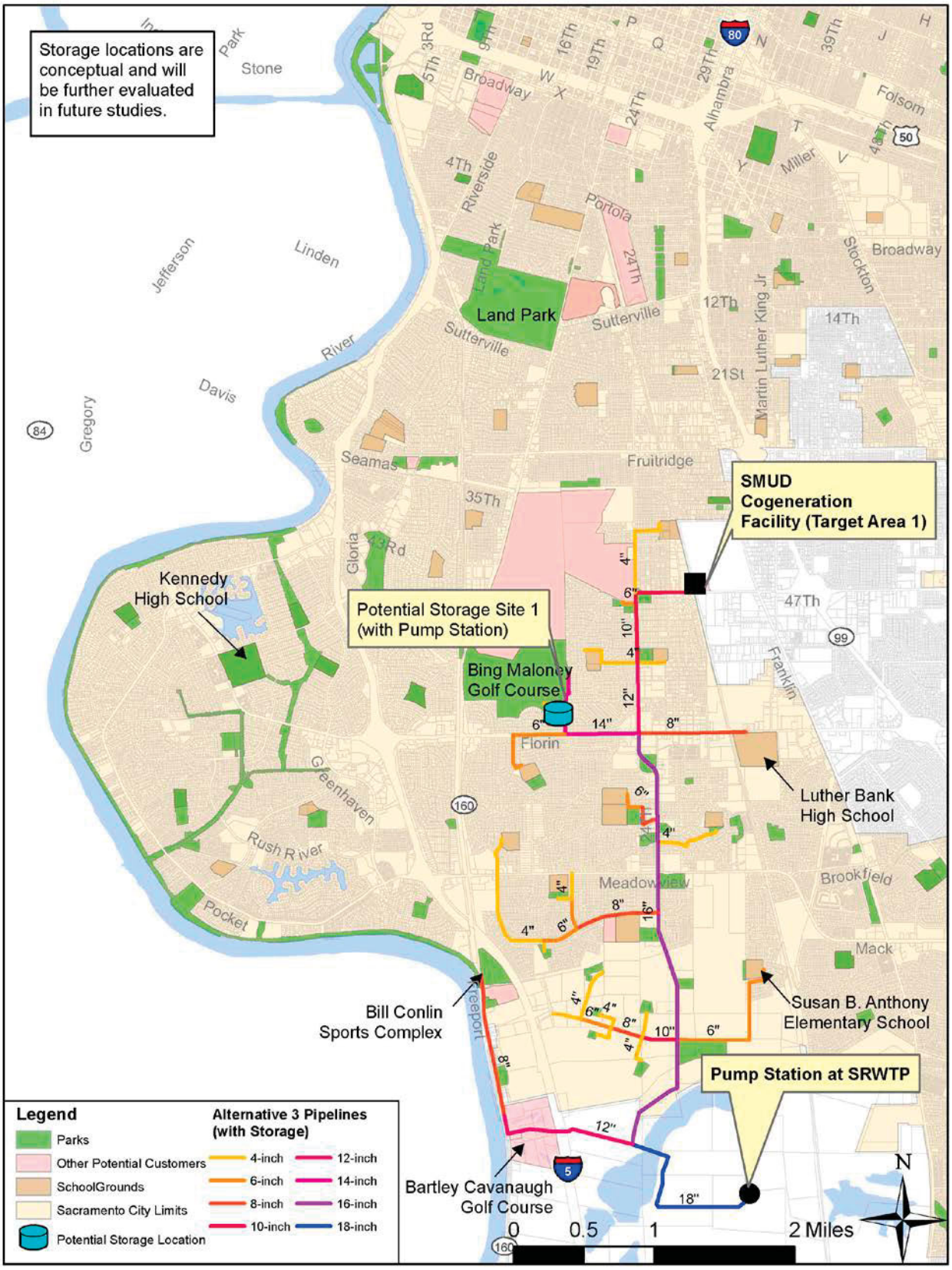
Element	Units	Quantity	Cost ($ millions)
Storage Tanks	MG	1.9	$2.4
Pump Station WRF	HP	375	$0.3
Pump Stations at Storage (total hp)	HP	450	$2.3
On-Site Cogen Plant Retrofits	LS	LS	$0.3
On-Site Irrigation Retrofits	ac	522	$2.6
Piping	LF	98,421	$13.8
		Design Contingency (20%)	$4.4
		Raw Construction Subtotal	**$26.4**
		Land Acquisition	$0.1
		Engineering & Construction Support (20%)	$5.3
		Environmental, Permitting, Legal, and Administrative (10%)	$2.6
		Subtotal Implementation Costs	**$8.0**
		Project Contingency (15%)	$5.2
		Total Capital Cost	**$39.6**

Table ES-4: Annual Unit Costs of Recommended Project

Recycled Water Service (AFY)	2,723
Capital Cost	$39,600,000
Capital Cost per AFY	$14,524
Annualized Capital Cost per AF[1]	$580
Annual O&M Cost[2]	$368,000
O&M Annual Cost per AFY	$135
Total Annual Cost per AFY	**$715**

Notes:
1. Based on 3 percent discount rate and 50 year life.
2. O&M costs do not include replacement costs

Figure ES-3: Recommended Project Facilities



ES-4.2 No Project Alternative

Under the No Project alternative, the SPA Cogen plant and the municipal parks and golf courses would continue to use either City of Sacramento potable supply or their on-site groundwater wells. No project costs include the cost of potable supplies that would otherwise be offset by recycled water use, cost of reliability associated with occasional cutbacks that could impact irrigation customers continuing to use potable supply, the cost of continued groundwater pumping for customers currently using groundwater wells, the cost of greater wastewater discharge, and the value of the nutrients in recycled water.

Based on work being performed to develop new Total Maximum Daily Loads (TMDL) for the Delta and the Sacramento River, it is possible that a new WDR will be assigned with more stringent discharge loading requirements, beyond the requirements of the pending WDR. Under this scenario, different technologies could be employed to get the equivalent mass load reduction. Reverse osmosis is an example of one technology used today to reach a higher mass load reduction. If RO technology was used, implementation of the SRCSD / SPA / City of Sacramento Recycled Water project would allow for a reduction in the construction and operational costs of RO facilities by reducing discharge to the Sacramento River.

No Project costs are summarized in Table ES-5. Life Cycle cost estimates for the Recommended Project and the No Project alternative are summarized in Table ES-6.

Table ES-5: No Project Costs ($ in 1,000s per year)

		No Project Costs	No Project Costs (Alternate Baseline-beginning in 2028)
New Water Supply Value[a]	High Estimate	$621	$621
	Low Estimate	$100	$100
Water Reliability Benefit[b]		$49	$49
Groundwater Pumping Offset[c]		$85	$85
Avoided Wastewater Discharge Costs[d]		$11	$1,285
Nutrient Value[e]		$1.3	$1.3
Total Average Annual Cost	**High Estimate**	**$731**	**$2,006**
	Low Estimate	**$247**	**$1,521**

Notes:

a. The project would provide new water supplies to the region by reducing usage of potable and groundwater supplies for industrial and irrigation purposes. This offset water supply could be used for higher values uses within the region. The high estimate value has been estimated based on recent wholesale water sales in the region. The low estimate value has been estimated based on an equivalent cost of groundwater production, and assumes the City of Sacramento would reserve 1,000 AFY for backup supply for the SPA Cogen Plant.

b. The project would improve water supply reliability for customers that have been converted from potable sources to recycled water, due to potential cutbacks in the potable system during extremely dry years.

c. Under project alternatives 2-6, Bartley Cavanaugh, Bing Maloney, and Land Park golf courses, Cooledge Community Center, Land Park and Chorley Park could reduce costs associated with operations, maintenance, and well redevelopment costs of the groundwater wells currently supplying water for irrigation.

d. Avoided Wastewater Discharge. The project would reduce SRCSD's wastewater discharge costs relative to the No Project baseline condition. The only cost savings currently identified is the cost of pumping treated wastewater to the river. This cost is avoided by supplying the water for recycling instead. Under the alternate baseline, this also includes cost of operations of a reverse osmosis facility (in the event SRCSD was forced to eventually treat its discharged wastewater to that "ultimate" level)..

e. As the recycled water has some latent ammonia, customers currently using fertilizer could reduce their fertilizer use.

Table ES-6: Net Present Value Project Costs ($1,000s per year)

Year	Project Costs ($1,000 per year)	No Project Baseline		No Project Alternative Baseline	
		Costs (High Estimate)[a]	Costs (Low Estimate)[b]	Costs (High Estimate)[a]	Costs (Low Estimate)[b]
2013 to 2014	$4,008				
2015 to 2016	$15,767				
2017 to 2027	$394	$731	$247	$731	$247
2028 to 2035	$394	$731	$247	$2,006	$1,521
2036	$4,578	$731	$247	$2,006	$1,521
2037 to 2055	$394	$731	$247	$2,006	$1,521
2056	$4,578	$731	$247	$2,006	$1,521
2057-2066	$394	$731	$247	$2,006	$1,521
Total NPV Costs ($1,000s)	**$44,203**	**$18,810**	**$6,348**	**$47,881**	**$35,418**

Notes:

a. Based on a value of $330 per AF on 1,772 AF of potable use.

b. Based a value of $130 per AF on 772 AF of potable use (excludes 1,000 AF to SPA Cogen Plant)

ES-5 Regulatory, Legal and Institutional Requirements

Under any of the alternatives, a number of regulatory, legal and institutional requirements would need to be met prior to implementation. An EIR/EIS would likely need to be developed for CEQA and NEPA compliance. A Petition for Change would need to be filed with and approved by the SWRCB to confirm SRCSD's right to change the place of use and purpose of use of the corresponding amount of current discharges to the Sacramento River. Institutional arrangements would need to be developed to establish a recycled water purveyor for the Project study area. Table ES-7 provides a summary listing of regulatory requirements.

Table ES-7: Summary of Regulatory, Legal and Institutional Requirements

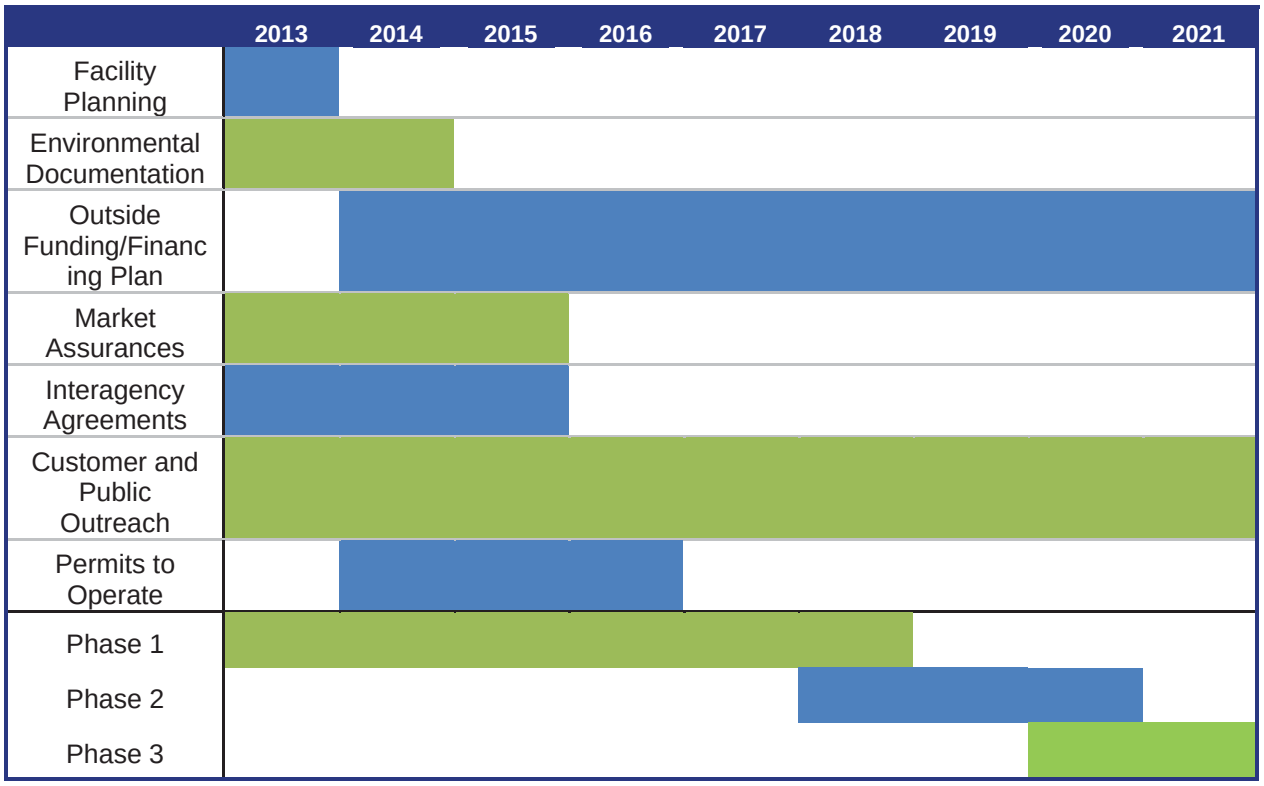
Permit/Approval	Comments
CEQA Compliance (PER or City lead agency)	City and County need to agree on who will be the CEQA lead agency.
NEPA Compliance (Reclamation lead agency)	
Section 7 Consultation/Biological Assessment and Biological Opinions (USFWS and NMFS)	Informal consultation may be sufficient if all impacts can be avoided
Section 106 Compliance (SHPO)	
404 Permit for any fill of wetlands or waters of the U.S. (USACE)	May not be required as SRCSD intends to avoid impacts during design phase (by incorporating trenchless pipeline installation methods).
401 Water Quality Certification required for 404 Permit (RWQCB)	
NOI for Coverage under Statewide Construction Stormwater Permit (RWQCB)	
NOI under Low-Threat Discharge Order for Coverage of Pipeline discharges for testing and startup (RWQCB)	
NPDES Permit for discharge to waters of the State or U.S. (RWQCB)	
Incidental Take Permit from California Department of Fish and Game (CDFG)	May not be required, as SRCSD intends to avoid impacts during design phase.
Streambed Alteration Agreement for pipeline crossings of creeks (CDFG)	Required for any crossings of stream channels, even if done by trenchless method.
Wastewater Change Petition (SWRCB)	
SRCSD annexation of Service Area for recycled water, with service limited to recycled water supply (LAFCO)	Not required if City is purveyor of recycled water.
City of Sacramento Encroachment Permit	
Caltrans – Encroachment Permit	

ES-6 Implementation Plan

Should SRCSD decide to move forward with the preferred project, Figure ES-8 illustrates key implementation elements and associated schedule. The schedule assumes that the project would be constructed in three phases, including Phase 1 to connect to the SPA Cogen Plant, Phase 2 to connect Bartley Cavanaugh golf course and other customers in Target Area 2, and Phase 3 to connect to customers in Target Area 3.

Each implementation element is discussed in the Study. The immediate term activities/recommended next steps are summarized in the next section.

Figure ES-4: Implementation Schedule



ES-7 Recommended Next Steps

Based on the findings of this Study, our recommended next steps are as follows:

- Institutional arrangement and agreements such as principles of agreement with the region's water retailer, the City of Sacramento, should begin immediately. Based upon these principles, the formation of an entity to organize the recycled water users and the Project should begin to be established after work in the environmental documentation has been initiated
- A facilities plan for the entire recycled water project should be completed in advance of funding pursuits and environmental document preparation to confirm the configuration, location and sizing of each required component of the project.
- Environmental documentation in the form of an EIR/EIS can be started after the facilities plan has been substantially developed, providing a complete Project description upon which to prepare the environmental document.
- Outside funding and finance planning activities are discussed in Section 9.3 and should be started in parallel with work has been initiated on environmental documentation.
- Market assurances in the form of letters of intent from potential customers, mandatory use ordinances, or user (customer agreements) should begin to be obtained after work on environmental documentation has been initiated. The form of assurances will be dependent upon the institutional arrangements that are made.
- Public outreach effort should be continued and expanded concurrently with the environmental documentation, institutional arrangements, and financing.

Appendix I

Principles of Agreement for Recycling Water Program

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Principles of Agreement for Water Recycling Program
Between REGIONAL SAN and CITY of SACRAMENTO

BASIS FOR PRINCIPLES OF AGREEMENT

1. These Principles of Agreement are between the Sacramento Regional County Sanitation District (REGIONAL SAN) and the City of Sacramento (CITY), hereafter referred as "PARTIES". The Principles of Agreement is an interim document that describes the proposed institutional structure for the proposed REGIONAL SAN/CITY Water Recycling Program (Program). These Principles of Agreement are intended to provide a framework for the development of potential future agreement(s) that address participation in the ownership, financing, construction, operations, and maintenance of the Program. Approval of any such agreements will be subject to compliance with the California Environmental Quality Act and any other applicable environmental laws or regulations.

2. The State of California and the Sacramento region have identified the need to improve water supply reliability and sustainability to meet existing and future non-potable water demands. Recycled water is a safe, sustainable, and proven water supply that can be used to meet non-potable water demands, such as landscape irrigation and industrial uses, and thus helps to conserve potable water sources.

3. REGIONAL SAN and the Sacramento Power Authority (SPA), in coordination with CITY, cooperated in the development of a water recycling project, referred to as the Phase 1 Project in this Principles of Agreement, that will initially deliver recycled water via a new transmission pipeline from the Sacramento Regional Wastewater Treatment Plant (SRWTP) to the SPA Cogeneration Facility (SPA Cogen) located near Franklin Boulevard and 47th Avenue. This transmission pipeline, in concurrence with CITY, was upsized to provide additional capacity to serve potential future recycled water users within CITY.

4. The Parties anticipate implementing the Program in a phased approach to facilitate performance of the necessary environmental review(s), construction activities, financing needs, and the acquisition of grants or low interest loans from federal or state agencies, or both. A Title XVI feasibility study, developed by REGIONAL SAN in 2014, recommended three phases for Program implementation. Attachment 1 includes maps of the three Program phases identified in this study.

5. The proposed Program consists of four key infrastructure components: (i) recycled water treatment facilities, (ii) recycled water transmission facilities, (iii) recycled water distribution facilities, and (iv) on-site recycled water facilities.

PURPOSE OF THE PRINCIPLES OF AGREEMENT

The following principles outline anticipated commitments and responsibilities by each of the PARTIES related to the environmental review, financing, design, construction, operations, and maintenance for each of the three Program phases identified. This document represents a good faith effort by the PARTIES to memorialize their mutual intentions consistent with the principles set forth herein, but this document is not a binding agreement nor does it commit or obligate any party to undertake or approve any future action or agreement.

PROGRAM PHASES AND PARTY RESPONSIBILITIES

The three Program phases and their key infrastructure components, as presently anticipated by the PARTIES, are described below.

Phase 1: Phase 1 includes a new recycled water transmission pipeline to convey recycled water from SRWTP to the SPA Cogen. It also includes on-site recycled water piping at the Cogen's property. Phase 1 does not include installation of distribution facilities to other users, but REGIONAL SAN, in concurrence with CITY, intends to size the transmission pipeline to allow for the connection of other uses located in CITY in the future as described in Phases 2 and 3.

CITY is not a party to the Phase 1 agreement between REGIONAL SAN and SPA. However, CITY will maintain the existing water connection to the SPA Cogen facility in the event that recycled water cannot be delivered to it, so long as REGIONAL SAN or SPA pays the applicable monthly service charge and the appropriate volumetric charges to maintain and use the existing connection to CITY's potable water system.

Phase 2: Phase 2 includes the construction, operations and maintenance of a distribution system and on-site recycled water facilities to serve potential areas west of Interstate-5, as shown in Figure 2 of Attachment 1.

Phase 3: Phase 3 includes the construction, operations, and maintenance of a distribution system and on-site recycled water facilities to serve potential areas located between the SRWTP property and the SPA Cogen.

For Phases 2 and 3, REGIONAL SAN and CITY anticipate negotiating one or more agreement(s) defining the costs, billing, and recycled water supply terms. SPA will not be a party to the Phase 2 and 3 agreement(s).

The PARTIES understand that the three phases presented herein are at a conceptual level, and are subject to change, depending on future refinements and availability of funding or as otherwise may be agreed by the PARTIES.

Table 1 summarizes the three phases and the anticipated responsibilities of each party (including construction, ownership, operations and maintenance) for the key infrastructure components of the Program phases. No party shall be obligated to undertake or approve any responsibility as shown below unless and until such responsibility is agreed to in a duly approved agreement or any subsequent amendment(s).

Table 1 - Anticipated Responsibilities for Key Program Components

Phase	Treatment	Transmission[1]	Distribution	On-Site
Phase 1	REGIONAL SAN	REGIONAL SAN	Not Applicable	SPA
Phase 2	REGIONAL SAN	Not Applicable	To Be Determined[2]	Users
Phase 3	REGIONAL SAN	Not Applicable	To Be Determined[2]	Users

[1] *The transmission facilities refer to the pipeline from the SRWTP property boundary to the SPA Cogeneration Facility. It also includes the recycled water transmission pipeline, Storage and Pumping facilities located within the SRTWP property. The Phase 1 pipeline will be sized to serve Phases 1, 2, and 3.*

[2] *REGIONAL SAN and CITY anticipate that responsibilities for the distribution system, including storage and pumping facilities outside of the SRWTP property boundary, will be negotiated and determined in a future agreement(s).*

PRINCIPLES OF AGREEMENT

The principles that will govern the negotiation of agreement(s) between REGIONAL SAN and CITY are as follows:

a. *Participation:* The objective for Phases 2 and 3 is to build the distribution system and related facilities to expand the use of recycled water in the CITY by using the excess capacity in the Phase 1 transmission pipeline. REGIONAL SAN will produce the recycled water. CITY and REGIONAL SAN will collaborate to identify opportunities for expansion of the Program to serve other customers located within the CITY's service area and its immediate vicinity.

b. *Design and Construction:* It is anticipated that REGIONAL SAN and CITY will negotiate the agreement(s) governing responsibilities for the design and construction of the distribution and on-site recycled water facilities to expand the Program to serve other customers located within such

areas. Any pipelines and related facilities constructed will need to comply with applicable provisions of local and state standard specifications.

c. *Facilities' Ownership, Operation and Maintenance, and Program Administration:* REGIONAL SAN will own, operate, and maintain the recycled water treatment and transmission facilities located within the SRWTP property boundary. The ownership, operation, and maintenance of transmission, distribution, and on-site recycled water facilities for the expanded Program located outside the SRWTP property will need to be addressed by agreement(s) between CITY and REGIONAL SAN, consistent with all applicable legal requirements and limitations.

d. *California Environmental Water Quality Act (CEQA) and National Environmental Policy Act (NEPA):* The PARTIES' respective obligations under CEQA and NEPA would need to be addressed by agreement(s) between the CITY and REGIONAL SAN.

e. *Permits:* REGIONAL SAN and CITY intend to collaborate, as needed and when appropriate, with respect to applications for approvals necessary to comply with permitting requirements for the distribution system and other on-site recycled water facilities.

f. *Cost Sharing:* It is anticipated that cost sharing of capital costs, operation, and maintenance will be negotiated between CITY and REGIONAL SAN.

g. *Recycled Water Pricing:* The PARTIES intend to negotiate with each other regarding recycled water pricing, including the potential for establishment of additional rate categories and fees appropriate for each use, with the goal of a rate for recycled water that is equal to or less than the rate for the same usage of potable water. Any use of sewer or water ratepayer funds must comply with the provisions of Proposition 218, among other applicable legal requirements and limitations.

h. *Recycled Water Policy:* It is anticipated that CITY and REGIONAL SAN will collaborate to develop a recycled water policy to promote and advance the use of recycled water within the areas identified in the CITY.

i. *Approval:* Approval from their governing bodies will be required for REGIONAL SAN and CITY to implement Phase 2 and 3 of the Program.

IN WITNESS WHEREOF, the PARTIES have executed these Principles of Agreement upon the dates hereinafter set forth.

Attest: 4/15/2016
Dated:

Sacramento Regional County Sanitation District
By:- Prabhakar Sooravarapu
Title: DISTRICT ENGINEER

Attest: 2/24/16
Dated:

City of Sacramento
By:
Title: Director

APPROVED AS TO FORM:

CITY ATTORNEY

Attested By:
Wendy Klock-Johnson
Assistant City Clerk 2/24/2016

ATTACHMENT 1

Maps of

Potential Program Phases

Figure 1
Vicinity Map for Phase 1 Project

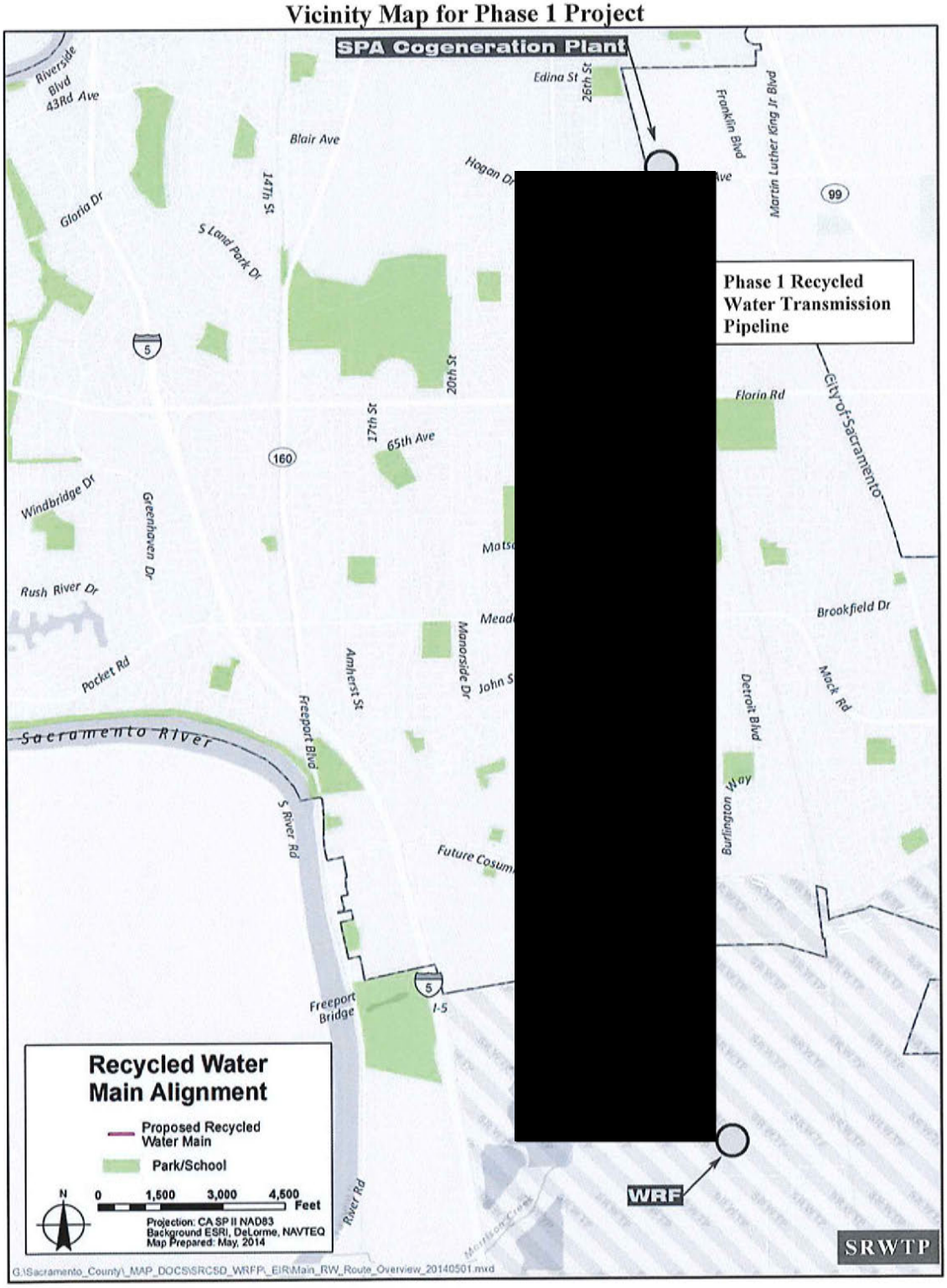
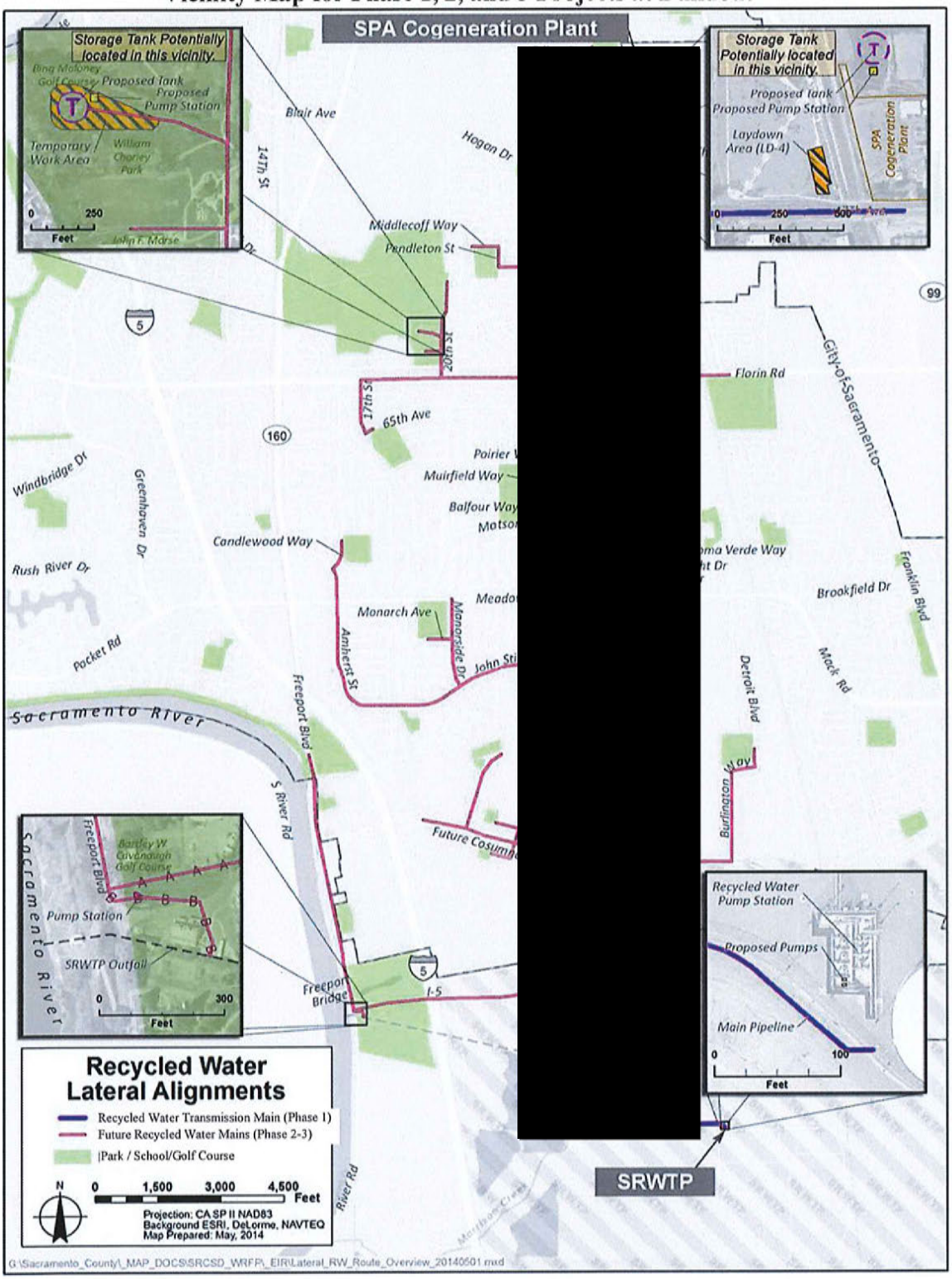


Figure 2
Vicinity Map for Phase 1, 2, and 3 Projects at Buildout



Appendix J

Water Shortage Contingency Plan

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CITY OF SACRAMENTO
WATER SHORTAGE CONTINGENCY PLAN

1.0 BACKGROUND

This describes the City of Sacramento's (City's) strategic planning process to prepare for and respond to water shortages. The description includes assessment of water shortage conditions and shortage response actions that will be implemented in the event of a water supply shortage, the City's ordinance prohibiting water waste, and the emergency preparedness and plans for catastrophic events.

The City does not have a separate Water Shortage Contingency Plan (WSCP) specific to its wholesale customers. Each of the City's wholesale customers maintain their own WSCPs which will be reported in their respective Urban Water Management Plans (UWMPs). The City's Wholesale agreements address the individual availability of wholesale water to each customer based on restrictions to the City's American River water rights.

2.0 PURPOSE

The WSCP applies to both foreseeable and unforeseeable water supply shortage conditions. It also includes actions to be taken during natural disasters or catastrophic reductions in water supplies as well as conservation measures and actions (prohibitions, restrictions, and penalties).

The City's objective of a WSCP is to protect public health, safety, welfare and to minimize the impacts of water supply shortages. This is done by rapidly and accurately determining the type, magnitude, and potential duration of the water system emergency, directing staff and users to the appropriate response, and monitoring demand and supply until the supply returns to normal.

This WSCP, if implemented, would be enforced within the City of Sacramento's utility service area.

3.0 COMPLIANCE

The Urban Water Management Planning Act (UWMPA) requires that an UWMP include a WSCP that addresses specified issues; see excerpts below.

> *10632(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….*

(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.*

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.

The California Water Code requires that the City develop mandatory provisions and a draft water shortage contingency resolution as part of the UWMP to reduce water use, including prohibitions against specific wasteful practices, such as gutter flooding. The City Council would need to act on this resolution when a water shortage emergency is declared. The City Code (Chapter 13.04) includes the following language regarding resolution.

> *"In response to any condition necessitating increased water conservation, such as a water shortage due to drought, natural disaster or other reduction of water supply availability, or as may otherwise be required to protect the public health, safety and welfare, the City Council may by resolution declare the existence of a water shortage and impose revised and/or additional limitations and time restrictions on outdoor water use while the water shortage remains in effect, and no person shall use, or cause to be used, city water in violation of such limitations or restrictions while the water shortage remains in effect. Unless the resolution specifies an ending date, the declaration of water shortage shall remain in effect until rescinded or otherwise modified by subsequent resolution of the city council."*

4.0 WATER SHORTAGE TASK FORCE TEAMS

In efforts to prepare for and respond to water shortage needs, two separate Water Shortage Task Force Teams will be created: A Department of Utilities (DOU) Task Force Team and a Citywide Task Force Team.

The DOU Water Shortage Task Force Team will first meet when a water shortage is pending and then continue to meet every one or two weeks, until the situation has been resolved. The DOU Water Shortage Task Force Team will consist of the following individuals:

- DOU Sustainability Manager (Task Force Team Leader)
  - Water Conservation Coordinator
- DOU Senior Engineer (Long Range Water Resource Planner)

- DOU Water Division Manager
    - Water Quality Superintendent
    - Water Production Superintendent
    - Water Distribution Superintendent
- DOU Customer Service Manager
- DOU Chief of Staff
- DOU Media & Communications Specialist
- DOU City Attorney
- AD HOC: DOU Director, DOU Business Services Division Manager, DOU Engineering & Water Resources Division Manager.

The Citywide Water Shortage Task Force Team will first meet when a water shortage is anticipated to be announced and then continue to meet at least once a month, until the situation has been resolved. The Citywide Water Shortage Task Force Team will consist of the following individuals:

- DOU Sustainability Manager (Task Force Team Leader)
    - Water Conservation Coordinator
- DOU Senior Engineer (Long Range Water Resource Planner)
- DOU Water Division Manager
    - Water Quality Superintendent
    - Water Production Superintendent
    - Water Distribution Superintendent
- DOU Customer Service Manager
- DOU Chief of Staff
- DOU Media & Communications Specialist
- DOU City Attorney
- City Manager's Office Representative
- 311 Manager
- CDD Code Compliance Division Manager
- Parks Operations Services Manager
- Public Works Maintenance Services Urban Forestry Supervisor
- Public Works Administration & Advanced Planning Program Specialist (Streetscapes)
- AD HOC: DOU Director, DOU Business Services Division Manager, DOU Engineering & Water Resources Division Manager, other City Departments/Divisions.

4.1 Water Shortage Task Force Roles & Responsibilities

The roles and responsibilities of the members of the task force teams are listed below.

1. Task Force Team Leader (DOU Sustainability Manager)
   Responsible for leadership, management, coordination, information gathering and dissemination, key support staff assignments, role clarification, and communication with a broad array of interested parties. Schedules the team meetings.

2. DOU Water Conservation Coordinator
   Responsible for supporting the DOU Sustainability Manager with water use reduction measures, management, cost estimates to achieve demand reductions, and liaison with internal large water users (residential and commercial, industrial, etc.)

3. DOU Senior Engineer (Long Range Water Resource Planner)
   Responsible for configuring and analyzing internal and external water usage data to assist the team with configuring the best course of action to take when comparing supply vs demand during the water shortage event. Liaison with adjacent Water Purveyors. Responsible for estimating and managing long-term water supplies.

4. DOU Water Division Task Force Team Members (Water Division Manager & Water Superintendents)
   Responsible for overall guidance on drinking water quality and operations, issues related to potential alternative supplies, and opportunities for use of non-potable water. Responsible for overseeing frequency and intensity of leakage management, system water loss audits, and meter accuracy testing.

5. DOU Customer Service Manager
   Responsible for customer contact, current information about the state of the program, and increasing frequency of customer meter reading.

6. DOU Chief of Staff
   Responsible for messaging and coordination with Internal City Departments.

7. DOU Media & Communications Specialist
   Responsible for messaging, customer relations, media relations, press releases, and coordination with wholesale customers.

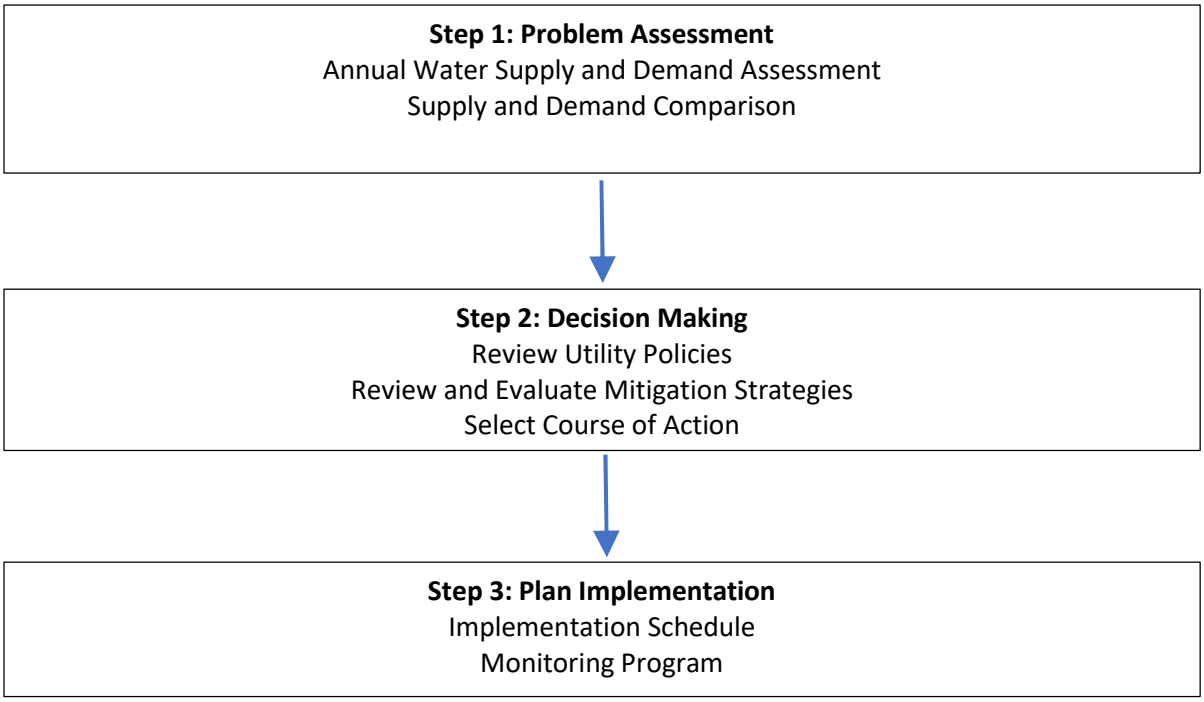
8. DOU City Attorney
   To address any legal aspects of meetings and to advise on the direction taken by team. Reviews legality of program, rate changes, interagency agreements, and contracts.

9. Other Task Force Team Members
   Ad Hoc involvement as it pertains to their Department or Division's capability to help focus in on and improve the situation at hand.

4.2 Task Force Team Focus

The Task Force teams should focus on problem assessment, mitigation strategies, and coordinating and communicating with stakeholders as needed. An incident response plan for any water shortage condition is presented in Figure 1.

Figure 1. Water Shortage Incident Response Plan Flow Chart



4.2.1 Problem Assessment

The Task Force teams will assess the water shortage condition. The assessment includes the following:

- Demand Analysis
- Supply Analysis
- Supply and Demand Comparison

The problem assessment includes the annual water supply and demand assessment described in Section 6.

4.2.2 Shortage Response Actions

The Task Force teams should consider a wide range of shortage response actions appropriate for the water shortage condition. Shortage response actions may include demand reduction, supply augmentation, and operational modification.

The City may take operational modification actions in response to a water shortage condition. Internal operational actions may include:

- Irrigation Restrictions. Ask Parks, Streetscapes, and other City Departments to reduce their irrigation and water use to help meet reduction percentage goals.
- Preventative Maintenance Restrictions. Ask Departments to reduce flushing and street sweeping.
- Non-Essential Water Use Reduction. Evaluate non-essential activities that use water and ask for reductions of use.

Responses should be appropriate and consistent. Because every situation is different, the teams should adjust their shortage response actions as the situation evolves, conditions change, and new information becomes available.

4.2.3 Communication

In the event of a water shortage, the City must inform their customers, the general public, and interested parties, and local, regional, and state entities. In either foreseeable or unforeseeable events, timely and effective communication must occur for appropriate response to the event. The Task Force teams should coordinate and communicate with any stakeholders that may be affected while the City addresses the water shortage and moves through the different water shortage levels (also called "stages") of the WSCP.

When a water shortage is determined, the DOU Task Force Team will coordinate interdepartmentally, with the region's water service providers, and with Sacramento County for the possible proclamation of a local emergency in accordance with under California Government Code, California Emergency Services Act (Article 2, Section 8558). The City will conduct a duly noticed Council Meeting in which the Annual Water Supply and Demand Assessment (AWSDA) findings and recommendations for a water shortage emergency and shortage response actions are presented.

The Task Force Team Leader is responsible for communication with a broad array of interested parties, including interagency communication and communication with State regulatory agencies. The DOU Media and Communications Specialist is responsible for messaging, customer relations, press releases and coordination with wholesale customers. The DOU's Public Information Officer (PIO) and DOU staff will coordinate to communicate a potential water shortage emergency well in advance as well as at different stages of the water shortage emergency. Included in that messaging will be authorized water use restrictions as well as efforts to correct the problem and a possible timeline. As necessary, the City may use bill stuffers, newsletters, social media, the City website, press releases, and Everbridge (a phone alert system that requires the user to register for the alerts) to communicate the message.

When water shortage occurs during unforeseeable events, such as earthquakes, fires, infrastructure failures, civil unrest, and other catastrophic events, the City's Office of Emergency Services (OES) coordinates the communication during man-made or natural disasters. In general, communications and notifications proceed along the chain of command. Notification decisions will be made under the direction of the Incident Commander with support from the Department's Operation Center (DOC) and relayed to the Emergency Operations Center (EOC) which is staffed by the City's OES. External communications will be managed by a Joint Operation between the DOU's PIO and the Media and Communications Manager, who is the official spokesperson for the City to maintain consistency.

The City maintains profiles on social media platforms including Facebook and Twitter. These profiles may be used to convey information to staff and the public, in addition to their website and email.

5.0 NORMAL CITY (DAY TO DAY) WATER USE GUIDELINES

The City Code provides the following water use guidelines during normal conditions. The City's water conservation efforts follow these guidelines.

- Water shall not be wasted due to leaky or faulty water fixtures (§13.04.840).

- Water shall not be allowed to become water waste runoff and to flow away over the surface of the ground. (§13.04.850).
- No person shall use water for the purpose of washing down sidewalks, driveways, or parking areas except to alleviate immediate fire or sanitation hazards. (§13.04.870).
- Washing vehicle without a shut-off nozzle (§13.04.870).
- Between March 1 and November 1, residential and commercial locations bearing a street address ending in an odd number shall be permitted to irrigate only on Tuesday, and Saturday and locations bearing a street address in an even number shall be permitted to irrigate only on Wednesday, and Sunday. There shall be no water irrigation on Mondays, Thursdays or Fridays. (§13.04.860). Watering is limited to just one day per week between November 1 and March 1 on either Saturday or Sunday.
- No watering within 48 hours of measurable rainfall (1/8") (§13.04.870).

6.0 ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT

Water shortage may occur due to a number of reasons, such as climate change, drought, and catastrophic events. A water shortage condition occurs when the supply of potable water available cannot meet ordinary water demands for human consumption, sanitation, fire protection, and other beneficial uses. A water shortage condition may be foreseeable in some cases; however, in other cases, the water shortage may be caused by an unforeseen sudden or emergency event.

An AWSDA is intended to assist in planning for potential, foreseeable shortage in water supplies. The AWSDA will help the City determine its water supply condition and degree of water shortage, if any. The State requires that the City conduct an AWSDA and prepare an Annual Water Shortage Assessment Report. The AWSDA and Annual Water Shortage Assessment Report are required to be submitted to the Department of Water Resources by July 1 of each year, starting in 2022. The procedure and timeline for the preparation of the AWSDA and Annual Water Shortage Report is included as Appendix A.

The AWSDA will help the Task Force identify any gaps between water supply and demand, determine water shortage conditions, take steps that may lead to declaring a water shortage emergency and associated stage, and implementation of water shortage response actions.

7.0 SHORTAGE STAGES AND WATER USE REDUCTION PLAN

For foreseeable events, the AWSDA described above will assist the City in determining its water supply condition for the current year. The preparation of AWSDA helps the City ascertain the need to declare a water shortage emergency and water shortage stage. For unforeseeable events, the City may need to declare a water shortage emergency due to unforeseen water supply interruptions.

One of the key elements of the WSCP is a water use reduction plan for each water shortage stage. The City's previous WSCP included four water shortage stages with corresponding water use reduction plans. In 2020, the DOU added a first stage to correspond with the internal City water use reduction action plan, and a sixth stage with a corresponding water use reduction plan to address water shortage levels greater than 50 percent. Each stage's water reduction plan includes specific demand reduction actions and use restrictions. Implementation of these shortage response actions is cumulative; meaning that

implementation of a shortage response action at higher stage shall also include implementation of all shortage response actions implemented in previous stages.

Shortage conditions associated with each stage are based on the gap between water supply and anticipated water demands. The stages are listed in Table 1 and are numbered so that they are consistent with the State's standard water shortage stages. Matching the State's six standard water shortage stage would assure consistent messaging and meet future State reporting requirements. The water shortage stages, including shortage levels greater than 50 percent, and the planned water use reduction goals, are summarized in the table below.

Table 1. Water Use Reduction Plan

Stage	Title	Water Shortage Levels	Required Water Use Reduction
1	Water Watch	Up to 10 percent	5 to 10 percent
2	Water Alert	Up to 20 percent	20 percent
3	Water Warning	Up to 30 percent	30 percent
4	Water Crisis	Up to 40 percent	40 percent
5	Water Emergency	Up to 50 percent	50 percent
6	Water Health & Safety Use Only	> 50 percent	> 50 percent

Each stage's Water Use Reduction Plan is generally triggered by a water shortage condition, which are usually external to the City. Although highly unlikely, shortage conditions may be triggered by surface water diversion reductions mandated by the California Department of Water Resources or by the United States Bureau of Reclamation.

Stage 1 occurs when up to a 10 percent gap between supply and demand is anticipated. Under this stage, the City will restrict or cease internal city irrigation and require reduction of each City department's use of water. The next stage will be implemented if additional water supply reductions occur; response actions will include enactment of additional water use restrictions. The next stage will be declared only after exhausting efforts to make a prior stage successful.

Stage 2 occurs when up to a 20 percent gap between supply and demand is anticipated. Under this stage, the City will require its customers to reduce water consumption by 10 to 20 percent and will enact specific water use restrictions.

Stage 3 occurs when up to a 30 percent gap between supply and demand is anticipated.

Stage 4 occurs when up to a 40 percent gap between supply and demand is anticipated.

Stage 5 occurs when up to a 50 percent gap between supply and demand is anticipated.

Stage 6 occurs when greater than 50 percent gap between supply and demand is anticipated.

The City may declare a water shortage emergency at any shortage level. This may occur based on determination of the AWSDA, or during a natural disaster or when the health and safety of persons within the City's water service area are jeopardized. This plan is designed to be flexible so that the City can respond to the specific situation(s) occurring at the time.

Table 2 summarizes the key elements for each stage of the Water Use Reduction Plan and the requested actions. Appendix B contains a draft resolution which can be used to declare a water shortage emergency and stage of the WSCP. The Water Use Reduction Plan and resolution are designed to be flexible so that the City can respond to the specific situation occurring at a particular time. The draft resolution is provided as a model, and the text of any resolution and/or ordinance actually adopted may vary from the draft provisions presented in Appendix B.

The actions included in each stage are cumulative, meaning that if Stage 1 of the WSCP is declared, all of the shortage response actions in Stage 1 shall be implemented. Likewise, if Stage 2 - 6 is declared, all of the shortage response actions in stages prior to the declared stage shall be implemented.

Table 2.
Key Elements for Stages of the Water Use Reduction Plan and Requested Actions
Estimated savings per measure included pursuant to 2020 UWMP Guidebook

STAGE	WATER CONSERVATION SAVINGS GOAL	CITY ACTIONS	REQUIRED INTERNAL/EXTERNAL CUSTOMER ACTIONS
STAGE 1 [Directed by City Manager]	Up to 10 %	An Emergency Water Shortage is pending: The DOU Task Force Team Leader schedules the first DOU Task Force Team meeting. -Held 1-2x/week The Internal City Department Water Use Reduction Campaign is initiated. An Internal City email is sent to City Departments asking them to reduce their water usage (5-10 %)	Implement the following [Internally] as appropriate: • Landscape irrigation restrictions [Required]: - Parks and Streetscapes asked to reduce their irrigation levels to help meet the required reduction rate. (2-10%) • Preventative Maintenance restrictions [Suggested]: - Ask that non-essential flushing and street sweeping be reduced. (0-1%) • Cease any non-essential water usage [Suggested] - City Programs (0-1%) • Increase efficiency of system operations [Suggested]: - Increase focus on reducing system water loss by accelerating leak repair (0-1%). • Rebate program amounts may be adjusted by staff based on customer demand and water supply conditions
STAGE 2 [Directed by City Council]	Up to 20 %	An Emergency Water Shortage is present: A Declaration of Water Shortage is sent to City Council. *Fines to be doubled once water shortage is declared.	Implement the following [Internally/Externally] as appropriate: • Landscape irrigation restrictions [Required]: - Reduce watering of parks & cemeteries: designate watering to specific days of the week. (5-10%) - Restrict residential car washing to watering day (0-1%)

STAGE	WATER CONSERVATION SAVINGS GOAL	CITY ACTIONS	REQUIRED INTERNAL/EXTERNAL CUSTOMER ACTIONS
		The Citywide Task Force Team Leader schedules the first Citywide Task Force Team meeting. -Held 1x/month Task Force completes analysis, using AMI data, on high customer/commercial water users for public outreach External public information campaign is initiated (asking external customers to reduce their water use by (10 -20%).	• Increase water waste patrols [Required] (0-1%) • Preventative Maintenance restrictions [Strongly Suggested]: - Ask that non-essential flushing and street sweeping be reduced. (0-1%) - Ask that all ornamental or other decorative water features be turned off, except to the extent that the water feature intentionally provides habitat for aquatic species. (0-1%) • Increase efficiency of system operations [Strongly Suggested]: - Enforce hydrant use regulations (0-1%) - Intensify leak detection and repair program with focus on high water leaks (0-1%) • Intensify AMI Customer Leak Reports with Detection and Repair Assistance (0-5%) [Strongly Suggested]
STAGE 3 [Directed by City Council]	Up to 30 %	Intensify Public Education Program (10%) *Consider a Drought Surcharge under Urban Water Management Plan (implement if shortage is drought related) (5-30%) Consider bringing in limited staffing or a consultant to help with wastewater patrols. (0-1%) Consider adding more staff and resources to the leak	Implement the following [Internally/Externally] as appropriate: • Increase Landscape irrigation restrictions [Required]: - Further limit watering of parks, cemetery, etc. to specific hours, one day a week. (8-10%) - Customer watering restricted to specific hours on specified watering day. (0-2%) - Rescind any 3-day watering variances offered. (0-1%) • Cars washed with buckets only, on specified watering day [Required] (0-1%) • Increase Preventative Maintenance restrictions [Required]: - Main flushing allowed only for emergency purposes (0-1%)

STAGE	WATER CONSERVATION SAVINGS GOAL	CITY ACTIONS	REQUIRED INTERNAL/EXTERNAL CUSTOMER ACTIONS
		detection/repair and water loss program.	- Encourage use of pool covers (0-1%) - All ornamental or decorative water features be turned off, except to the extent that the water feature intentionally provides habitat for aquatic species (0-1%) • Increase efficiency of system operations [Strongly Suggested]: - Increase the leak notification process and assistance offered to fix the leaks.(1-4%) • Increase leak detection where additional staffing is made available [Strongly Suggested]
STAGE 4 [Directed by City Council]	Up to 40 %	Continue vigorous public information campaign. Intensify leak detection program and water loss prevention efforts. Increase staffing or a consultant to help with water waste patrols during nights, weekends and after hours.	Implement the following [Internally/Externally] as appropriate: • Further limit hours for outdoor irrigation, 1 day/week, manual application [Required] • Customer watering restricted to 1 Day per week and for specific hours on specified watering day. (5-20%) - Variances on drip irrigation, smart controllers and hand watering are removed and only allowed 1 day per week. (0-1%) • No car washing [Required] (0-1%) • Repair known leaks within 5 business days [Required] (0-1%) • All maintenance of recreational water features, including pools and spas, ceased (0-1%) • Limit public water use for health and safety purposes only [Suggested] (2-5%)

STAGE	WATER CONSERVATION SAVINGS GOAL	CITY ACTIONS	REQUIRED INTERNAL/EXTERNAL CUSTOMER ACTIONS
STAGE 5 [Directed by City Council	Up to 50 %	Continue vigorous public information campaign.	Implement the following [Internally/Externally] as appropriate: • Landscape irrigation restrictions: (0-50%) - No turf watering - No median strip watering - Further reduce irrigation to parks, cemeteries, etc. • Limit public water use for health and safety purposes only [Strongly Suggested] (5-10%)
STAGE 6 [Directed by City Council]	> 50%	*Water use for Health and Safety purposes only [Required]	

(a) City Municipal Code (Title 13 Public Services, Chapter 13.04 Water Service System, Article XI Water Conservation).

A list of contemplated action by various regional water purveyors and the Regional Water Authority is included as Appendix C. The City may implement actions in the list as necessary to close the gap between supplies and demand during any water shortage conditions.

8.0 WATER SHORTAGE EMERGENCY PLANNING ACTIONS

In addition to responding to drought conditions, the City's WSCP can be used to respond to emergency conditions that interrupt water supplies. Unforeseeable interruption to water supplies may be due to water contamination (source, water treatment plant, or system), treatment plant shutdown, major transmission pipeline break, regional power outage, chemical supply shortage, staffing shortage, industrial controller cyber-attacks or a natural disaster such as an earthquake or flood.

The City is included in Sacramento County's 2017 Emergency Operations Plan (available online: https://sacoes.saccounty.net/EmergencyManagement/Pages/Planning.aspx), with a stated purpose to "provide the basis for a coordinated response before, during, and after a disaster incident affecting the County of Sacramento." The operational priorities are stated in this order: save lives, protect health and safety, protect property, and preserve the environment. The plan contains the following sections:

- Purpose, Scope, Situation and Assumptions
- Concept of Operations
- Organization and Assignment of Responsibilities
- Direction, Control and Coordination
- Information Collection and Dissemination
- Communications

- Administration, Finance and Logistics
- Preparedness, Training and Exercises

The plan also states that within one day to one week after a disaster event, the water lines in the county must be assessed for detailed damage.

The City's OES coordinates the planning, preparedness, communication, response, and recovery during man-made or natural disasters. Additional information on the OES can be located online: http://www.cityofsacramento.org/Emergency-Services. The City's 2018 Emergency Operations Plan can be found on this website. This plan discusses the effects of many disasters, such as floods, earthquakes, power outages, fires, severe heat, and severe cold on the City's water resources. The document states that the City maintains over 120 generators ranging from 9 kW to 3,250 kW. Portable generators could be used at some of the City's water supply facilities in order to maintain a minimum level of water service during the emergency. Both of the City's water treatment plants and all select critical sites of the pump stations have backup generators. None of the City's wells are equipped with backup power but twenty of the City's twenty-six active wells are equipped with plug-in adaptors for generators.

Plan of actions for these unforeseeable water supplies are briefly discussed below.

8.1 No Water Available from the American River

In the event that the American River supply becomes contaminated (i.e., due to a chemical spill or other environmental incident) or the E.A. Fairbairn Water Treatment Plant (FWTP) is shutdown (i.e., due to a treatment process or mechanical failure), it may be possible that no water would be available from the American River for a period of time. In such a case, the City would need to rely on the Sacramento River supply source (using the Sacramento River Water Treatment Plant (SRWTP)) and the groundwater supply to meet demands. The City also maintains non-firm (i.e., the adjacent agency has no mandatory requirement to perform) mutual aid access to groundwater supplies from adjacent water agencies, and could inquire about available capacity.

If the Sacramento River supply source (SRWTP), ground water supply, and emergency supply from neighboring agencies were for some reason unable to meet City water supply demands, the City may need to implement one or more stages of the WSCP to notify customers of the need to reduce water until supplies are restored.

8.2 No Water Available from the Sacramento River

In the event that the Sacramento River supply becomes contaminated (i.e., due to a chemical spill or other environmental incident) or the SRWTP is shutdown (i.e., due to a treatment process or mechanical failure), it may be possible that no water would be available from the Sacramento River for a period of time. In such a case, the City would need to rely on the American River supply source (using the FWTP) and the groundwater supply to meet demands. The City also maintains non-firm (i.e., the adjacent agency has no mandatory requirement to perform) mutual aid access to groundwater supplies from adjacent water agencies, and could inquire about available capacity.

If the American River supply source (FWTP), ground water supply, and emergency supply from neighboring agencies were for some reason unable to meet City water supply demands, the City may need

to implement one or more stages of the WSCP to notify customers of the need to reduce water until supplies are restored.

8.3 Electrical Power Outage (Localized, Regional, Or Multi-State)

If a localized or regional electrical power outage were to occur, impacting the City's water service area, the City is prepared to meet near-term water demands through the use of electrical generators [redacted].

8.4 Earthquake

Water system infrastructure, including treatment plants, pump stations, storage tanks, and pipelines, can be damaged during a strong earthquake. The City's facilities have been constructed in accordance with the applicable building codes to minimize potential damage during an earthquake. However, some facilities could be damaged as the result of a strong earthquake. The City has planned for this potential outage scenario by constructing system redundancy into its water system. The City has two surface water treatment plants, 33 permitted groundwater wells, multiple storage facilities and looped distribution pipelines, to allow potentially damaged portions of the City's system to be quickly isolated and repaired.

8.5 Flood

The City of Sacramento is potentially at risk of flooding as a result of severe storms, large quantities of runoff from the Sierra Nevada, and/or failure of levees which protect the City from major flooding events. The Sacramento Area Flood Control Agency (SAFCA) was created in 1989 to address the Sacramento area's vulnerability to catastrophic flooding. Members of SAFCA include the City of Sacramento, the County of Sacramento, the County of Sutter, the American River Flood Control District and Reclamation District 1000. SAFCA's mission is to provide the Sacramento region with increased flood protection along the American and Sacramento Rivers, with at least a 100-year level of flood protection as quickly as possible, while seeking a 200-year or greater level of protection over time. SAFCA's activities are funded from development fees and annual assessments imposed on benefiting properties in three separate districts in Sacramento and Sutter Counties. A number of flood protection projects have already been completed, including construction of new levees, repairs to existing levees, and bank protection and stabilization.

Even though the City's water system is vulnerable to the risk of flooding, the redundancy it has with two separate water treatment plants diverting water from two different water supply sources (the Sacramento and American Rivers), plus access to groundwater resources, helps alleviate some of this risk. Currently, if the SRWTP is out of service due to flooding, the FWTP may be available to meet City demands, and vice versa. It is possible that a single flooding event could impact both of the City's water treatment plants and other water system facilities; however, in such an instance, the City will respond as quickly as possible to restore water service for the City's residents.

9.0 MANDATORY PROHIBITIONS AND RESTRICTIONS

The Sacramento City Code contains a section on water conservation (Title 13 Public Services, Chapter 13.04 Water Service System, Article XI Water Conservation), which outlines the mandatory prohibitions

and restrictions that are in place under normal water supply conditions in the City. These measures include the following:

- Water shall not be wasted due to leaky or faulty water fixtures. (§13.04.840).
- Water shall not be allowed to become water waste runoff and to flow away over the surface of the ground. (§13.04.850).
- No person shall use water for the purpose of washing down sidewalks, driveways, or parking areas except to alleviate immediate fire or sanitation hazards. (§13.04.860).
- Landscape irrigation shall be prohibited between the hours of 10:00 a.m. and 7:00 pm between March l to the October 31. (§13.04.860).
- Between March 1 and October 31, residential and commercial locations bearing a street address ending in an odd number shall be permitted to irrigate only on Tuesdays, and Saturdays and locations bearing a street address in an even number shall be permitted to irrigate only on Wednesdays, and Sundays. There shall be no water irrigation on Mondays, Thursdays or Fridays. (§13.04.860).
- Between November 1 and February 28/29, watering is limited to just one day per week, either on Saturday or Sunday.

As discussed above, the Key Elements Table lists the additional conservation measures associated with each conservation stage, which would further restrict the allowable water uses and landscape irrigation practices.

10.0 WATER RATES AND PENALTIES FOR EXCESSIVE USE

Most of the City's residential and non-residential customers are currently metered and billed for their water use; only a few of the City's residential customers are still billed based on a monthly flat-rate. Excessive use of water by these unmetered residential customers, presently, cannot be identified or billed. By 2021, the City will finalize its meter retrofit program and commence metered billing for all of its customer connections. At that time, excessive use by all of the City's residential and non-residential customers can be identified.

SCC §13.04.890 supports the compliance and enforcement of the City's water shortage actions. The City may impose the following penalties for customers violating water waste probation in SCC Chapter 13.04, Article XI, or City Council approved water use restrictions in response to a declared water shortage condition. In the event any person violates any provisions of the City's mandatory water conservation measures during a declared water shortage (as outlined in the City's Code), the following applies:

- For the first violation within a rolling twelve-month period, the person who committed the violation shall be issued a written notice stating the type of violation. Per City Code, no financial penalty is issued for a first violation even during a declared water shortage.
- For the second violation within a rolling twelve-month period, the person who committed the violation shall be issued another written notice stating the type of violation, and the property owner, if different than the person who committed the violation, shall be issued a written notice and fined $50. Customers can attend a class or participate in either a turf conversion rebate, an irrigation upgrade rebate or have a water wise house call conducted in order to waive the second violation.

- For the third violation within a rolling twelve-month period, the fine shall be $200 and the person who committed the violation and the property owner, if different than the person who committed the violation, shall be issued a written notice.
- For the fourth and subsequent violations within a rolling twelve-month period, the fine shall be $1000 and the person who committed the violation and the property owner, if different than the person who committed the violation, shall be issued a written notice.

The aforementioned penalties, per City Code, represent double the normal amount that would otherwise be levied absent a declared Water Shortage Emergency.

The Director of the City's Department of Utilities (Director) may waive penalties if the owner of the premises participates in one or more of the City's water conservation programs to remove turf grass, upgrade irrigation systems, or install smart irrigation controllers within 120 after the date of the penalty notice.

In accordance with SCC §13.04.900, the customer may appeal a notice of violation by filing a written notice to the Director within thirty days and specify the grounds for the appeal. Upon review, the City may dismiss the violation, or find sufficient basis for the notice of violation. The customer may request an informal hearing with the Director. The Director may uphold, modify, or rescind the notice of violation, including the penalty imposed by the notice of violation, after hearing relevant evidence.

11.0 REVENUE AND EXPENDITURE ANALYSIS

The City's current water rates are available at http://www.cityofsacramento.org/Utilities/Water/Water-Service. The City's water revenue may be reduced during a shortage condition, as customers are required to utilize less water. In this case, the City would need to reprioritize spending priorities, consider reserves to compensate for decreased revenue, and consider rate increases or a drought surcharge during the water shortage.

The City may, in the future, consider merits of conducting a drought surcharge study to evaluate impacts of revenue and costs associated with compliance actions.

12.0 MONITORING ACTUAL WATER USE COMPLIANCE AND REDUCTIONS

The City's aggregate water supply and system demands are accurately monitored and tracked at the City's two surface water treatment plants and its groundwater facilities. This systemwide metering provides an overview of water supply and demands, allow the City to assess progress in meeting its water shortage objectives.

Metered customers (approximately 99%) are billed based on actual water use and records are available on individual use. By the end of 2021, the City's customers will be fully metered. The City incorporated advanced metering infrastructure (AMI) in its meter installation program. AMI provides real-time water use information to both the City and customers. These meters may be used as monitoring tools for compliance and reporting purposes.

The City regularly records its water meter readings, along with enforcement actions. During a water shortage stage, monthly actual water demands may be compared to average year water demands for that same period to determine if the City is achieving its water use reduction goals. The City may adjust its water shortage stage accordingly to meet its water use objectives.

At the time of preparation of this WSCP, the State Water Board is preparing regulation for monthly reporting of water production and water uses, along with associated enforcement metrics. The City will evaluate its monitoring processes and assess conformance to the State's monitoring and reporting requirements.

The WSCP is intended to be a dynamic tool to assure that shortage response actions are effective and produce the desired results. This WSCP has been prepared and implemented as an adaptive management plan. The City will use the results of its monitoring and reporting to evaluate the need for, and if needed, revise its WSCP.

13.0 DRAFT WATER SHORTAGE EMERGENCY RESOLUTION

A copy of a draft water shortage contingency resolution is provided in Appendix B. As previously noted, the draft resolution provides model language for enacting one or more stages of the City's WSCP. Implementation of the resolution also may require amendments to the Sacramento City Code.

When a water shortage emergency condition exists, the City shall declare a water shortage emergency in accordance with California Water Code Chapter 3 Division 1.

> *Water Code Section Division 1, Section 350*
> *…The governing body of a distributor of a public water supply…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.*

Appendix A

ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT PROCEDURE

This Appendix addresses the requirement of the following Water Code Section.

10632. (a) Every urban water supplier shall prepare and adopt a water shortage contingency plan as part of its urban water management plan that consists of each of the following elements: …

> *(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 liability.*
>
> *(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*

Beginning July 1, 2022, California Water Code (CWC) §10632.1 requires water suppliers to submit an Annual Water Supply and Demand Assessment (AWSDA). Water suppliers will also be required to submit an Annual Water Shortage Assessment Report beginning July 1, 2022. This WSCP provides the procedures for the City to conduct its Annual Water Supply and Demand Assessment. The findings from that assessment will provide information for the City's Annual Water Shortage Assessment Report.

The procedures provided in this section are intended to assist the City in planning for potential, foreseeable shortage in water supplies. These procedures provide the steps the City needs to take that may lead to declaring a water shortage emergency and associated stage and implementation of water shortage response actions.

1.0 DECISION-MAKING PROCESS

This decision-making process will be used by the City to determine its water supply reliability in a consistent manner annually. The City may adjust this process for improved decision-making during implementation.

The City Department of Utilities Senior Engineer (Long Range Water Resource Planner) is primarily responsible for the preparation of the City's AWSDA and Annual Water Shortage Assessment Report, and submittal of the reports to DWR by July 1 of each year. Key Data Inputs described in the Section 2 are

tracked on a continuous basis and will be considered in conducting the assessment. Coordination with other DOU Task Force members is expected. Barring any unusual circumstances or notice of impending water shortage, DOU will finalize the assessment in June and submit the report to DWR.

At any time that Key Inputs suggest a shortfall which could require enactment of the WSCP, the assessment will be performed. The DOU Task Force will coordinate interdepartmentally, with the region's water service providers, and with Sacramento County and the City's water retailers for the possible proclamation of a local emergency. The DOU Task Force will prepare the City's Annual Water Shortage Assessment Report using finalized annual water supply and demand assessment.

In the event that the AWSDA finds that available supply will not meet expected demands and a declaration of water shortage emergency may be necessary, the DOU Task Force will prepare to present the finalized assessment to the City Council, along with recommendations on water shortage condition determinations and action. The DOU Task Force will prepare a resolution (as needed) approving determinations and actions for consideration and authorization by City Council. Recommended actions may include declaration of a water shortage emergency, declaration of a water shortage stage, or water shortage actions. DOU will incorporate City Council determinations and approved actions in the finalized Annual Water Shortage Assessment Report.

The City Council is responsible for receiving the AWSDA and adopting the findings of the assessment if it is necessary to enact the WSCP. Based on the findings of the assessment, the City Council is responsible for conducting a duly noticed Council meeting, determining if a water shortage condition exists and, if needed, declaring a water shortage emergency and water shortage stage and authorizing water shortage actions.

The City will follow the sequence of activities as shown on Table 1 for conducting the assessment, and Table 2 for its decision making. Due to variations in climate and hydrologic conditions, the schedule for the finalization of the AWSDA and Annual Water Shortage Assessment Report may vary. The intent of the schedule is to allow shortage response actions to effectively address anticipated water shortage conditions in a timely manner, and to comply with the State's reporting requirements.

Table 1. Sequence of Assessment Activities

Step	Activities	Responsible Party
1	Convene Team	DOU Task Force Team Leader
2	Plan for water supply sources for current year and one subsequent dry year. Describe sources and quantities considering factors affecting supply.	DOU Task Force Senior Engineer
3	Plan for water demands for current year and one subsequent dry year. Describe demand types and quantities considering factors affecting supply.	DOU Task Force Senior Engineer
4	Using the described methodology, calculate the City's water supply reliability for the current year and one subsequent dry year.	DOU Task Force Senior Engineer

Step	Activities	Responsible Party
5	Determine if and when a water shortage may occur and prepare recommendations for actions.	DOU Task Force
6	Prepare and present preliminary assessment results to the City Council, if necessary.	DOU Director or designee
7	Finalize assessment. Incorporate City Council direction as needed.	DOU Task Force Senior Engineer
8 (By July 1)	Draft Annual Water Shortage Assessment Report for DWR submittal July 1st	DOU Task Force Senior Engineer

Table 2. Sequence of Decision-Making Activities

Step	Activities	Responsible Party
1	Receive preliminary AWSDA results.	DOU Task Force
2	Based on finalized determinations of AWSDA regarding water shortage condition and recommended actions, prepare recommendations on water shortage condition determination and actions.	DOU Task Force
3	If a water shortage emergency condition exists, activate WSCP protocols.	DOU Task Force
4	Prepare ordinances or resolutions approving determinations and actions.	DOU Task Force
4A	Coordinate interdepartmentally, with the region's water service providers, and with Sacramento County for the possible proclamation of a local emergency	DOU Task Force Team Lead; DOU Task Force Senior Engineer
5	Present finalized determinations and recommendations, along with ordinances or resolutions approving determinations and actions.	DOU Director or designee
6	Make determination of degree of emergency and authorize water shortage response actions for implementation.	City Council
7	Receive presentation of finalized determinations and recommendations. Act on ordinances or resolutions.	City Council

Step	Activities	Responsible Party
8	If a water shortage emergency condition is declared, implement the WSCP and the water shortage response actions as approved by City Council.	DOU Task Force
9	Finalize Annual Water Shortage Assessment Report.	DOU Task Force Senior Engineer
10 (By July 1)	Submit AWSDA assessment and Annual Water Shortage Assessment Report to DWR.	DOU Task Force Senior Engineer

2.0 KEY DATA INPUTS

The AWSDA requires the evaluation of supply and demands for the current year and one dry year that is assumed to follow the current year. The following key data inputs will be used to evaluate the City's water supply reliability.

Planned water supplies will be used as input to the AWSDA for the current year and the following one dry year. In planning for water supplies, the following factors are considered:

1. Hydrological conditions
2. Reservoir Storage Conditions
3. Regulatory conditions
4. Entitlement/Contractual constraints
5. Surface water and groundwater quality conditions
6. Groundwater well production limitations
7. Infrastructure capacity constraints or changes.
8. Capital improvement project implementation

Planned water supply sources and quantities will be described and be reasonably consistent with the supply projections in the City's last updated UWMP Chapter 6 (Water Supply Characterization). Should the supply sources and projections deviate significantly from projections, an explanation for the difference will be provided.

Planned unconstrained water demands will be used as input to the AWSDA for the current year and the following one dry year. Unconstrained water demands are customer demands where no water conservation measures are in effect beyond normal policy as described in City Code Title 13 Public Services, Chapter 13.04 Water Service System, Article XI Water Conservation. In planning for water demands, the following factors are considered:

1. Weather conditions
2. Water year type
3. Population changes (for example, due to development projects)
4. Anticipated new demands (for example, changes to land use)
5. Pending policy changes that may impact demands

6. Infrastructure operations

Planned water demand types and quantities will be described and be reasonably consistent with the demand projections in the City's last updated UWMP Chapter 4 (Water Demand Characterization). Should the demand projections deviate significantly from projections, an explanation for the difference will be provided.

3.0 ASSESSMENT METHODOLOGY

In preparing the AWSDA, the City will follow the following assessment methodology and evaluation criteria will be used to evaluate the agency's water supply reliability for the current year and following one dry year.

The City uses a spreadsheet to plan for current year and future year demands. Planned supply and demand inputs described in above will be entered in the spreadsheet in annual increments.

Supply and demand will be compared to determine the reliability of the City's water supply in the current year and the following one dry year. The City's water supply for the current year and the following dry year will be determined as reliable if water supply is sufficient to meet the planned water demands. If water supply is insufficient to meet planned water demands in the current year and/or the following dry year, the extent of the water shortage condition will be determined, and the City will prepare response actions in accordance with this WSCP.

The AWSDA findings will be presented to the City Council, along with recommendations for action for City Council consideration.

Appendix B

Sample Resolution

RESOLUTION NO. 20XX-XXX

Adopted by the Sacramento City Council

[Date]

DECLARING WATER SHORTAGE EMERGENCY AND IMPLEMENTING STAGE [X] OF THE CITY OF SACRAMENTO WATER SHORTAGE CONTINGENCY PLAN

BACKGROUND

A. The City of Sacramento has three water supply sources: American River water, Sacramento River water, and groundwater. Normally, the City's water supplies are adequate to meet the City's retail and wholesale water demands.

…..[DESCRIBE CONDITION(S) TRIGGERING A WATER SHORTAGE]…..

Because of these on-going conditions the Sacramento City Council has determined that it is necessary to enact water conservation measures and water use restrictions, in addition to those already included in the City Code (Chapter 13.04 Water Service System, Article XI Water Conservation), to reduce water use within the City's water service area.

B. City Code section 13.04.910 authorizes the City Council, by Resolution, to declare the existence of a water shortage emergency and impose revised or additional limitations and restrictions on outdoor water use while the water shortage remains in effect.

C. The City's 2020 Urban Water Management Plan, adopted by the City Council in June 2021, includes a Water Shortage Contingency Plan that sets forth six water conservation stages designed to reduce overall water usage as follows:

Water Conservation Stage	Water Use Reduction Goal
Stage 1	up to 10 %
Stage 2	10 to 20%
Stage 3	20 to 30%
Stage 4	30 to 40%
Stage 5	40 to 50%
Stage 6	>50%

Each water conservation stage includes specific water conservation measures and water use restrictions designed to conserve water. Implementation of the water conservation stages is cumulative, meaning that implementation of a higher stage also includes implementation of all lower stages. For example, if Stage 2 is to be implemented, all of the provisions in Stage 1 also are included.

D. Water Code Section Division 1, Section 350 requires the governing body of a distributor of a public water supply to 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.

BASED ON THE FACTS SET FORTH IN THE BACKGROUND, THE CITY COUNCIL RESOLVES AS FOLLOWS:

Section 1. Based on the on-going water supply conditions **[*or insert other description*],** the Sacramento City Council hereby declares that a water shortage emergency exists and that water use within the City should be reduced by at least **[*X*]** percent.

Section 2. The water use reduction described in Section 1 necessitates implementation of Stage [X] of the City's Water Shortage Contingency Plan. The water conservation measures, and water use restrictions for Stage [X], described below, are adopted. These are in addition to the existing provisions of Article XI of Chapter 13.04 of the City Code (Outdoor Water Conservation), and in the event of any conflict between any provision of Article XI and this Resolution, the provisions of this Resolution shall govern while this Resolution remains in effect.

Stage [X] includes the following water conservation measures and water use restrictions:

1. [DESCRIBE MEASURE #1]
2. [DESCRIBE MEASURE #2]
3. …….

Section 3. The City Manager is authorized and empowered to delegate his authority hereunder to such assistants, deputies, officers, employees, or agents of the City as he shall designate, and to establish such rules, regulations, and procedures, and to prepare or furnish such forms, as he or she deems necessary or appropriate to carry out the provisions of this Resolution.

Section 4. No person shall use, or cause to be used, City water in violation of any of the provisions of this Resolution while the water shortage remains in effect, as specified in City Code § 13.04.870(I).

Section 5. The penalties for violations specified in City Code § 13.04.890 shall be doubled while the water shortage remains in effect, as specified in City Code § 13.04.890(E)

Section 6. This Resolution shall be effective upon its adoption and shall remain in effect until rescinded or otherwise modified by subsequent resolution of the City Council.

Section 7. This Resolution shall be published within ten days after its adoption, pursuant to California Water Code § 376(a).

Adopted by the City of Sacramento City Council on [DATE}, by the following vote:

Ayes:

Noes:

Abstain:

Attest:

Appendix C

Regional Water Authority Template of Suggested Actions and Potential Water Savings

Stage	Recommended Conservation (Water Use Reduction)	Suggested Actions	Water Savings Estimate Range	Estimated Savings Source	DWR Demand Reduction Measure (Matches drop down box in required table)
1	Up to 10%	Fix leaks or faulty sprinklers promptly/within X day(s).	0-1%	Estimated savings of 20 gal per day per leak	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner
		Decorative water features (water fountains, etc.) must recirculate water and shall be leak proof.	0-1%		Water Features - Restrict water use for decorative water features, such as fountains
		All landscapes shall be watered during cooler morning and evening hours to reduce evaporation and minimize landscape runoff.	0-5%	Estimate savings of 25 gallons per day per watering event for time of day watering per	Landscape - Limit landscape irrigation to specific times
		Landscape watering shall be confined to a user's property and shall not runoff onto adjacent properties, roadsides or gutters.	0-5%	Estimated savings of 12 gallons per watering event	Landscape - Restrict or prohibit runoff from landscape irrigation
		No landscape watering shall occur while it is raining or snowing.	0-5%	**Estimated savings equivalent to rain sensor savings:** -- Based on 'Estimates of Savings Achievable from Irrigation Controller' (Lawrence Berkeley National Laboratory) Results: Meta-analysis	Landscape - Other landscape restriction or prohibition

				demonstrates that advanced irrigation controllers on average can capture substantial water savings— 21 percent for rain sensors, and 15 percent for weather-based irrigation controllers	
		Use a shutoff nozzle on hoses.	0-1%	Estimated savings of 8 gpm	Other - Require automatic shut of hoses
		Washing down impervious surfaces such as driveways and sidewalks is prohibited unless for public health and safety purposes.	0-1%	Estimated savings of 8 gpm	Other - Prohibit use of potable water for washing hard surfaces
		Unauthorized use of hydrants is prohibited. Authorization for use must be obtained from water supplier.	0-1%		Other
		Commercial, industrial, institutional equipment must be properly maintained and in full working order.	0-1%		CII - Other CII restriction or prohibition
		Encourage customers to wash only full loads when washing dishes or clothes.	0-1%	Estimated savings of 15 - 45 gallons per load	Expand Public Information Campaign
		Encourage customers to use pool covers to minimize evaporation.	0-1%	Conservative savings estimate of 30% based on 30-50% savings range from evaporation and landscape	Expand Public Information Campaign

				design/yard layout per 2001 AWWA Annual Conference paper "Splash or Sprinkle? A Comparison of Water Use of Swimming Pools and Irrigated Landscape Area" by Peter Mayer and Lisa Maddaus.	
		Encourage restaurants to only serve water to customers on request.	0-1%	See Water on Request calculations	CII - Lodging establishment must offer opt out of linen service
2	Up to 20%	Fix leaks or faulty sprinklers within X day(s).	0-1%	Estimated savings of 20 gal per day per leak	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner
		Require restaurants to only serve water to customers on request.	0-1%		CII - Restaurants may only serve water upon request
		No restrictions on landscape watering with non-potable water.	Not applicable		Other
		Up to 3 days per week turf watering when using potable water. Plant containers, trees, shrubs and vegetable gardens may be watered additional days using only drip irrigation or hand watering.	5-10%	AWE (2020) Use and Effectiveness of Municipal Irrigation Restrictions During Drought - City of Sacramento Case Study: 2 day/week and 1 day/week restrictions showed a 21%-29% reduction in demand. It is reasonable that a	Landscape - Limit landscape irrigation to specific days

				3 day/week restriction would result in a 5-10% demand reduction.	
3	Up to 30%	Fix leaks or faulty sprinklers within X day(s).	0-1%	Estimated savings of 20 gal per day per leak	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner
		Decorative water features that use potable water must be drained and kept dry.	0-1%		Other water feature or swimming pool restriction
		Car washing is only permitted using a commercial carwash that recirculates water or by high pressure/low volume wash systems.	0-1%		Other - Prohibit vehicle washing except at facilities using recycled or recirculating water
		Require a construction water use plan be submitted to the water supplier that addresses how impacts to existing water users will be mitigated (such as dust control).	0-1%		Other - Prohibit use of potable water for construction and dust control
		With the exception of landscapes watered with non-potable water, limit the installation of new landscaping to drought tolerant trees, shrubs and groundcover. Prohibit installation of new turf or hydroseed. Customers may apply for a waiver to irrigate during an	0-1%		Landscape - Other landscape restriction or prohibition

		establishment period for the installation of new turf or hydroseed.			
		Warm/Dry Season			
		Up to two days per week turf watering when using potable water.	10-25%	AWE (2020) Use and Effectiveness of Municipal Irrigation Restrictions During Drought - City of Sacramento Case Study: 2 day/week resulted in 29% reduction in demand.	Landscape - Limit landscape irrigation to specific days
		Plant containers, trees, shrubs and vegetable gardens may be watered additional days using only drip irrigation or hand watering.	Not applicable		Landscape - Prohibit certain types of landscape irrigation
		Cool/Wet Season			Landscape - Limit landscape irrigation to specific days
		Turf shall not be watered unless utilizing non-potable water during extended dry spells.	1-5%		Landscape - Prohibit all landscape irrigation
		Plant containers, trees, shrubs and vegetable gardens shall be watered only by drip irrigation or hand watering.	0-1%		Landscape - Prohibit certain types of landscape irrigation
4	Up to 40%	Fix leaks or faulty sprinklers within X day(s).	0-1%	Estimated savings of 20 gal per day per leak	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner
		Existing pools shall not be emptied and refilled using potable water unless	0-1%		Other water feature or swimming pool restriction

		required for public health and safety purposes.			
		No new permits for pools will be issued.	0-1%		Other water feature or swimming pool restriction
		No new landscape installations or renovations will be permitted.	0-1%		Landscape - Other landscape restriction or prohibition
		Previous waivers for watering during an establishment period will be revoked.	0-1%		Landscape - Prohibit all landscape irrigation
		Warm/Dry Season			
		Up to one day per week turf watering when using potable water.	5-20%	AWE (2020) Use and Effectiveness of Municipal Irrigation Restrictions During Drought - City of Sacramento Case Study: 1 day/week resulted in 21% reduction in demand.	Landscape - Limit landscape irrigation to specific days
		Plant containers, trees, shrubs and vegetable gardens may be watered additional days using only drip irrigation or hand watering.	Not applicable		Landscape - Prohibit certain types of landscape irrigation
		Cool/Wet Season			
		Turf shall not be watered unless utilizing non-potable water during extended dry spells.	1-5%		Landscape - Prohibit all landscape irrigation

		Plant containers, trees, shrubs and vegetable gardens shall be watered only by drip irrigation or hand watering.	0-1%	Based on Alliance for Water Efficiency Statistics, the efficiency of overhead irrigation, such as rotors and pop-up spray heads, is typically around 50 percent and rarely exceeds 70 percent. The efficiency of a well-designed drip irrigation system can reach nearly 100 percent. https://www.allianceforwaterefficiency.org/resources/topic/drip-and-micro-spray-irrigation -Assume 15% savings as a result of middle estimate between mulch/plants and converting a portion of landscape that is sprinkler to drip.	Landscape - Prohibit certain types of landscape irrigation
5	Up to 50%	Water use for public health and safety purposes only.	0-50%		Landscape - Prohibit all landscape irrigation
6	Greater than 50%	Water use for public health and safety purposes only. Customer rationing may be implemented.	0-70%		Landscape - Prohibit all landscape irrigation
Additional Activities Not in the RWA Template That May Be in Local Agency Plans					

Suggested Stage	Recommended Conservation (Water Use Reduction)	Suggested Actions	Water Savings Estimate Range	Estimated Savings Source	DWR Demand Reduction Measure (Matches drop down box in required table)
3	Up to 30%	CII - Commercial kitchens required to use pre-rinse spray valves	0-1%	This may already be a requirement	CII - Commercial kitchens required to use pre-rinse spray valves
2	Up to 20%	Decrease Line Flushing	0-1%	Demand reduction measure could also be included in Level 5 or 6 restrictions	Decrease Line Flushing
1 or 0	Up to 10% or Normal Water Efficiency Program Implementation	Community Outreach and Messaging (Expand Public Information Campaign)	Necessary to have strong drought related outreach messaging. Assume overall savings included in each level's Demand Reduction Actions.	AWE (2020) Use and Effectiveness of Municipal Irrigation Restrictions During Drought - Sacramento Suburban WD Case Study: Heavy communication and outreach. Examination of GPCD data show that water demand hit bottom during 2015, declining 30% between 2013 and 2015 (202 GPCD to 142 GPCD) at the annual level, and by 42% at the peak monthly	Expand Public Information Campaign

				level (339 GPCD to 197 GPCD). Demand remained depressed during 2016 as drought conditions festered. By 2017, however, annual demand had rebounded to 156 GPCD, dropping a bit to 153 GPCD by 2018.	
2	Up to 20%	Drought Rates and Surcharges	5-30%	Depends on the design of the drought rate structure. Assume curtails non-essential uses like landscape irrigation.	Implement or Modify Drought Rate Structure or Surcharge
2	Up to 20%	Improve Customer Billing	0-1%	Demand reduction measure could also be included in AMI Measure	Improve Customer Billing
1 or 0	Up to 10% or Normal Water Efficiency Program Implementation	AMI Customer Leak Reports with Detection and Repair Assistance	0-5%		Increase Frequency of Meter Reading
1	Up to 10%	Increase Water Waste Patrols	0-1%	Demand reduction measure could also be included in Expand Public Information Campaign	Increase Water Waste Patrols
5	Up to 50%	Moratorium or Net Zero Demand Increase on New Connections	0-1%	Demand reduction measure could also be included in Level 5 or 6 restrictions	Moratorium or Net Zero Demand Increase on New Connections

1	Up to 10%	Offer Water Use Surveys	0-1%	Demand reduction measure could also be included in Expanded/Enhanced Rebate Programs	Offer Water Use Surveys
2	Up to 20%	Pools - Allow filling of swimming pools only when an appropriate cover is in place.	0-1%	Pool covers recommended but not required in Level 1	Pools - Allow filling of swimming pools only when an appropriate cover is in place.
2	Up to 20%	Pools and Spas - Require covers for pools and spas	0-1%	Pool covers recommended but not required in Level 1	Pools and Spas - Require covers for pools and spas
1	Up to 10%	Expanded/Enhanced Rebate Programs	0-10%	Depends on type of incentive and also level of customer participation.	Provide Rebates for Landscape Irrigation Efficiency
1	Up to 10%	Provide Rebates for Turf Replacement	0-1%	Demand reduction measure could also be included in Expanded/Enhanced Rebate Programs	Provide Rebates for Turf Replacement
1	Up to 10%	Provide Rebates on Plumbing Fixtures and Devices	0-1%	Demand reduction measure could also be included in Expanded/Enhanced Rebate Programs	Provide Rebates on Plumbing Fixtures and Devices
1	Up to 10%	Real Loss Reduction - Pressure Management and More Aggressive Leak Detection and Repair	0-10%	Reference Water System Audit Workbook. Assume real losses savings from total production.	Reduce System Water Loss

Appendix K

Sacramento City Code Chapter 13.04
Water Service System

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Chapter 13.04 WATER SERVICE SYSTEM

Note

* Prior code history: prior code §§ 47.01.001—47.01.008; 47.01.010; 47.01.011; 47.01.013—47.01.016; 47.02.018—47.02.022; 47.04.037—47.04.040; 47.05.041—47.05.049; 47.06.051; 47.07.052; 47.07.054; 47.07.055; 47.08.056—47.08.064; 47.09.070—47.09.079; 47.10.090—47.10.101; 47.11.110; 47.11.111; 47.11.132; 47.12.201—47.12.204; 47.13.300; 47.13.301; 47.13.303—47.13.307; 47.13.316—47.13.321; 47.14.400—47.14.405; 47.14.430; 47.14.431 and 47.14.450—47.14.452.

Article I. Water Service and Water Service Area—Definitions

13.04.010 Description of services.

The department of utilities of the city of Sacramento shall furnish a safe and potable water supply meeting the standards of the California Health and Safety Code and Title 22 of the California Code of Regulations. (Ord. 2001-033 § 1)

13.04.020 Water service area.

The water service area is that area located within the city limits as such limits now or may from time to time exist, and those areas outside the city limits that have been approved for water service by the city council consistent with applicable water right restrictions. (Ord. 2001-033 § 1)

13.04.030 Definitions.

Unless the context requires otherwise, whenever the words or terms defined in this section, or pronouns used in their place, occur in this chapter, they shall have the following meanings:

"Air conditioning or refrigeration system" means any combination of equipment, whether compressor or other type, by which heat is removed from or added to the air, that maintains temperatures that are not less than sixty (60) degrees Fahrenheit, and from which the accumulated heat is wholly or partially removed or added by the use of water. Evaporative coolers are included in this definition.

"City" means the city of Sacramento, California.

"City council" means the city council of the city of Sacramento, California.

"City limits" means the corporate limits of the city of Sacramento, California.

"City manager" means the city manager of the city of Sacramento or his or her authorized representative.

"City water distribution system" means all pipes, transmission and distribution mains and other facilities owned or operated by the city to supply, provide, or deliver water to its customers.

"Commercial service" means the provision of water to premises used for a business, trade, manufacturing or processing activity, including without limitation hotels, motels, rest homes, schools, irrigation service connections and all other services not hereinafter defined as a "domestic service." The provision of water to premises used for both commercial and domestic purposes shall be considered commercial service.

"Cross-connection" means any actual or potential connection between the city's or consumer's potable piping system and any other source or piping system through which it is possible to introduce into any part of the potable piping system any used water, industrial fluid, gas or substance other than the potable water with which the piping system is supplied. By-pass arrangements, jumper connections, removable sections, swivel or change-over devices and other temporary or permanent devices through which or because of which backflow can or may occur are considered to be cross-connections.

“Customer” means the owner of the property to which water service is rendered, or an association or other entity managing a common interest development billed for water service pursuant to subsections (A)(1), (A)(2), or (A)(3) of Section 13.04.220. As used herein, “association” and “common interest development” have the meanings specified in Section 13.12.010.

“Department” means the Department of Utilities of the city of Sacramento, California.

“Director” means the director of the Department of Utilities of the city of Sacramento, or his or her authorized representatives.

“Distribution main” means a water pipeline used to convey potable water from a transmission main to the customer’s property.

“Domestic service” means the provision of water solely for household and domestic irrigation purposes to premises with one or more residential dwelling units, excluding the provision of water defined herein as “commercial service.”

“Fire chief” means the fire chief of the city of Sacramento or his or her authorized representative.

“Fire service” means the water pipe and appurtenant facilities dedicated to provide water solely for fire fighting purposes.

“Flat rate” means a fixed periodic rate charged for the provision of water based on factors related to the amount of water used, that may include a minimum rate or service charge, but that does not involve measurement of and billing for the actual quantity of water delivered.

“Irrigation season” means May through October, inclusive, unless a different time period is specified by resolution of the city council.

“Irrigation service” means a water pipe dedicated to provide water solely for irrigation of landscaping.

“Metered rate” means the periodic rate charged for the provision of water in measured quantities based on the quantity delivered, that may include a minimum rate or service charge.

“On-site fire protection facilities” mean privately-owned fire protection facilities installed on private property in accordance with the provisions of this code, whether installed before or after the effective date of the ordinance codified in this chapter.

“Person” means any person, company, partnership, agency or other public or private entity.

“Point of service” means the location where the city’s distribution main delivers water to the customer’s private water line. For a metered water service connection, the city’s point of service generally is located at the downstream side of the meter where it connects to the private water line; provided that in any location where the meter is outside of the city right-of-way containing the city distribution main, the city’s point of service is located at the boundary of the city right-of-way. For an unmetered water service connection, the city’s point of service generally is located as follows:

Public Alleys. The point of service for an unmetered water service connection to a city distribution main in a public alley, paved or unpaved, is located at the alley right-of-way line.

Public Streets. The point of service for an unmetered water service connection to a city distribution main in a public street is located at the edge of the public sidewalk adjoining the property served when the sidewalk is continuous with the curb and gutter; at the edge of the curb adjoining the property served when the sidewalk is separated from curb and gutter by a planter strip; and at the street right-of-way line for a public street lacking curb, gutter, and sidewalk improvements.

Public Utility Easements, Abandoned Streets and Alleys, and Private Streets and Alleys. The point of service for an unmetered water service connection to a city distribution main in a public utility easement, abandoned public street or alley, private street or alley, or other private parcel is located at the corporation stop/valve at the main.

Where the exact location of the point of service is unclear, the director shall determine the location.

“Premises” means the property or area, including improvements thereon, to which water service is or will be provided.

“Private fire hydrant” means a fire hydrant that is not located in a city right-of-way or other city property that is owned and maintained by a party other than the city.

“Private water line” means a water pipeline that is owned and maintained by a party other than the city, beyond the city’s point of service.

“Public fire hydrant” means a fire hydrant that is owned and maintained by the city.

“Public water main” means a transmission or distribution main that is owned and maintained by the city.

“Rendered,” when used to describe water service or other utility services being rendered, means that the service is provided or otherwise made available for use.

“Room” means an area with a minimum of fifty (50) square feet that is structurally or functionally distinct from other rooms or areas in a residential dwelling unit receiving domestic service, as determined by the department in accordance with the department’s billing criteria.

“Service connection” or “water service connection” means any tap, pipe, or other means of taking water from the city water distribution system. A service connection occurs at the time that a tap, pipe, or other means of taking water is physically attached to the city water distribution system in a manner capable of taking water from the distribution system.

“Standard specifications” means the city’s Standard Specifications for Public Construction dated June 2007, including any subsequent amendments.

“Transmission main” means a water pipe greater than twelve (12) inches in diameter used to convey potable water from a well or treatment plant to a distribution main.

“Temporary water service” means the provision of water for a period of twelve (12) months or less.

“Water conservation device” means any mechanical or electrical equipment employed to efficiently use water.

“Water distribution facilities” means city transmission mains and distribution mains, unless the context indicates otherwise.

“Water meter” means a water meter provided or approved by the city that is installed on a water service connection in a manner that measures the volume of all water taken from the city water distribution system through that water service connection. As used in Article III of this chapter, water meter shall include the water meter, the meter box containing the water meter and all related attachments and equipment.

“Water service” means the provision of water from the city water distribution system in accordance with the provisions of this chapter and other applicable ordinances, laws and regulations. Unless the context, or the city, in its discretion, requires otherwise, the term “water service” as used in this chapter shall not include the provision of city water on a wholesale basis to another water purveyor that, in turn, will supply such water to its own retail customers. (Ord. 2013-0014 § 1; Ord. 2011-051 § 3; Ord. 2005-090 § 2; Ord. 2001-033 § 1)

Article II. General Requirements

13.04.040 Private water lines.

Private water lines serving two or more buildings or structures located on the same lot or parcel or not maintained by a public utility shall be constructed to meet the standards for construction of public water mains set forth in the standard specifications. (Ord. 2001-033 § 1)

13.04.050 Relocation of service connection.

A service connection may be relocated by the city at a customer’s request provided the relocation, in the judgment of the director, is not detrimental to the city water distribution system. Such relocation shall include any modifications necessary to comply with then-current service connection standards or requirements, and the cost of the relocation shall be borne by the customer. The customer shall pay the estimated cost of the relocation, as determined by the director, prior to obtaining a water tap and constructing

the water service. Where a service connection is relocated for the convenience or protection of the city, the relocation shall be at the expense of the city. (Ord. 2001-033 § 1)

13.04.060 Service connections generally.

A. Unless otherwise provided in this chapter, each lot or parcel shall have a separate water service connection, except for fire service connections serving more than one lot or parcel that are authorized pursuant to the provisions of this chapter. All water service lines shall be equipped with an approved corporation stop/valve at the distribution main, and with a curb stop valve unless not required under specifications adopted by the department. Water service lines shall not cross another lot or parcel without first obtaining any and all rights-of-way, easements, or other approvals necessary to do so.

B. To be eligible for water service, a parcel must abut a public easement or a city street or alley right-of-way in which a distribution main is located at a point immediately adjacent to the property, unless the director authorizes the extension of a distribution main.

1. If the parcel abuts both a public easement and a street or alley right-of-way in which distribution mains are located, the director shall specify which distribution main will be used for any new water service connection.

2. If the parcel abuts only a public easement in which a distribution main is located, and the distribution main is scheduled in the department's capital improvement program to be abandoned when a new distribution main is constructed in a street or alley right-of-way adjacent to the parcel, the director may require, as a condition of allowing a new water service connection to the existing distribution main, that the parcel's private water lines be configured to allow the parcel to be connected to the new distribution main after it is constructed.

C. The director may authorize water service for land locked parcels provided that the customer obtains recorded private easements from the affected owner(s) and all other applicable legal requirements are fulfilled. Private easements must abut a distribution main in a dedicated public easement or city right-of-way. Water service lines constructed in private easements are private water lines, and the city shall have no responsibility for the maintenance and repair of such lines.

D. The director may authorize water service for a parcel that is not adjacent to a distribution main and is not land locked, on such terms and conditions as may be specified by the director, if the director determines based on written findings that it is not feasible to extend a distribution main due to the unique physical characteristics of the parcel which are so unusual that complying with the requirements of this section would create an exceptional hardship to the parcel owner or the surrounding parcel owners.

E. Except as provided herein, the director shall determine the maximum sizes of service connections. For single-family domestic service connections, the maximum size shall be one inch, or one and one-half inches if residential fire sprinkler systems are present, unless otherwise authorized by the director.

F. All water service connections are subject to the city's tap, meter, development, abandonment, and other applicable fees established by city council resolution, and to the department's cross-connection control standards. (Ord. 2015-0011 § 1; Ord. 2013-0014 § 2; Ord. 2011-031 § 1; Ord. 2001-033 § 1)

13.04.065 Access to customer premises for water service work.

A customer receiving city water service shall provide the city's employees and contractors access to and use of the premises where city water service is received as may be required for the installation, maintenance, repair, or removal of any pipelines, water meters, and other appurtenances used to provide or measure city water service to the customer's premises or to adjacent premises; or for purposes of connecting, reconnecting, or relocating the connection for city water service to any such premises. Compliance with the foregoing requirements is a condition of the customer receiving or continuing to receive city water service, and the department may shut off water service at the distribution main if the customer refuses to allow access as

required in this section. If the customer refuses to allow such access, the city may seek authorization for access from any court of competent jurisdiction. (Ord. 2013-0014 § 3; Ord. 2005-090 § 3)

13.04.070 Multiple service connections.

Except for separate irrigation service connections and fire service connections, each lot or parcel shall have only one service connection; provided that requests for multiple service connections (excluding separate irrigation service and fire service connections) may be approved on a case-by-case basis by the director.

A. Backup service connections are considered to be temporary and shall be subject to termination by city at a future date specified by the director.

B. If permanent multiple service connections require a public water main extension, the main extension shall be installed to the satisfaction of the director at the customer's expense.

C. Where multiple service connections already exist, and a lot split, lot merger, or a change of business or operations occurs, the excess service connection shall be removed at the customer's expense, if required by the director. (Ord. 2015-0011 § 2; Ord. 2001-033 § 1)

13.04.075 Water service for community gardens.

The director may authorize lots or parcels utilized for a community garden, as defined in Section 17.108.040 of this code, to use the existing water service connection of an adjoining lot or parcel to provide irrigation for the community garden if the owner of the adjoining lot or parcel consents to such use, provided that:

A. A backflow prevention device is installed and periodically tested in accordance with such requirements as may be specified by the director to protect the potable water supply of the city and of the adjoining lot or parcel served by the existing water service connection; and

B. A water meter is installed on the existing water service connection. The owner of the adjoining lot or parcel served by the existing water service connection shall notify the director prior to the initiation of any such use, and shall be liable for all rates, charges, and fees for the water service furnished to the existing water service connection used to provide irrigation for the community garden. (Ord. 2013-0021 § 38; Ord. 2011-031 § 2)

13.04.080 No city responsibility beyond point of service—Indemnity.

The city's responsibility to operate, maintain and repair public water mains shall extend only to the point of service. The operation, maintenance and repair of any private water line connected to the point of service shall be the customer's sole responsibility. The customer shall indemnify and hold harmless city, its officers and employees from any claims, actions, costs (including attorney fees), damages or other liability resulting or arising from the condition, operation, maintenance or repair of said private water line. (Ord. 2001-033 § 1)

13.04.090 Discontinuance of water services—No liability.

The supply of city water may be discontinued at any time without notice to customers and the city shall in no way be liable for any damage or costs resulting from such discontinuance. The city does not guarantee, and shall not be liable for any failure in, continuity of water service or water pressure. (Ord. 2001-033 § 1)

13.04.100 Use of water.

No person shall use any city water unless installation of the tap and initiation of the water service has been approved by the city in accordance with all applicable provisions of this code. Any use without such approval shall be unlawful. (Ord. 2001-033 § 1)

13.04.110 Inspections.

No person shall interfere with the inspection by city employees of any water fixture or water-using or water-distributing device connected directly or indirectly to the city water distribution system, for the purpose of determining whether there is a violation of any provision of this chapter. City employees shall obtain the consent of an adult occupant before entering occupied premises or dwellings. If consent is not obtained, the city may seek authorization for access from any court of competent jurisdiction. (Ord. 2013-0014 § 4; Ord. 2001-033 § 1)

13.04.120 Leaking fixtures.

It is unlawful for any person to maintain or allow on his or her premises leaky or faulty water fixtures or water using or distributing devices to which city water is connected, so that city water is wasted thereby. The failure to repair or disconnect the faulty device within five days after being notified in writing to do so by the department shall be sufficient cause for the disconnection of city water from the premises until the repairs have been made. After disconnection, water shall be reconnected only in accordance with the provisions of Section 13.04.170. (Ord. 2001-033 § 1)

13.04.130 Public fire hydrant use—Requirements.

A. No person other than authorized employees of the department or fire department, or other persons duly authorized by the city manager, shall open or operate any public fire hydrant or attach any hose, tubing, or pipe to a public fire hydrant for any purpose, without first obtaining a fire hydrant use permit from the director, in accordance with the temporary water use policy approved by the director pursuant to Section 13.04.210. Permit applications shall be filed on forms provided by the department. The permittee shall at all times comply with the temporary water use policy and any other conditions included in the permit.

B. Permit applicants shall pay the fees, charges, and deposits required by the temporary water use policy, in the amounts established by city council resolution.

C. No person, whether authorized to open a public fire hydrant or not, shall leave a public fire hydrant open or leave the cap off the nozzle of a public fire hydrant after having ceased to use it.

D. Any person who opens or operates a public fire hydrant, whether or not authorized as provided herein, shall indemnify and hold harmless the city, its officers, and employees from any claims, actions, costs (including attorney fees), damages, or other liability resulting or arising therefrom. (Ord. 2013-0014 § 5; Ord. 2001-033 § 1)

13.04.140 Public fire hydrants—Administrative penalties.

A. Any person violating any provision of Section 13.04.130 is subject to administrative penalties pursuant to Section 1.28.010. The administrative penalty for violations of Section 13.04.130 is one hundred dollars ($100.00) for the first violation, five hundred dollars ($500.00) for the second violation, and one thousand dollars ($1,000.00) for the third and all subsequent violations in a one-year period.

B. If a person commits more than three violations of Section 13.04.130 in a three-year period, the director may refuse to issue any further fire hydrant use permits to that person for a period of one year.

C. The penalties set forth above also apply to persons using a water transportation vehicle if the vehicle is found operating without a valid fire hydrant use permit as required under the temporary water use policy.

D. Violation of any provision of Section 13.04.130 is grounds for forfeiture of a deposit as provided in the temporary water use policy.

E. The foregoing provisions are cumulative and in addition to any other penalty or remedy provided or authorized under any applicable law, regulation, or this code, including Section 1.28.020 and

Chapters 2.24, 15.36, and 15.100. (Ord. 2013-0014 § 6; Ord. 2001-033 § 1)

13.04.150 Private fire hydrant use.

Unmetered on-site fire protection facilities providing water supply to private fire hydrants shall be used for fire suppression purposes only, except as provided otherwise in this section. No person shall use or allow others to use private fire hydrants for any purpose other than fire suppression without obtaining permission from the director. The director may require the property owner to purchase, install, and maintain a detector check on each fire service provided to the property. The size, location, and type of detector check shall be as specified by the director. (Ord. 2013-0014 § 7; Ord. 2001-033 § 1)

13.04.160 No obstruction.

No person shall block or obstruct any public or private fire hydrant in such a manner that interferes with its operation, maintenance or repair, or the attachment of a fire hose thereto. No person shall place upon or about any public or private fire hydrant, water gate, water meter, curb/cock or stop/cock connected with the city water distribution system any building material or other obstruction so as to prevent free access to the same at all times. (Ord. 2001-033 § 1)

13.04.170 Reconnection of water.

In no case shall water service be restored to any premises when shut off as provided in this title, unless the pipe leading thereto is directly connected with the distribution main and unconnected with any other service pipe leading to any other premises, and except on approval of the director and payment of all past due accounts and the additional amount covering costs for shutting off and restoring the water service. (Ord. 2001-033 § 1)

13.04.180 Service pipes.

A. No person whose water service pipe is attached directly or indirectly to a public water main shall allow any person to attach any pipe or hose connection to the plumbing on his or her lot or parcel for the purpose of providing water service to any other lot or parcel, except to provide irrigation for a community garden in accordance with Section 13.04.075.

B. No person shall receive water service on a lot or parcel by means of a pipe or hose connection to the plumbing on a different lot or parcel that is attached directly or indirectly to a public water main, except to provide irrigation for a community garden in accordance with Section 13.04.075.

C. The department may order the disconnection of any pipe or hose connection in violation of this section, or the department may disconnect the pipe or hose connection. (Ord. 2013-0014 § 8; Ord. 2011-031 § 3; Ord. 2001-033 § 1)

13.04.190 Water shut-off for illegal service connection.

A. If the department orders the disconnection of a pipe or hose connection in violation of Section 13.04.180, and the pipe or hose connection is not disconnected with the time specified by the department, the department may shut off the water service connection providing water to the pipe or hose connection at the distribution main.

B. If any person refuses to allow department employees to enter any premises for the purpose of disconnecting a service pipe or hose connection that supplies city water to another lot or parcel in violation of this chapter, the department may shut off water service to the premises at the distribution main. (Ord. 2013-0014 § 9; Ord. 2001-033 § 1)

13.04.200 Use after shut off—Indemnity.

Whenever the department shuts off any pipe or any public or private fire hydrant carrying or discharging water from the city water distribution system, no person shall open the pipe or hydrant or turn on or use any water from the pipe or hydrant without obtaining prior approval from the director. Any person who violates this section shall indemnify and hold harmless the city, its officers, and employees from any claims, actions, costs (including attorney fees), damages, or other liability resulting or arising therefrom. (Ord. 2013-0014 § 10; Ord. 2001-033 § 1)

13.04.210 Temporary water service.

A. The director shall adopt a written temporary water use policy that establishes policies, procedures, and requirements applicable to temporary water service, including procedures governing application for—and issuance, denial, renewal, and revocation of—fire hydrant use permits, and procedures for payment and forfeiture of deposits.

B. Any person requesting temporary water use shall comply with all requirements of the temporary water use policy, including the payment of all applicable fees, charges, and deposits in the amounts established by city council resolution.

C. Temporary water service shall be provided through a meter, at current city charges. The department may authorize temporary water service for new residential construction prior to meter installation, upon payment, prior to issuance of a building permit, of a temporary water service fee, for each residential lot, equal to three times the city's then-current monthly flat rate for water service to a single-family residence with six to nine rooms. (Ord. 2013-0014 § 11; Ord. 2001-033 § 1)

13.04.220 Condominiums; common interest developments; common irrigation systems.

A. Notwithstanding any contrary provision of this code, if authorized by the director, and subject to such terms and conditions as may be specified by the director:

1. Water service, and other city utility services as applicable, rendered to a condominium project's condominium units or common area(s) may be provided at a single point of service or multiple points of service and billed to the association managing the condominium project.

2. In a common interest development, if a meter is installed on an existing unmetered water service connection, or if an existing metered service connection is changed from flat rate to metered rate billing, the metered rate for the service connection shall be billed to the association managing the common interest development, or to the owners of the separate interests served by the service connection in accordance with a rate allocation established by ordinance or resolution of the city council; this does not include water service provided at a water service connection serving only one separate interest, which shall be billed to the owner of the separate interest.

3. Irrigation service rendered to the common area(s) of a common interest development may be provided at a single point of service or multiple points of service and billed to the association or other entity managing the common interest development.

4. Irrigation service for a common irrigation system that crosses parcel lines in a commercial development that is not a common interest development, may be provided at a single point of service or multiple points of service and billed to a single owner or the owner's authorized representative, provided that:

a. The owner owns all parcels served by the common irrigation system; or

b. If the owner owns at least one, but not all, of the parcels served by the common irrigation system, the owner furnishes satisfactory evidence of an easement or other interest of record for the parcels not owned by the owner, that authorizes the owner or the owner's authorized representative to obtain and pay for irrigation service for the common irrigation system on those parcels.

B. If water service is billed to an association or other entity pursuant to subsections (A)(1), (2), or (3) of this section, the association or other entity shall be fully responsible for payment of the rates, fees, and charges for the water service as a condition of continuing to receive water service.

C. If irrigation service is billed to an owner or the owner's authorized representative pursuant to subsection (A)(4) of this section, the owner or the owner's authorized representative shall be fully responsible for payment of the rates, fees, and charges for the irrigation service as a condition of continuing to receive irrigation service.

D. As used in subsection A of this section, the terms "common area," "condominium project," "common interest development," "separate interest," and "association" have the meanings specified in Section 13.12.010. (Ord. 2015-0011 § 3; Ord. 2013-0014 § 12; Ord. 2011-051 § 4; Ord. 2001-033 § 1)

13.04.225 Water service to projects consisting of vertical parcels.

A. Notwithstanding any contrary provision of this code, the director may authorize water service to be:

1. Rendered to a project consisting of vertical parcels at a single metered point of service or multiple metered points of service, with sub-meters for each parcel, as specified by the director; and

2. Billed to a single person authorized to receive and pay for the water service for and on behalf of all the parcel owners, referred to in this section as the "authorized party."

B. If the director authorizes water service pursuant to subsection A, before receiving any water service connection the authorized party and all parcel owners must enter into a water service agreement with the department, in a form approved by the city attorney, that includes the terms and conditions specified by the director, including, at a minimum, the following:

1. The owners and authorized party shall be solely responsible for all water distribution facilities within the project, including the sub-meters for all parcels;

2. The authorized party shall pay when due the rates, fees, and charges for water service rendered to the city's metered points of service; shall be solely responsible for the allocation, billing, and collection of these costs among the parcels within the project based on sub-metering; and, if required by the director, shall furnish a security deposit to assure payment;

3. If the authorized party fails to pay all or any portion of the rates, fees, and charges for water service rendered to the city's metered points of service when and as required:

a. The city may discontinue water service provided through the city's metered points of service until all rates, fees, and charges are paid in full, and

b. All of the parcel owners will be liable for payment as specified in Section 13.12.020, and will be subject to the delinquent service charge procedures specified in Sections 13.12.070 through 13.12.100;

4. The owners and authorized party shall release any and all claims arising from the city's discontinuance of water service for nonpayment, including unknown claims arising under California Civil Code Section 1542;

5. The owners and authorized party shall defend, indemnify, and hold harmless the city, its officers, employees, and agents against any and all liabilities and costs (including attorney fees) arising from:

a. Any action or failure to act by the owners or authorized party, or their respective members, officers, employees, contractors, or agents,

b. Any discontinuance of water service for nonpayment, or

c. Any claim related to the authorized party's authority to act on behalf of the parcel owners;

6. The agreement shall be recorded so that the agreement's obligations are covenants that run with all parcels within the project, in accordance with Section 1468 of the Civil Code, and bind all members, successors, and assigns of the owners and authorized party;

7. If the services of any attorney are required by a party to secure performance of the agreement, or due to a breach or default of a party, or if any judicial remedy or arbitration is necessary to enforce or interpret any provision of the agreement, the prevailing party shall be entitled to reasonable attorney fees, costs, and other expenses, in addition to any other relief to which the party may be entitled; and

8. Except as provided otherwise in the agreement, the provision of city water service shall be subject to all applicable provisions of the city charter, this code, and any other statute, regulation, ordinance, resolution, or city policy or procedure. (Ord. 2015-0011 § 4)

13.04.230 Structures overlying city utilities.

No permanent structure (including without limitation garages, patios, concrete slabs, tool shed and similar structures) shall be constructed on top of water, sewer or drainage pipelines or anywhere within the associated utility easements, unless approved by the director upon execution of a hold harmless agreement approved by the city attorney. (Ord. 2001-033 § 1)

13.04.240 Cross-connection control standards.

The city council shall from time to time by resolution adopt cross-connection control standards that establish the city's requirements for design, construction, installation, and maintenance of backflow prevention assemblies. The purpose of these standards is to protect the potable water supply of the city of Sacramento from the possibility of contaminants, pollutants, or water from unapproved sources entering the city's water distribution system through cross-connections. Any person receiving or using water from the city's water distribution system shall comply with all provisions of the city's then current cross-connection control standards, and the violation of any provision thereof shall constitute an infraction. In the event a water customer is found to be in violation of the cross-connection control standards by the director or by a Sacramento County Environmental Health Officer, the customer's water service may be terminated. The foregoing provisions shall be cumulative and in addition to any other remedy provided under any applicable law or regulation, including without limitation the administrative penalty provisions of Section 1.28.010. (Ord. 2001-033 § 1)

13.04.250 Easements.

Easements granted for public water mains shall be exclusive easements, and shall be in a form approved by the department and the city attorney. (Ord. 2001-033 § 1)

13.04.260 Damage to city water distribution system.

Any person or entity damaging or removing any portion of the city water distribution system shall pay the city's costs of investigating and repairing such damage and/or replacing any removed item(s), and shall indemnify and hold harmless city, its officers and employees from any claims, actions, costs (including attorney fees), damages or other liability resulting or arising from such damage or removal. (Ord. 2001-033 § 1)

13.04.270 Violations.

Unless specified as a misdemeanor, the violation of any provision of this chapter is an infraction, in addition to any other remedy provided under any applicable law or regulation, including without limitation the administrative pen-

alty provisions of Section 1.28.010. (Ord. 2001-033 § 1)

Article III. Water Meters

13.04.280 Intent and purpose.

The provisions of California Water Code Section 521 et seq., impose various requirements for the installation and use of water meters. The ordinance codified in this article is enacted to comply with and implement these state law requirements. (Ord. 2005-090 § 4)

13.04.290 Installation of water meters on water service connections made on or after January 1, 1992.

A. In accordance with the provisions of California Water Code Section 525, no new water service connec-tions may be attached to the city water distribution system on or after January 1, 1992, unless such connection is equipped with a water meter. As used in this section, “new water service connection” includes any existing water service connection that is used to provide water to buildings or residential units constructed on or after January 1, 1992. Fire service connections are exempt from the provisions of this chapter. The director may adopt standards and requirements to implement the provisions of this section.

B. Prior to the installation of a water meter in accordance with the terms of this section, the customer shall pay any applicable fee established from time to time by resolution of the city council to recover costs incurred by the city to provide, install or supervise the installation of the water meter.

C. Water meters for water service connections made on or after January 1, 1992 shall be installed by the city or under the city’s supervision in accordance with all applicable city water and building codes, regulations, and standards.

D. A water meter for a water service connection made on or after January 1, 1992 shall not be installed unless a plumbing permit has been issued.

E. Meters for water service connections made on or after January 1, 1992 shall be installed above ground on metered water services three inches and larger in diameter that require the installation of a backflow prevention assembly installation.

F. No occupancy permit for any structure served by a water service connection made on or after January 1, 1992 shall be issued until meter installation is complete. (Ord. 2005-090 § 4)

13.04.300 Phased meter installation program.

California Water Code Section 527 requires the city to install water meters on all water service connections on or before January 1, 2025. In order to comply with this requirement, the director shall develop and implement a phased program to accomplish, by January 1, 2025, the installation of water meters on all city water service connections that existed without meters as of January 1, 2005. Such program shall comply with any requirements specified or approved by resolution(s) of the city council, including resolution(s) adopted prior to the effective date of the ordinance enacting this section. The director may adopt standards and requirements to implement the provisions of this section. Customers shall pay such rates, fees and/or charges as may be established from time to time by resolution of the city council to fund, among other costs, the development and implementation of the phased meter installation program. (Ord. 2005-090 § 4)

13.04.305 Conversion to metered connections for common interest developments.

A. If an existing unmetered water service connection in a common interest development is changed to a metered connection, the meter shall be installed on the existing connection. If the water service connection serves more than one separate interest, the department may install within the development’s private water distribution system separate water meters for each separate interest, if requested by the association managing the common interest development and the owners of the separate interests and the director determines that it is feasible and appropriate to do so:

1. Provided that the association and owners, at no cost to the city:

a. Locate and expose those portions of the development’s private water distribution system where the separate water meters would be installed as may be required by the director to determine whether it is feasible to install separate water meters,

b. Install all piping and other improvements required by the director to install separate meters, and

c. Convey to the city all easements or other property rights required by the director for installation, operation, maintenance, repair, and replacement of the separate meters and the meter boxes containing them; and

2. Subject to such other terms and conditions specified by the director.

B. If an existing unmetered water service connection serves more than one separate interest in a common interest development that does not have an association, the director may require that the owners of all separate interests in the common interest development, at no cost to the city, and as a condition of continuing to receive city water service:

1. Locate and expose those portions of the development's private water distribution system where separate water meters would be installed for each separate interest;

2. Install all piping and other improvements required by the director to install separate metered water service connections for the separate interests; and

3. Convey to the city all easements or other property rights required by the director for installation, operation, maintenance, repair, and replacement of the separate meters and the meter boxes containing them.

C. The department's installation, operation, maintenance, repair, or replacement of separate water meters and meter boxes within a common interest development's private water distribution system shall not create or impose on the city any responsibility or liability of any kind for the condition, operation, maintenance, repair, or replacement of any portion of the private water distribution system.

D. As used in this section, the terms "association," "common interest development," and "separate interest" have the meanings specified in Section 13.12.010. (Ord. 2015-0011 § 5; Ord. 2013-0014 § 13)

13.04.310 Reading meters.

The customer receiving city water service shall keep water meters unobstructed and accessible for reading, maintenance and repair, and shall provide the department's employees and/or its contractors access to the premises where the customer receives water service as may be required by the city for such purposes. Compliance with this section shall be a condition of receiving or continuing to receive city water service. (Ord. 2005-090 § 4)

13.04.320 Testing meters.

A. Any metered customer may request in writing that the meter through which water is being furnished be examined and tested by the department to determine whether the meter is registering accurately the amount of water that is being delivered through it. Upon receipt of such request, the department shall examine and test the meter. If the meter is found to register over three percent more water than actually passes through it, the customer's water bill will be adjusted accordingly. If the meter is found to register a variance of three percent or less, no billing adjustment will be made. Meter testing will be performed at a customer's request, at no charge to the customer, not more than once every twelve (12) months.

B. If a customer requests more frequent testing, the customer's request shall be accompanied by a deposit of an amount equal to the monthly minimum meter charge. Upon receipt of such request, the department shall examine and test the meter. If the meter is found to register over three percent more water than actually passes through it, the customer's water bill will be adjusted accordingly and the deposit shall be returned, without interest. If the meter is found to register a variance of three percent or less, no billing adjustment will be made and the deposit shall be used by the city to pay its inspection and testing costs. (Ord. 2005-090 § 4)

13.04.330 Water meter use—Indemnity and notification.

No person other than authorized employees of the department or other persons authorized by the director shall install, maintain, repair, move, replace, adjust, tamper with, manipulate, damage, disconnect, or remove any water meter. Any person performing any of the foregoing actions, whether or not authorized by the director, shall indemnify and hold harmless city, its officers, and employees from any claims, actions, costs

(including attorney fees), damages, or other liability resulting or arising from such actions, and shall pay the city's costs of investigating and repairing any resulting damage or replacing any removed items. Customers with metered water service connections shall notify the department of any visible damage to, or removal of, any portion of the meter box containing the water meter. (Ord. 2013-0014 § 14; Ord. 2005-090 § 4)

13.04.340 Reserved.

(Ord. 2005-090 § 4)

Article IV. Construction of Water Distribution Facilities Within City Limits

13.04.350 Application for installation.

Any person requesting water service from a public water main for a property or properties where no water distribution facilities have been installed shall apply to the director for permission to install the distribution facilities. The application shall be made to the director and shall contain plans and specifications for the proposed distribution facilities, that shall conform to the requirements of the director as to size, type and quality of materials and loca-

tion of transmission and/or distribution mains. (Ord. 2001-033 § 1)

13.04.360 Certification of approval of water distribution facilities plans.

If the director certifies in writing that the plans and specifications submitted conform to the requirements of the department, the applicant may cause the water distribution facilities to be installed by either private contract or by another procedure acceptable to the director. The department's approval of tentative map conditions and subsequent improvement plans shall satisfy this requirement. All costs associated with the installation shall be the responsibility of the applicant. (Ord. 2001-033 § 1)

13.04.370 Inspection of installation.

The director shall have the right to inspect all work performed and all work must be approved by the director after inspection before the distribution facilities shall be connected to the city water distribution system. (Ord. 2001-033 § 1)

13.04.380 Distribution facilities to become property of the city.

After the director issues a notice of completion, the distribution facilities shall become the property of the city. (Ord. 2001-033 § 1)

Article V. Water Service Outside the City Limits

13.04.390 Approval of city council.

No application for water service to any area located outside the city limits shall be granted without approval by the city council. (Ord. 2001-033 § 1)

13.04.400 Approval of city council—Conditions for approval.

Applications for water service to areas located outside of the city limits may be granted only in areas where surplus water is available in excess of the water supply needs of water users within the city limits, and where providing such service is not deemed detrimental to existing services or inimical to the interests and operations of the department. Water service outside the city limits shall be subject to the conditions and

requirements of this chapter, and also shall be consistent with applicable water right restrictions. (Ord. 2001-033 § 1)

13.04.410 Permit required.

All applicants for city water service to areas outside of the city limits shall secure a permit from the department. The permit shall not be issued unless it is found that the plumbing in the premises to be served and the construction of the water distribution facilities serving such premises conforms with the provisions of this code and other applicable regulations of the city and the laws and regulations of the state. The applicant shall allow city personnel and/or the Sacramento County Environmental Management Department to inspect the premises and distribution facilities at all reasonable times and if it is found at any time that any of the above-mentioned provisions, regulations or laws is violated, the water service shall be disconnected. (Ord. 2001-033 § 1)

13.04.420 Permit application.

The application for the permit required by Section 13.04.410 shall be on a form provided by the department, and shall be accompanied by payment of the application fee established by city council resolution. (Ord. 2013-0014 § 15; Ord. 2001-033 § 1)

13.04.430 Discontinuance of service outside city limits.

The department may discontinue water service to any area outside of the city limits when it determines that the continuation of service is no longer feasible economically or that continuing such service interferes with proper service to water users within the city limits. (Ord. 2001-033 § 1)

13.04.440 Maintenance of distribution facilities.

Upon issuance of a permit in accordance with Section 13.04.410 and acceptance by the city, the city shall maintain all distribution facilities to which water service is provided pursuant to the provisions of this chapter. (Ord. 2001-033 § 1)

Article VI. Regulations for Air Conditioning and Swimming Pools

13.04.450 Air conditioning and refrigeration devices—Discharge into sewers.

Waste cooling water from air conditioning and refrigeration systems may be discharged:

A. To a storm sewer only when such discharge is permitted by the state and authorized in writing by the director; and

B. To a sanitary sewer only when such discharge is permitted by the Sacramento Regional County Sanitation District and is authorized in writing by the director.

The director may require the installation of a water conservation device meeting standards specified by the department as a condition of granting such authorization, that shall be in addition to any permits or other approvals required under the city plumbing and electrical codes. (Ord. 2001-033 § 1)

13.04.460 Evaporative coolers—Recirculating pump.

Evaporative coolers installed after January 1, 1959, shall be equipped with a recirculating pump. The makeup supply line shall be equipped with an inlet valve that shall open only when makeup water is required by the unit. The make up supply line shall be equipped with an approved air-gap. (Ord. 2001-033 § 1)

13.04.470 Evaporative coolers—Sale of cooler without recirculating pump.

No person within the city limits of the city shall sell an evaporative cooler after January 1, 1959, that will use water from the public water system within the city limits unless such cooler is, when sold and delivered, equipped with an air-gap installed on the water supply to the cooler and a water recirculating device. (Ord. 2001-033 § 1)

13.04.480 Roof sprinklers prohibited.

The use of existing roof sprinkler systems after January 1, 1959, or their installation after the original effective date of the provisions of this section is prohibited. (Ord. 2001-033 § 1)

13.04.490 Swimming pools.

Prior to the issuance of a plumbing permit for the installation of a swimming pool, a plan showing the water supply and drainage piping of the swimming pool shall be submitted for approval by the community development department. This drawing shall indicate all valves, size of piping, and filter pump capacity. No plumbing permit shall be issued without prior approval by the director. Except when authorized by the director pursuant to Section 13.04.230, no pool or pond, nor any associated decking, may be constructed within a public water, sewer, or drainage easement, or within six feet of a city water, sewer, or drainage pipe. (Ord. 2013-0014 § 16; Ord. 2001-033 § 1)

13.04.500 Swimming and wading pools and/or fish ponds—Recirculating devices required.

After January 1, 1959, all swimming or wading pools or fish ponds above two thousand (2,000) gallons in capacity, using water from the city water system or discharging to a public sewerage or drainage system, shall be provided with recirculating systems equipped with an approved filter. The make up supply line shall be equipped with an approved air gap. (Ord. 2001-033 § 1)

13.04.510 Swimming and wading pools and/or fish ponds—Discharge to storm sewer.

Permission to discharge dechlorinated swimming pool water to the storm sewer may be granted by the director, if permitted by the state. (Ord. 2001-033 § 1)

13.04.520 Swimming and wading pools and/or fish ponds—Discharge into sanitary sewer.

Permission to discharge swimming pool water into a sanitary sewer may be granted by the director, if permitted by the Sacramento Regional County Sanitation District, subject to the following conditions:

A. The maximum size of the discharge pipe from the pool to the sewer service clean-out shall be limited to one and one-half inches.

B. If the sanitary sewer capacity becomes inadequate for both sanitary flows and the swimming pool discharges, the swimming pool discharge shall immediately be disconnected. (Ord. 2001-033 § 1)

13.04.530 Discontinuance of service.

Alterations, changes of equipment or piping, improper operation or lack of maintenance that results in conditions that are hazardous or are potentially hazardous to the potable water supply, either within the premises or in public water mains, or cause use of water in excess of quantities permitted under this chapter, shall be cause for the discontinuance of the supply of water to the premises until the hazard or potential hazard is abated or until approved backflow protection or water conservation devices are used, as elsewhere specified in this code, and are operating within the defined limits of use. (Ord. 2001-033 § 1)

Article VII. Water Flow for Fire Protection

13.04.540 Adoption of Insurance Service Office Standards.

The recommendations, guidelines, and standards for fire protection facilities and adequate water flow published by the Insurance Service Office (ISO) are adopted as standards for fire protection facilities and adequate water flow within this city as to all matters therein contained except as herein otherwise provided. Two copies of the ISO recommendations, guidelines and standards shall be kept available for public review in the office of the city clerk. The requirements established by this article shall be in addition to any requirements established by other applicable provisions of this code, including without limitation this chapter, Chapter 2.24 and Title 15 of this code. (Ord. 2001-033 § 1)

13.04.550 Intent and purpose of article.

This article is adopted for the following purposes:

A. To protect public health, safety and welfare from the danger of fire because of the lack of fire protection facilities and of adequate water flow for fire protection available to buildings located at a distance from public streets, alleys and rights-of-way.

B. To establish uniform standards for the construction and placement of fire protection facilities and the delivery of adequate water flow for fire protection upon private property.

C. To provide for the installation, maintenance and supervision of fire protection facilities and adequate water flow for fire protection upon private property. (Ord. 2001-033 § 1)

13.04.560 Definitions.

Unless the context requires otherwise, whenever the words or terms defined in this section, or pronouns used in their place, occur in this article, they shall have the following meanings:

“Land” means any lot, parcel, zoning plot, acreage or building site, or any other land or portion thereof, whether improved or unimproved.

National Standards. The recommendations, guidelines and standards for fire protection facilities and adequate water flow published by the Insurance Services Office.

“To develop land” means to make any improvements or do any work upon such land as would require the issuance of a building permit under Title 15 of the Sacramento City Code. (Ord. 2001-033 § 1)

13.04.570 On-site fire protection facilities and adequate water flow for fire protection required.

When any land is to be developed in such a manner that any part of a proposed building or structure to be located thereon will be in excess of one hundred fifty (150) feet from the nearest public fire hydrant located, or to be located prior to the completion of the building or structure in a public street, alley or place, the owner or developer shall provide at the same time in the public street, alley, or place, or on-site, such fire protection facilities and adequate water flow for fire protection as the fire chief shall deem necessary, according to national standards. All facilities required to be installed shall be approved by and meet the specifications of the fire chief as to location, size and type of materials and manner of installation; provided, however, that all water mains, fittings and hydrants shall conform to national standards and to the standard specifications of the city. No main shall be installed that is less than six inches in diameter. Hydrant branches of six inch diameter shall be circulating if more than five hundred (500) feet in length. If the fire chief determines that the installation of a circulating six inch branch would result in practical difficulty or unnecessary hardship, the fire chief may permit the installation of a single (non-circulating) eight inch branch if such branch is connected to a water main at least eight inches in diameter or is connected to a circulating six inch water main not more than one thousand (1000) feet in length.

All installations made in a public street, alley or place shall require an encroachment/excavation permit and shall comply with all conditions of the permit and this code. No fire service line shall be installed across any parcel other than the parcel to which the service is being furnished, provided that the fire chief may, in his or her discretion, authorize a fire service line that serves more than one parcel, upon the recording of an

agreement, in a form approved by the city, that fully provides for the operation, maintenance and repair of the line, and grants a permanent easement for these purposes, at no cost or liability to the city.

The costs and expenses of installing and maintaining on-site fire protection facilities shall be the sole responsibility of the owner or developer of the land. The costs and expenses of installing off-site fire protection facilities, including main and branch mains, shall also be the sole responsibility of the owner or developer, and shall be paid in full before any water service connection is made, unless otherwise determined by the director. (Ord. 2001-033 § 1)

13.04.580 Plans—Review by fire chief—When required.

Every application for a building permit and its accompanying plans filed with the manager of the Building Inspections Division of the city (hereinafter referred to as "the building official") pursuant to Title 15 of this code shall be referred to the fire chief for review and comment, if:

A. The proposed development will consist of one or more buildings located upon a single lot or parcel, or additions thereto, the total floor area of which, including that of any existing building located upon the same lot or parcel, will equal or exceed five thousand square feet; or

B. The proposed development will consist of one or more buildings, or additions thereto, any one of which exceeds either two stories or thirty feet in height; or

C. The proposed development will consist of one or more buildings, or additions thereto, in Occupancies A through U as defined by Title 15 of the Sacramento City Code wherein any part of any building or structure will be in excess of one hundred fifty (150) feet from the nearest distribution main or proposed distribution main located or to be located in a public street, alley or place prior to the completion of the building or buildings. (Ord. 2001-033 § 1)

13.04.590 Plans—Action by fire chief.

When any plans are submitted under Section 13.04.580, the fire chief shall review the same and determine whether or not the fire protection facilities and water flow for fire protection existing or to be provided are adequate according to national standards. If the fire chief determines that the facilities and water flow for fire protection existing or to be provided are adequate according to national standards, the fire chief shall endorse the plans with an approval and return the same to the building official. If the fire chief determines that the facilities existing or to be provided are not adequate according to national standards, the fire chief shall:

A. Disapprove the plans and indicate in writing to the building official how they are deficient. In such event the building official shall require from the owner revised plans to cure the deficiency, and the revised plans shall be submitted to the fire chief; or

B. Conditionally approve the plans. In such event, such conditions shall be made part of the plans and the issuance of a permit by the building official shall be so conditioned. The plans shall be one hundred (100) percent complete before they are forwarded to the department and/or any water service connection is made. (Ord. 2001-033 § 1)

13.04.600 Access for fire fighting equipment.

Whenever any fire protection facilities, public or private fire hydrants, or other appurtenances for use by the fire department are required to be installed pursuant to this chapter, there shall be included in the development plan and delineated thereon adequate provision for access by fire fighting personnel and equipment to and from all such fire protection facilities, including, but not limited to, public or private fire hydrants and appurtenances. Such access shall be approved by the fire chief and the owner may be required to dedicate to the city as a condition of approval of the development plan, an easement sufficient for access by fire fighting equipment to such fire protection facilities. All such access easements shall be maintained in such a manner as to provide clear and unobstructed ingress and egress by fire fighting personnel and equipment and/or maintenance personnel and equipment at all times. (Ord. 2001-033 § 1)

13.04.610 Final inspection—Occupancy permit.

No final inspection by the building official as to all or any portion of the development shall be deemed completed and no certificate of occupancy or temporary certificate of occupancy shall be issued unless and until the installation of the prescribed fire protection facilities and access ways has been completed and approved by the fire chief. (Ord. 2001-033 § 1)

13.04.620 Maintenance of on-site fire protection facilities.

Except as provided in Section 13.04.620, all on-site fire protection facilities shall at all times be maintained as installed, free of leaks and in good working order by the owner of the land. The fire chief is hereby authorized to enter upon the land at reasonable times and in a reasonable manner to conduct periodic tests and inspections of such facilities. If the fire chief determines that any on-site fire protection facilities are being maintained in such manner as not to meet the standards specified herein, the fire chief shall order the owner to make such repairs, alterations, or additions as shall conform the facilities to such standards. The fire chief shall designate a reasonable time within which such repairs, alterations, or additions are to be made and it shall be unlawful for any person so ordered to willfully fail or refuse to comply with such order. Without limiting the foregoing, the willful failure or refusal to comply with such an order shall constitute an occupancy violation within the meaning of the applicable provisions of Title 15 and Chapter 8.96 of the Sacramento City Code. (Ord. 2001-033 § 1)

13.04.630 Alterations or modification of on-site fire protection facilities.

On-site fire protection facilities may be altered or modified with the written consent of the fire chief subject to the provisions of Section 13.04.570. (Ord. 2001-033 § 1)

13.04.640 Inspection and servicing of private fire hydrants.

The inspection, servicing, testing and repair of all private fire hydrants shall be the sole responsibility of the owner of the property where the private fire hydrant is located. The term “service” or “servicing” shall mean and include repainting external surfaces and hydrant identification numbers, to clear away weeds, shrubs and other accumulations of vegetation, to lubricate operating nuts and stems, and to replace nozzle caps, chains and gaskets. Without affecting the property owner’s responsibility therefor, the director may authorize officers, employees, agents or contractors of the city to inspect, service, test and/or repair private fire hydrants and the property owner shall be required to pay such fee(s) for these services as may be established from time to time by resolution of the city council. Whether or not inspection, servicing, testing or repair is performed by a property owner or the city, the property owner shall indemnify and hold harmless the city, its officers and employees from any claims, actions, costs (including attorney fees), damages or other liability resulting or arising from the condition of, or any failure to inspect, service, test or repair, any private fire hydrant located on the owner’s property. (Ord. 2001-033 § 1)

13.04.650 Filing of map.

A map showing the size and location of all water pipes and hydrants installed pursuant to this chapter and stating the material of which such pipes are made and the date of their installation and approval shall be filed with the department and the fire department prior to the issuance of any occupancy permit under the provisions of the building code. (Ord. 2001-033 § 1)

Article VIII. Water Wells

13.04.660 Sacramento County water well regulations apply within city limits.

The provisions of Chapter 6.28 of the Sacramento County Code shall apply within the limits of the City of Sacramento, except as provided otherwise herein. (Ord. 2001-033 § 1)

13.04.670 Permit required—Exception.

It shall be unlawful for any person, firm or corporation, whether as principal, servant, agent or employee, to dig, drill, bore, drive, deepen, modify, repair, reconstruct, inactivate, destroy or abandon any well, whether the well is used for domestic purposes, industrial purposes, irrigation, air conditioning, disposal, exploration, monitoring or cathodic protection, or to install, repair or replace a well pump or pumps, without first having obtained a permit to do so from the Sacramento County environmental management department as provided in Section 6.28.030 of the Sacramento County Code; provided, however, that no such permit shall be required for any actions taken by or on behalf of the City of Sacramento with regard to any well or pump that is owned or operated by or on behalf of the city for domestic or industrial purposes or for irrigation. (Ord. 2001-033 § 1)

13.04.680 Prohibition of water wells within a certain portion of the City of Sacramento.

A. Purpose. Certain chemicals have been found in the ground water at and immediately west of McClellan Air Force Base in Sacramento City and County. These chemicals may constitute a hazard to the health, safety and well being of the residents of the city of Sacramento. The United States Government, without admitting any liability, has recognized the need to take corrective measures. To date there are insufficient data to indicate the existence of a hazard to health, safety and well being from the use of wells for industrial and irrigation purposes only.

Pursuant to a comprehensive and long range plan, the United States Government has installed certain monitoring wells and certain extraction wells at appropriate places on and west of McClellan Air Force Base. This ground water monitoring and extraction/treatment program will benefit the residents of the area hereinafter described. The pumping of water from the water wells west and southwest of McClellan Air Force Base impairs the ability of the United States Government to adequately monitor and contain the spread of the aforesaid chemicals. The prohibitions and requirements set forth in this section provide effective control over potential points of human exposure to possibility of ground water contamination. Therefore, it is necessary to the health, safety and well being of the residents of the City of Sacramento that the city council enact the prohibitions and requirements set forth in this section.

B. Definitions. The following definitions shall apply for purposes of this section:

“Public agency” means any public agency of the state including, but not limited to, cities, counties, districts, agencies and authorities.

“Water purveyor” means a public agency authorized by law to provide water for domestic or irrigation purposes to the general public.

“Domestic” means all residential uses of water, except industrial, irrigation and agricultural.

“Irrigation” means all uses of water for irrigating food and forage crops and ornamental vegetation and watering of farm animals.

C. Prohibition Area. This section shall apply to, and the term “prohibition area” as used in this section shall mean, that portion of the city from McClellan Air Force Base west along Ascot Avenue, south on Dry Creek Road, southeast along Marysville Boulevard, east on Bell Avenue, then south on Raley Boulevard to Interstate 80 and east to McClellan.

D. New Wells Prohibited. From and after such time as water from the City of Sacramento is made available for domestic, industrial, and irrigation purposes within the prohibition area no permit shall be issued for and no person shall dig or drill a new water well within the prohibition area.

E. Closure of Existing Water Wells. Within ninety (90) days following such time as both (1) water for domestic, industrial, and irrigation purposes is made available by the city to a property within the prohibition area and (2) the United States Government tenders to the city on behalf of the owner of the

property an amount of money equal to the total cost of connection to the public water main and closure of any existing water wells, whichever is later in time, the owner of such property shall do one of the following:

(1) Abandon all such water wells on the property in accordance with regulations established by the Sacramento County Environmental Management Department.

(2) If the owner of such property elects not to close the water well, such owner shall cause the well to be severed from any buildings so that the water from such well may not be used for domestic purposes and shall further cause to be installed such back flow prevention devices as may be required by the appropriate health authorities. In such cases no person shall thereafter use the water from such well for domestic purposes and no person shall thereafter allow or cause such a well to be connected to any building so that water could be drawn from such well for domestic purposes.

(3) In the event the owner of such property elects not to close the water well as set forth in subsection (2), above, the owner shall thereafter be responsible for all costs, including, but not limited to, maintenance, repair, replacement, improvement and testing of any required back flow prevention devices and for all costs required for testing or monitoring the well, it being the expressed intent that the offer of the United States Government to pay any costs is a one time only offer and all continuing costs and costs thereafter arising are the responsibility of the property owner and not the United States Government.

F. Availability of Water. For purposes of this section, water for domestic and irrigation purposes shall be deemed available to a property if a public water main has been installed in the public right of way nearest the property and the water main is usable.

G. Cost of Connection and Closure. The cost of connection to a public water main and the cost of closure of an existing well shall include all labor, material and engineering cost necessary to accomplish the same together with all fee and permit costs. In addition, the cost of connection to a public water main shall include the cost of a water line of sufficient size to provide an adequate water supply to the property for domestic, and if applicable, industrial and irrigation purposes. It is intended that the cost of all work necessary to accomplish the connection and, if appropriate, well closure shall be borne by the United States Government and such work shall be accomplished without cost to the property owners. It is further intended that no property owner be required to have a connection that provides a lesser quantity of water, measured on a monthly basis, than an existing facility. To these ends, the department shall determine the cost and sufficiency of service size in accordance with department procedures. All work shall be accomplished by the department or its licensed contractor(s).

H. Exemptions. This section shall not apply to monitoring or testing wells operated by the United States Government or a public agency. (Ord. 2001-033 § 1)

Article IX. Department of Utilities

13.04.690 Established.

There is hereby created a Department of Utilities that shall be in charge of the construction, management, supervision, maintenance, extension, operation and control of all water supply and distribution to the city and its inhabitants. The department also shall be in charge of the construction, management, supervision, maintenance, extension, operation and control of the city's sewer and drainage systems. (Ord. 2001-033 § 1)

13.04.700 Director.

There shall be a director of the department appointed by the city manager. (Ord. 2001-033 § 1)

13.04.710 Payment over of moneys—Disbursements and expenditures.

Receipts from the department shall be paid into the city treasury and maintained in a separate water fund. Appropriations from such fund shall be made for the following fund purposes, in the order named:

A. For the payment of all operating expenses.

B. For the pension charges and proportionate payments to such compensation and other insurance and accident reserve funds as the city council may establish.

C. For repairs and maintenance.

D. For depreciation.

E. For payment of interest and sinking funds on the bonds issued for acquisition, construction or extensions.

F. For extensions and improvements.

G. For the payment into the general fund of the city of any duly approved general tax on the water fund.

H. For a surplus fund.

I. For such other purposes as may be found necessary in connection with the furnishing of an adequate and suitable water supply for the city. (Ord. 2001-033 § 1)

Article X. Rates and Charges

13.04.720 Establishment of rates for water service.

Rates, fees, and charges for water service are established and shall be charged for water service. The amount of the rates, fees, and charges shall be set from time to time by ordinance or resolution of the city council. (Ord. 2011-051 § 5; Ord. 2001-033 § 1)

13.04.730 Liability for charges.

Customers to whom water service is rendered shall be responsible and liable for payment of the rates, fees, and charges for the service (on either a flat rate or metered rate basis). (Ord. 2011-051 § 6; Ord. 2001-033 § 1)

13.04.735 Processing fee.

Customers establishing a new account for any city utility service provided under Title 13 of this code, or making changes to an existing account, shall pay a fee to cover the city's administrative processing costs, as established from time to time by resolution of the city council. (Ord. 2009-011 § 1)

13.04.750 Collection of fees and charges.

Except as otherwise provided herein, the fees and charges for water service shall be billed and collected in accordance with the provisions of Chapter 13.12 of this code. (Ord. 2001-033 § 1)

13.04.760 Additional charges.

The director may undertake any work or service on or for a premises' water service connection that the director deems necessary to maintain the safety of the city's water supply, or to correct any condition in violation of this chapter. The owner of the premises shall be responsible for the cost thereof, which may be added to the regular billing for the premises' water service and collected pursuant to Chapter 13.12. (Ord. 2015-0011 § 6; Ord. 2013-0014 § 17; Ord. 2001-033 § 1)

13.04.770 Collection of water service charges with charges for other utility services—Generally.

The charges imposed for water service to a customer by this chapter shall be collected together with the charges for any other utility service rendered to the customer by the city. Such water service charges shall

be billed upon the same bill and collected as one item with such other utility service charges, unless other arrangements are approved by the director. (Ord. 2001-033 § 1)

13.04.790 Service connection installation fee.

The service connection installation fee for connection to a public water main shall be determined by reference to a schedule of rates established from time to time by resolution of the city council, and shall be paid in advance. (Ord. 2001-033 § 1)

13.04.800 Fees for disconnection and restoration of water service.

A. If water service to any premises is disconnected pursuant to any provision of this code, the owner shall be responsible and liable for payment of the fee established by city council resolution to cover the city's costs to turn off the water, and that fee may be added to the regular billing for the water service and be collected in the same manner as other utility service charges pursuant to Chapter 13.12.

B. If water service to any premises is disconnected, the owner shall be responsible and liable for payment of the fee established by city council resolution to cover the city's costs to turn the water back on, and water shall not be turned on until the fees established pursuant to subsection A of this section and this subsection are paid in full.

C. If any person turns on water service or allows or causes it to be turned on, after it has been turned off by the city, the department may turn off the water service and may charge and collect the applicable fees each time this occurs, in addition to other amounts due, before water service is restored. (Ord. 2013-0014 § 19; Ord. 2001-033 § 1)

13.04.810 Vacancy credit.

A. If a customer requests that the customer's water service or city sewer service be temporarily discontinued because all of the buildings receiving water service or city sewer service are vacant or have been demolished, the director shall grant a credit for nonuse of the customer's water service connection or city sewer service connection if authorized under this section and upon satisfaction of all of the following conditions:

1. Execution of a temporary stop service agreement as required by the department, which shall include authorization for disclosure to the department of the customer's water usage records if the customer is provided water by another water purveyor;

2. Payment of the applicable service and processing fee(s) established by city council resolution;

3. Payment of the current city utility bill in full;

4. The water service connection is turned off by department personnel, provided that this requirement shall not apply to any of the water service connections described in subsection C of this section;

5. If the customer receives city sewer service but is provided water by another water purveyor, verification from the other water purveyor of water shut-off or nonuse as required by the department; and

6. If the credit for nonuse is requested because all of the buildings receiving water service or city sewer service have been demolished, all demolition work must have been completed and given final approval by city officials in accordance with the applicable provisions of Chapter 8.96, 8.100, or 15.44.

B. The credit for nonuse of a water service connection being charged a flat rate shall be equal to the difference between the monthly flat rate and the monthly basic service charge that would apply to the connection if it were being charged a metered rate.

C. No credit shall be allowed or provided for nonuse of an irrigation service connection, fire service connection, or any other water service connection that has a water meter and is being charged a metered rate.

D. A credit for nonuse of water service or city sewer service shall be terminated when the water service is turned on by department personnel, upon occupancy of any building that receives the water service or city sewer service, or as provided in subsection E or F of this section.

E. For a parcel with a metered water service connection being charged a metered rate, other than an irrigation service or fire service connection, a credit for nonuse of city sewer service on the parcel shall be terminated if the water meter indicates that water is being used.

F. For a parcel with city sewer service but provided water by another water purveyor, a credit for nonuse of city sewer service on the parcel shall be terminated if the other water purveyor verifies that water is being used on the parcel. (Ord. 2013-0014 § 20; Ord. 2010-009 § 1; Ord. 2001-033 § 1)

13.04.820 Water system development fee.

A. General. Every lot or parcel that connects to the city water distribution system is subject to a water system development fee established to recover the capital costs of the city's existing or new water diversion, treatment, storage, and distribution facilities. No water service shall be furnished to the lot or parcel unless this fee has been paid. This requirement does not apply to the extent that the fee established by this section, or the equivalent thereof, has previously been paid by the owner of the lot or parcel, or a predecessor of the owner, or if the lot or parcel meets the qualifications for an infill site as established by city council resolution. Payment of this fee is in addition to payment of all other applicable fees and charges.

B. Amount of Water System Development Fee. The fee established by this section is determined by reference to a schedule of fees adopted by city council resolution, subject to annual adjustment made by the director as provided in subsection C of this section.

C. Annual Adjustment. In January of each year, the director shall adjust the water system development fee schedule then in effect to compensate for an increase in construction costs since the previous adjustment, by applying the following methodology:

1. The director shall first calculate the "current construction cost index," which shall be the average of: (a) the average construction cost index for twenty (20) U.S. cities published in the appropriate January issue of "Engineering News Record" (ENR) magazine; and (b) the construction cost index for San Francisco published in the same issue of ENR magazine.

2. The director shall then calculate the "fee adjustment factor," by dividing the current construction cost index calculated pursuant to paragraph 1 of this subsection by the construction cost index that was calculated in January of the last year in which the water system development fee schedule was changed.

3. If the fee adjustment factor calculated pursuant to paragraph 2 of this subsection is one or less, the water system development fee schedule then in effect shall remain unchanged. If the fee adjustment factor calculated pursuant to said paragraph is greater than one, the director shall adjust the water system development fee schedule then in effect by multiplying each of the fees therein by the fee adjustment factor. If the water system development fee schedule is adjusted as provided herein, the adjusted water system development fee schedule shall become effective on July 1st following the January when the fee adjustment factor is calculated pursuant to paragraphs 1 and 2 of this subsection.

D. Replacement Services. If an existing water service connection or meter is replaced by one of a larger size at the owner's request, the water system development fee equals the difference between the current fee for the existing service connection size and the current fee for the replacement service connection size. If the existing water service connection was oversized to provide water for fire protection in addition to commercial or domestic service, and no water system development fee was paid for the existing service, the calculation of the current fee for the existing service size excludes the size increment that was required solely for fire protection.

E. Fire Services. The water system development fee does not apply to connections made solely for fire service.

F. Credit for Major Facilities. Nothing in this ordinance prohibits the city council from authorizing appropriate credit toward water system development fees for property owners who were assessed

or in some manner paid all or a portion of the cost of water diversion, treatment, storage, or transmission facilities.

G. Appeal. There is established a water system development fee determination board. The board's membership consists of the director and the building official, or their respective designees. Any person aggrieved by the determination of the water system development fee for property owned by such person may file a written appeal with the building official. The appeal shall be reviewed by the board, and notice of the determination of the board shall be given to the property owner. If the appeal is granted, an appropriate refund shall be made, based on the recalculated development fee.

If the appeal is not granted, notice shall be given to the property owner that shall briefly specify the reason for the decision of the board. Any property owner who receives such notice and who desires to have the appeal reconsidered by the board may apply for a hearing by filing a written application with the building official not later than fifteen (15) calendar days following the property owner's receipt of the notice that the written appeal was denied. The board shall, not later than thirty (30) calendar days after application for a hearing, schedule a hearing upon ten (10) days written notice to the property owner. The property owner or his or her representative may present at the hearing any evidence relevant to the appeal. The board shall reevaluate the appeal. In considering the appeal, the board may obtain an inspection report from the department. Written notice of the board's action shall be given to the property owner and the order of the board shall be final.

H. Nonpayment. If water service is initiated without payment of the water system development fee as required by this section, water service may be disconnected until the fee is paid. (Ord. 2013-0014 § 21; Ord. 2001-033 § 1)

Article XI. Outdoor Water Conservation

13.04.830 Legislative intent.

The city council finds and determines:

A. A reliable water supply is important to the City of Sacramento's economy, way of life, and many features of the community, including the urban tree canopy and landscapes.

B. To prevent waste and ensure reasonable use of water supplied by the city water distribution system, and protect and promote the public health, safety, and welfare, it is necessary and desirable to enact certain limitations to promote water conservation by city customers for long-term sustainability through unpredictable low-water years.

C. These limitations should be focused on reducing outdoor water use, because the maximum demands for water from the city's water distribution system occur during the summer months, with outdoor irrigation use exceeding all other demands.

D. Water use limitations should be designed to promote the use of irrigation methods that reduce outdoor water use by applying water more efficiently than conventional irrigation methods and result in resilient landscapes with deep root growth.

E. Water use limitations should be designed to protect the City's trees; shrubs; gardens that produce edible fruits and vegetables; residential landscapes that provide ecological benefit; and public playing fields and parks. Healthy trees provide shade to mitigate urban heat island effects and reduce cooling demand of buildings in summer months; reduce greenhouse emissions by acting as a carbon sink; provide soil stabilization; serve as habitat for birds and wildlife; improve public health by filtering air pollution; and contribute to greener neighborhoods.

F. Reduction of water use through water conservation and water use efficiency measures protects and promotes the public health, safety and welfare by conserving a vital resource that is subject to ever-increasing demands.

G. Reduction of water demands through water conservation and water use efficiency measures reduces the per capita amount of water used by city customers, and reduces the city's costs for

electrical energy, equipment, and chemicals utilized to pump and treat water supplied to the city water distribution system.

H. By reducing the use of electrical energy, equipment, and chemicals, the reduction of water demands through water conservation and water use efficiency also protects and promotes the public health, safety, and welfare by reducing greenhouse gas emissions associated with the production and transport of electrical energy, equipment, and chemicals. (Ord. 2017-0062 § 1; Ord. 2017-0045 § 1; Ord. 2009-050 § 1; Ord. 2009-026 § 1)

13.04.840 Definitions.

When used in this article, the following words or phrases shall have the meanings set forth below:

“100-degree day” means a day when the maximum temperature measured at Sacramento Executive Airport equals or exceeds 100 degrees Fahrenheit.

“City water” means any water delivered by the city’s water distribution system.

“Conventional irrigation system” means an in-ground irrigation system that consist of pipes and spray heads to distribute water on the landscape.

“Day” means the period beginning at 12 a.m. (midnight) and ending 24 hours later.

“Heat wave period” means a period of consecutive 100-degree days, beginning on the second consecutive 100-degree day and ending one day after the last consecutive 100-degree day.

“Integrated pest management” means a pest control methodology that utilizes a variety of complementary strategies to significantly reduce or eliminate the use of pesticides while at the same time managing pest populations at an acceptable level.

“Low volume irrigation system” means any irrigation system that applies irrigation water at low pressure through a system of tubing or lateral lines and low-volume emitters such as drip, drip lines, and bubblers with a flow rate measured in gallons per hour, and that is designed to apply small volumes of water slowly at or near the root zone of plants. This includes but is not limited to properly functioning drip irrigation systems and soaker hoses.

“Measurable rainfall” means a rainfall event during which 0.125 inches of precipitation or more is recorded at the National Weather Service rain gauge located at the Sacramento Executive Airport.

“New landscaping” means any lawn, plants or other landscaping planted after the effective date of the ordinance adopting this section.

“Smart controller” means an irrigation controller that matches water use to real- time weather conditions by monitoring and using information about weather and site conditions such as soil moisture, rain, wind, soil type, plant type, and evapotranspiration. For purposes of this article, an irrigation controller with an Environmental Protection Agency issued “Water Sense” label is a smart controller.

“Special landscape area” means an area used solely for growing edible plants; a landscaped area irrigated solely with recycled water; one or more water features using recycled water; and landscaped areas open to the public that are dedicated to active play, such as parks, sports fields, golf courses, and other playing surfaces.

“Water waste runoff” means water flowing away from property in any gutter, ditch, or other manner over the surface of the ground due to excessive application of city water. Incidental overspray on hardscape surfaces that does not result in runoff leaving the property is not water waste runoff. (Ord. 2017-0062 § 2; Ord. 2017-0045 § 2; Ord. 2009-050 § 1; Ord. 2009-026 § 1)

13.04.845 Irrigation service for area exceeding five acres.

To reduce demand on the city water distribution system and promote water conservation, the director may require water for the irrigation of areas exceeding five acres to be obtained from a private well, recycled water supply, or other water source, instead of allowing an irrigation service connection from the city water distribution system. (Ord. 2013-0014 § 22)

13.04.850 Substandard water fixtures prohibited.

No person shall cause or allow any city water to be wasted due to leaky or faulty water lines, hoses, fixtures or other water using or distributing devices, unless such person shall have first obtained the written consent of the director to do so. (Ord. 2009-050 § 1; Ord. 2009-026 § 1)

13.04.860 Water runoff prohibited.

A. No person shall knowingly or willingly cause or allow any city water applied to any landscaping, including new landscaping, or used for any other irrigation purposes, to flow away as water waste runoff from property owned or occupied by that person.

B. No person shall knowingly or willingly cause or allow any city water used for non-irrigation purposes to flow away as water waste runoff from property owned or occupied by that person, unless the water is used in compliance with subsection A or B of Section 13.04.870 or the director provides prior written consent for the runoff. (Ord. 2015-0011 § 7; Ord. 2009-050 § 1; Ord. 2009-026 § 1)

13.04.870 Outdoor conservation of water.

A. No person shall use, or cause to be used, any city water to wash down sidewalks, driveways, or parking areas unless authorized by the director pursuant to section 13.04.940, except to alleviate immediate fire, health, or sanitation hazards, or to implement an integrated pest management program.

B. No person shall use, or cause to be used, any city water through a hose to wash a vehicle unless the hose is equipped with an automatic shut-off nozzle attachment, and the attachment is being used to shut off the flow of water at all times when the hose is not being used to wash the vehicle.

C. Beginning on March 1, and extending through October 31:

1. No person shall use, or cause to be used, any city water for landscape irrigation between the hours of 10 a.m. and 7 p.m., unless the director authorizes a different time limitation pursuant to section 13.04.940.

2. Residential and commercial locations bearing a street address ending in an odd number are permitted to irrigate with city water using conventional irrigation systems only on Tuesday and Saturday, and locations bearing a street address ending in an even number are permitted to irrigate with city water using conventional irrigation systems only on Wednesday and Sunday, unless the director authorizes a different irrigation pattern pursuant to section 13.04.940.

3. No landscape irrigation is allowed on Monday, Thursday, or Friday, unless authorized by the director pursuant to section 13.04.940.

D. Beginning on November 1, and extending through February 28, all residential and commercial locations are permitted to irrigate with city water only on one day per week, either on Saturday or Sunday, and landscape irrigation is prohibited on other days of the week, unless the director authorizes a different irrigation pattern pursuant to section 13.04.940.

E. The limitations specified in subsections C and D do not apply to:

1. Landscape irrigation using a low volume irrigation system;

2. The irrigation of container plants;

3. Hand watering with a watering can or using a hose without an automatic timer; or

4. The operation of irrigation systems solely for testing, maintenance, or repair.

F. The limitations specified in subsections C.2, C.3, and D do not apply to:

1. The irrigation of new landscaping in accordance with section 13.04.880;

2. The irrigation of a special landscape area;

3. Landscape irrigation using a smart controller that is properly installed and operated, as verified by the department;

4. Landscape irrigation during a heat wave period; or

5. Landscape irrigation conducted pursuant to an alternate method authorized by the director, on such conditions as the director may specify, if the director determines that the alternate method provides substantially equal water conservation benefits.

G. No person shall use, or cause to be used, any city water in a fountain or other decorative water feature unless it uses a recirculating system.

H. No person shall use, or cause to be used, any city water for landscape irrigation during and within 48 hours after measurable rainfall.

I. Upon declaration of a water shortage, the city council may impose revised and additional limitations on outdoor water use, as specified in section 13.04.910, and no person shall use, or cause to be used, city water in violation of those limitations while the water shortage remains in effect. (Ord. 2017-0062 § 3; Ord. 2017-0045 § 3; Ord. 2015-0011 § 8; Ord. 2009-050 § 1; Ord. 2009-026 § 1)

13.04.880 New landscaping.

The following regulations apply to the use of city water to irrigate new landscaping:

A. Irrigation of new landscaping is allowed on any day of the week for a period of 30 days after the new landscaping is planted, unless the director provides prior written consent to extend this time period based on plant type and the season when the new landscaping is planted.

B. Any irrigation of new landscaping after expiration of the time period specified in subsection A, and any irrigation of existing landscaping adjacent to the new landscaping, is subject to the limitations specified in section 13.04.870.

C. Upon declaration of a water shortage, the city council may impose revised or additional limitations on the irrigation of new landscaping, as specified in section 13.04.910, and no person shall use, or cause to be used, city water in violation of such limitations while the water shortage remains in effect. (Ord. 2017-0062 § 4; Ord. 2009-050 § 1; Ord. 2009-026 § 1)

13.04.890 Penalties for violation.

A. The following penalties are imposed for violation of any of the provisions of sections 13.04.850 through 13.04.880. Any violations occurring on separate calendar days are separate violations.

1. First violation during a 12-month period: A written warning describing the violation and the penalties for subsequent violations shall be issued to the owner and the occupant (if different than the owner) of the premises where the violation occurred. The warning also may include information regarding services offered by the department to promote water conservation and efficient water use, including the department's "water wise house call" program.

2. Second violation during a 12-month period: A written notice of violation describing the violation and the penalty shall be issued to the owner and the occupant (if different than the owner) of the premises where the violation occurred. A penalty of $25 shall be imposed, but this penalty shall be removed from the water service bill for the premises if, within 60 days after the date of the penalty notice, the owner, or the occupant (if different than the owner, and the occupant committed the violation), either attends a water conservation seminar offered by the department or other department-approved entity or requests and accepts a water wise house call from the department; provided that only one removal of this penalty shall be allowed for the premises within any 24 month period.

3. Third violation during a 12-month period: A written notice of violation describing the violation and the penalty shall be issued to the owner and the occupant (if different than the owner) of the premises where the violation occurred. A penalty of $100 shall be imposed.

4. Fourth violation and any successive violations during any 12-month period: A written notice of violation describing the violation and the penalty shall be issued to the owner and the occupant (if different than the owner) of the premises where the violation occurred. A penalty of $500 shall be imposed.

B. The director may waive and remove from the water service bill any penalty imposed pursuant to subsection A if, within 120 days after the date of the penalty notice, the owner of the premises where the violation occurred participates in one or more of the department's programs that provide incentives to remove turf grass, upgrade irrigation systems, or install smart controllers.

C. The written notices specified in subsection A shall provide notice of the right to appeal pursuant to section 13.04.900 and shall specify the address where the notice of appeal shall be filed.

D. The penalties specified in subsection A shall be imposed on the owner of the premises where the violation occurs regardless of who committed the violation. After the notice of violation is issued, the penalty amount shall be included on the water service bill for the premises and shall be collected in accordance with chapter 13.12, subject to subsections A.2 and B of this section and section 13.04.900.E. All penalties collected shall be used by the department to fund water conservation programs.

E. Upon declaration of a water shortage by the city council, as specified in section 13.04.910, the penalty amounts specified in subsection A are doubled while the water shortage remains in effect.

F. The violation of any of the provisions of sections 13.04.850 through 13.04.880 also constitute a public nuisance, subject to abatement in accordance with the provisions of chapter 8.04, as applicable.

G. The foregoing provisions are cumulative and in addition to any other remedies or penalties authorized or imposed under any other provision of this code, including, but not limited to, section 13.04.270, or any other applicable law or regulation. The provisions of this article may be enforced by the department or by the community development department.

H. Second, third, and fourth notices of violation shall not be issued before March 1, 2018. (Ord. 2017-0062 § 5; Ord. 2017-0045 § 4; Ord. 2015-0011 § 9; Ord. 2009-050 § 1; Ord. 2009-026 § 1)

13.04.900 Appeal.

A. The owner or occupant of the premises where the violation occurred may appeal a notice of violation issued under Section 13.04.890(A) by filing a written notice of appeal with the director not later than thirty (30) days after the notice of violation is issued. The notice of appeal shall specify the grounds for appeal, and shall provide the appellant's telephone number and address for receipt of the city's written notices relating to the appeal.

B. Upon receipt of a timely notice of appeal, department staff will review the notice of violation and the appellant's grounds for appeal. Department staff may request additional information from, or provide additional information to, the appellant. At the conclusion of this administrative review process, department staff will notify the appellant if the notice of violation will be dismissed or department staff finds a sufficient basis for the notice of violation. If department staff finds a sufficient basis for the notice of violation, department staff also will notify the appellant that appellant may request a hearing on the appeal and how to make the request.

C. If the appellant requests a hearing on the appeal not later than five days after receiving the department staff notification described in subsection B of this section, the director shall set the matter for an informal hearing at the earliest practical date. Not less than seven days prior to the hearing date, the director shall provide written notice of the hearing to the appellant. At the hearing, the director shall hear any relevant evidence presented by the appellant or department staff, and may uphold, modify, or rescind the notice of violation, including the penalty imposed by the notice of violation, if any. The appellant shall be provided written notice of the determination of the director that sets forth findings in support of the determination. The determination of the director is the city's final administrative determination of the matter.

D. The failure of the owner or occupant of the premises where the violation occurred to file a timely notice of appeal or to request and attend a hearing in accordance with the provisions of this section

constitutes an irrevocable waiver of the right to appeal and a failure to exhaust administrative remedies with regard to the notice of violation.

E. If department staff dismisses the notice of violation or the director determines that a penalty shall not be imposed, the penalty shall be removed from the water service bill for the premises where the violation occurred.

F. The director may designate one or more employees of the department to hear and determine appeals of any notice of violation, provided that the designated employee(s) shall not be employed within the section issuing the notice of violation or performing the administrative review described in subsection B of this section. (Ord. 2015-0033 § 1; Ord. 2015-0011 § 10; Ord. 2009-050 § 1; Ord. 2009-026 § 1)

13.04.910 Declaration of water shortage.

A. In response to any condition necessitating increased water conservation, such as a water shortage due to drought, natural disaster, or other reduction of water supply availability, or as may otherwise be required to protect the public health, safety, and welfare, the city council may by resolution declare the existence of a water shortage and impose revised and additional limitations and time restrictions on outdoor water use. While the declaration of water shortage remains in effect, no person shall use, or cause to be used, city water in violation of such limitations or restrictions. Unless the resolution specifies an ending date, the declaration of water shortage shall remain in effect until rescinded or otherwise modified by subsequent resolution of the city council.

B. While a declaration of water shortage is in effect, any requirement in the Planning and Development Code to plant or irrigate trees, shrubs, or other groundcover, or for groundcover to be living, is suspended. (Ord. 2014-0009 § 1; Ord. 2009-050 § 1; Ord. 2009-026 § 1)

13.04.920 Access to customer premises—Compliance.

A. A customer receiving city water service shall provide the department's employees and/or contractors access to and use of the premises where city water service is received as may be required by the city's employees or contractors to determine whether there is any violation of any of the provisions of Sections 13.04.850 through 13.04.880, inclusive, or to abate any violation thereof. If the customer refuses to allow such access, the city may seek authorization from any court of competent jurisdiction for such access and abatement.

B. Compliance with the provisions of this article shall be a condition of the customer receiving or continuing to receive city water service. (Ord. 2009-050 § 1; Ord. 2009-026 § 1)

13.04.930 Fire and other emergencies.

Nothing in this article shall be construed to apply to the use of city water for purposes of extinguishing fire or any other similar emergency. (Ord. 2009-050 § 1; Ord. 2009-026 § 1)

13.04.940 Consent of director.

A. Whenever this article allows the director to consent to a variation from one or more requirements of this article or authorize a person to perform an act otherwise prohibited, the director may give consent or authorization on a case-by-case basis, on such conditions as the director may specify, if the director determines:

1. There is no practical alternative manner for the person to accomplish the desired result;

2. A variation is needed to avoid an undue hardship; or

3. The desired result is of substantial importance when compared with the importance of conserving water resources as set forth in this article.

B. Any person requesting a variation from one or more requirements in this article shall comply with all application requirements specified by the department, and shall pay any fee established by resolution of the city council for payment of the department's application processing costs. Director-approved variations will be issued for a term of two years, unless a different term is specified by the director. (Ord. 2017-0045 § 5; Ord. 2009-050 § 1; Ord. 2009-026 § 1)

13.04.950 City water use.

The city of Sacramento, and its officers, employees, and agents when acting in the course and scope of their employment, shall be exempt from the provisions of this article; provided, however, that the city manager shall promulgate administrative regulations governing water use by the city, and its officers, employees, and agents, as may be necessary for the city to achieve the conservation of water resources equal to or greater than the level of conservation achieved by the city's water service customers. (Ord. 2009-050 § 1; Ord. 2009-026 § 1)

Appendix L

2019 Water Efficiency Report

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2019

WATER EFFICIENCY REPORT

City Of Sacramento Department of Utilities

Water Conservation

KEEP SAC WATER WISE

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A MESSAGE FROM OUR DIRECTOR WILLIAM O. BUSATH

I am pleased to share with you the outstanding progress that the City of Sacramento Department of Utilities has made, with the help of our customers, towards our sustainability and conservation goals in the past year.

One of the goals in the Department of Utilities Strategic Plan 2020-2025, is to plan for current and future generations by protecting, preserving, and enhancing water resources, the environment, and the community. The efforts highlighted in this document show just some of the ways that we have already taken steps towards doing this.

We are particularly proud of the programs we have put in place that provide our customers access to conservation tools and of our hardworking team that helps residents identify ways they can continue to save water. We are also proud to say that we are on the path to meeting the target of using less than 20% of our baseline water use (1996-2005) by 2020 and will work hard for the rest of the year to meet this target.

Sacramento will continue to lead the way in 2020 and beyond. Thank you to our community for being part of our success.

AWARDS

The Water Conservation Team received multiple awards in 2019, recognizing our success.

EPA's 2019 WaterSense Excellence Award
Our indoor and outdoor rebate programs, turf conversion incentives and assistance programs were recognized as outstanding programs helping customers achieve water-saving goals.

Alliance for Water Efficiency – Gold
Thanks to effective conservation planning, dedicated staff, public education, and landscape efficiency programs, our programs were verified on the Alliance for Water Efficiency's Leaderboard.

OUR VISION

- Sustainably meet future water needs through cost-effective water conservation and water use efficiency
- Reduce ratepayer costs for the treatment and delivery of water and the treatment of wastewater
- Achieve 20 percent GPCD water use reduction statewide by 2020 and meet state and federal mandates
- Demonstrate environmental stewardship and foster wise, innovative, responsible and efficient practices
- Support the health of rivers and groundwater integral to the region's quality of life.

KEY PARTNERSHIPS

The Water Conservation Team developed key partnerships to strengthen citywide water efficiency efforts. We would like to thank our partners for helping us keep Sacramento water wise.

Wyland National Mayor's Challenge for Water Conservation

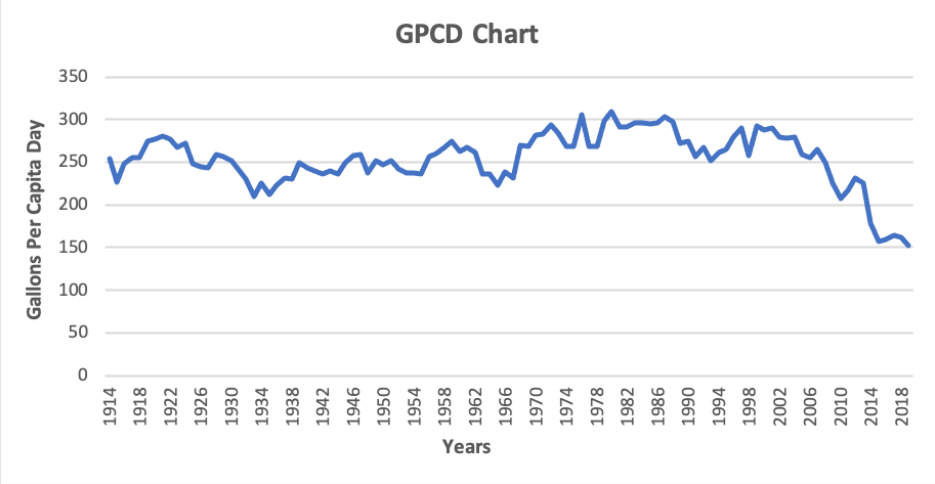
Sacramento Tree Foundation

SMUD Sacramento Municipal Utility District

2019 ACHIEVEMENTS

As of 2009, the City of Sacramento is required by state law to use less than 223 gallons of water per capita day (GPCD) by 2020, per California's Water Conservations Act (SB-X7-7). As of 2019, the City is significantly exceeding this goal, with an all-time low of 152 GPCD.

The City's success in reaching the GPCD goal is attributed to the strategic outreach tactics, the expansion of assistance services and the innovative incentive models that met the needs of the City residents as well as the participation and support of residents and businesses in becoming efficient with their water use.



HELPING RESIDENTS KEEP SACRAMENTO WATER WISE

In 2019, the Water Conservation Team participated in and led numerous community educational and engagement events. The below timeline highlights the events and results of each event to help Sacramento residents increase their water efficiency efforts at home.

APRIL

National Mayor's Challenge for Water Conservation – April (Engagement)

In partnership with Mayor Steinberg, residents were asked to take assorted water-saving pledges, competing with other cities across the nation to see who can be the most water wise.

Results: Sacramento was ranked #3 in the Population Category: 300,000 - 599,999.

Earth Day – April 22 (Engagement)

The City of Sacramento participated in two Earth Day events at the Sacramento Zoo and at Southside Park with the Environmental Council of Sacramento (ECOS).

Results: Approx. 500 people attended.

MAY

April Rain Barrel Event – April 27 (Distribution)

Rain barrels store rainwater and runoff during rain events for use during dry periods. Each rain barrel can hold up to 50-55 gallons of water to be used on lawns, plants and gardens. The very first annual rain barrel distribution was held in April 2018.

Results: 331 rain barrels distributed.

Mulch Mayhem – May 4 (Distribution)

Mulch saves up to 30 gallons of water for every 1,000 square feet by slowing evaporation, allowing water to fully sink into the soil. The annual mulch distribution event is usually held in May of every year.

Results: 400 yards of mulch distributed.

JUNE

Smart Irrigation for Your Trees June 1 (Education)

First of the 2 workshops held in partnership with Sacramento Tree Foundation on tree care and smart irrigation systems.

Results: 45 people attended.

JULY

Water Wise Garden Showcase – July 27 (Education)

Sacramento homeowners were invited to learn from Sacramento experts about efficient irrigation practices, landscape design, water wise plants, the City's water rebates and more.

Results: 150 people attendend.

OCTOBER

Water Discovery Day & Rain Barrel Event – October 26 (Distribution)

Residents were invited to the Sacramento Water Treatment Plant and learn about different facets of water in the Sacramento community with guided a tour. Residents were also able to pick up reserved rain barrels.

Results: 325 rain barrels distributed.

Watering and Pruning Young Trees – October 26 (Education)

The second of the Tree care workshop held in partnership with Sacramento Tree Foundation, this workshop provided an interactive outdoor field training on tree care with proper pruning and proper irrigation.

Results: 35 people attendend.

DECEMBER

The Water Conservation Team developed the following campaigns over the past three years to inform and educate Sacramento residents about City water efficiency efforts and ways they can improve water efficiency. Each campaign uses a variety of English and Spanish media channels like radio, print, outdoor ads and more. Some major publications include Capital Public Radio, Total Traffic and Weather Network, Telemundo, and Inside Publications. Budget allocation for media campaigns were 85% English speaking and 15% Spanish speaking audiences.

Break Up with Your Lawn – Second Year

September 30 – October 20, 2019

Lawns require 60% of household water use. Residents can significantly reduce their water use by converting their thirsty lawn to a water wise landscape. This campaign highlights that water wise landscapes are low maintenance compared to lawns.

Results: 4,149,524 impressions

Made Possible By – Third Year

April 8 – May 19, 2019

Studies show that residents consider low water use landscapes unattractive. This campaign highlights the beauty of water wise plants to make conversion more attractive.

Results: 27,223,503 impressions | 400,837 Spanish digital impressions

1 Day Per Week – Third Year

May 1 – June 23, 2019

City ordinance requires the residents to follow the 1 Day Per week fall/ winter watering schedule. The campaign highlights when the water schedule change begins, what days residents/businesses can water during the warmer months, and the exemptions to this schedule.

Results: 27,223,503 impressions

2 Day Per Week – Second Year

February 25 – March 10, 2019

This outreach campaign asks residents to follow the permanent 2 day per week spring/summer watering schedule. The campaign highlights when the water schedule change begins, what days residents/businesses can water during the warmer months, and that there are exemptions to this schedule.

Results: 1,143,660 impressions | 236,592 Spanish digital impressions

Sac Water Wise – Second Year

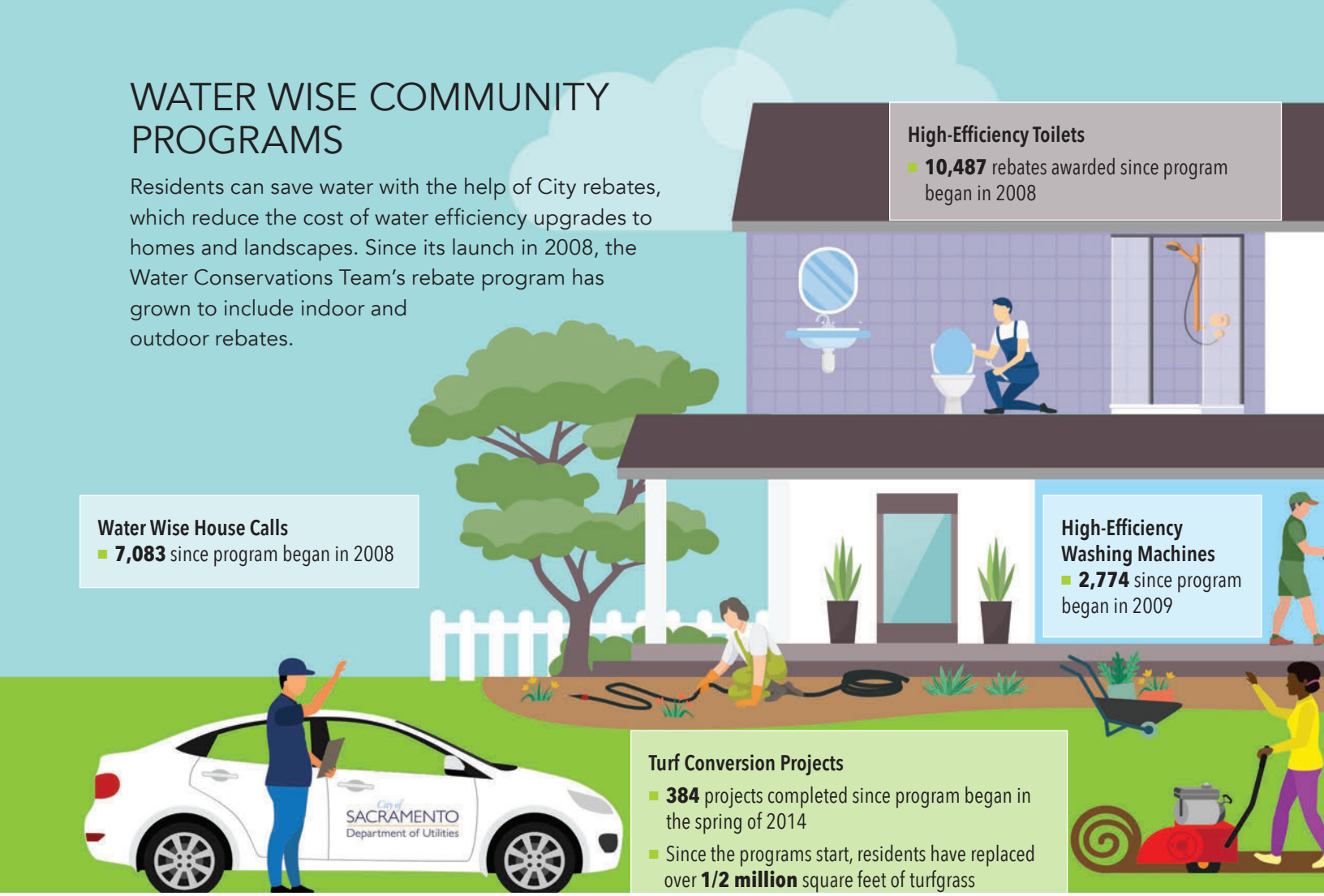
May 1 – June 23, 2019

This campaign highlights that residents can be Sac Water Wise and still water as needed using efficient watering behaviors like using a shutoff hose nozzle, hand watering potted plants and edible gardens and watering trees deeply.

Results: 27,223,503 impressions | 312,575 Spanish digital impressions

WATER WISE COMMUNITY PROGRAMS

Residents can save water with the help of City rebates, which reduce the cost of water efficiency upgrades to homes and landscapes. Since its launch in 2008, the Water Conservations Team's rebate program has grown to include indoor and outdoor rebates.



WATER WISE SERVICES FOR ALL RESIDENTS

Sacramento residents can participate in assistance programs and services to help them become more water efficient.

ASSISTANCE PROGRAMS

Water Wise House Calls - 656 House Calls

Water Conservation staff help customers identify ways to save water inside and outside their home. In 2019, letters were mailed to single-family customers with high water usage to promote Water Wise House Calls and available rebates.

Leak Investigations - 2,583 Cases

The City's smart meters allows us to identify potential leaks and send notifications to customers. In 2019, Leak Detection Letters were mailed to 14,844 single-family homes, duplexes, triplexes and irrigation accounts with a suspected leak. Of these high-water users, 2,583 cases required a team member to visit homes for a leak investigation.

Water Waste Assistance - 1,097 Reports

Customers are encouraged to call 311 to report cases of water misuse in an effort to protect our community water use. The City received 1,097 reports of water waste in 2019 – a much lower number than the 1,400 average (previous non drought years).

2019 COMMUNITY PROGRAM RESULTS

Rain Barrels
656 distributed.

High-Efficiency Washing Machine
227 rebates awarded.

Irrigation Upgrades
1,037 upgrades completed.

Turf Conversion
95 projects completed.

High-Efficiency Toilet
1,789 rebates were given to residents.

Smart Controllers
568 rebates awarded.

The Water Conservation Team works hard to ensure that customers receive helpful service and tips as part of the water efficient rebate program:

"I am highly impressed with the irrigation upgrade program and look forward to doing more projects with the City of Sacramento in the near future."
~ Christine Wong

ENGAGEMENT ACTIVITIES

Leak-Free Sacramento Program

Leak-Free Sacramento is a program focused on disadvantaged communities that promotes leak awareness and water and energy efficiency; and provides support for the cost of repairs and upgrades. Participants must qualify as a low-income, single family residential homeowner in a disadvantaged community.

> *"It's thanks to the Leak-Free program that I have running water again. The program also installed a new high-efficiency toilet and other water-saving measures."*
>
> **~ Charis Hill**

Garden Conversion Program

The Garden Conversion program helps residents remove their chain link fence, remove their water thirsty lawn and switch to a river-friendly landscape. Participant must qualify as a low-income, single family residential homeowner in a disadvantaged community. The pilot project was completed in 2019.

ABOUT THE TEAM

"The Department of Utilities Water Conservation team works to help customers participate in our many water efficiency programs. We educate, provide informational resources, offer rebates and services all designed to help your home or business use water wisely. Combined, our staff have over 75 years' experience in water conservation."

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Appendix M

Water Conservation Program Information

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Free Residential Water Wise Programs Are Available

Free Water Wise House Calls

The City of Sacramento Department of Utilities offers several programs to help you save water including a rebate program for multiple improvements around your home. A water conservation specialist will visit your home and:

- Set up your sprinkler timer.
- Bring free water-saving tools like WaterSense high-efficiency showerheads.
- Help pre-qualify you for available rebates!

To schedule your FREE Water Wise House Call, call 311 or (916) 264-5011.

Leak Free Sacramento

Eligible homeowners can have a City-approved contractor come to your home to evaluate leaks and make repairs for FREE.

To see if you qualify, call (916) 808-5605 or e-mail LeakFree@CityofSacramento.org.

look for WaterSense Meets EPA Criteria

Contact Us

Visit SacWaterWise.com for the latest updates on rebate programs and services. For more information:

- Call 311 or (916) 264-5011
- E-mail 311@cityofsacramento.org
- Visit SacWaterWise.com

Remember: Overwatering, ponding water and runoff (water running from yards onto sidewalks and gutters) is NEVER allowed. Call 311 to report water misuse or for more information about free waterwise services and rebates.

Water Wise Rebates to Help Residents Save Water

City of SACRAMENTO
Department of Utilities

Made Possible By: Rebates!

The City of Sacramento Department of Utilities offers residential Water Wise Rebates to help you save water while reducing the cost of water efficiency upgrades to your home and landscape. Below are available rebates to **keep Sacramento water wise.**

Outdoor Rebates

Turf Conversion $$$

UP TO $3,000 ($1.50 PER SF)

Replace your thirsty front, back and side lawn with beautiful low water use plants and drought tolerant landscape.

Irrigation Upgrades $$

UP TO $400

Upgrade your irrigation system to drip or high-efficiency sprinklers. Excludes any lawns replaced through the Turf Conversion program.

Smart Controller $$

UP TO $400

Upgrade your irrigation system by installing a weather-based smart controller.

Rain Barrel $

UP TO $150 ($0.75 PER GALLON CAPTURED, UP TO 200 GALLONS)

Install rain barrels to help conserve water by storing rainwater/run off during rain events for use during dry periods.

Laundry-to-Landscape $

UP TO $100

Install a gray water system that diverts gently used water from your washing machine and routes it to mulch basins around your trees or bushes.

Indoor Rebates

High-Efficiency Toilets $

UP TO $125

Older toilets are one of the largest water wasters in your home! Make an investment in water efficiency and your home by replacing water-guzzling toilets with high-efficiency models.

High-Efficiency Washing Machine $

UP TO $125

High-efficiency clothes washers use about 40 percent less water and 50 percent less energy than conventional machines. Purchase a Tier III High-Efficiency Clothes Washer to save water, energy, and get cash back.

To Qualify for these Programs and Services:

Rebates are ONLY available to City of Sacramento water customers.

- Applicants must be property owners, or bill-paying tenants with written consent from the property owner.
- Rebates and applications are not retroactive.
- Certain Water Wise Rebates require a pre-qualification visit and approval from Water Conservation Staff before installation.

Visit SacWaterWise.com to review applications and all eligibility requirements before purchasing appliances or equipment.

SMUD®

Instant rebates available on SMUD Energy Store

City water customers are eligible for instant rebates on products that help save money and water.
Visit SMUD**EnergyStore**.com.

Made Possible By: Rebates!

River-Friendly Landscape Program & Rebates

Earn CA$H FOR GRA$$!*

Did you know that an average lawn requires 50,000 gallons of water per year? Reimagining your yard never looked so good.

Makeover your front, back and side lawn by replacing your thirsty grass with beautiful, low-water use plants, like the California Glory, and earn cash!

If you are a Sacramento resident, you meet the eligibility requirements (see below), and want to replace your front, back and side grass lawn, you can:

- Receive up to $1.50 per square foot of replaced turf (**up to $3,000**) for Single-Family and Duplex customers.**
- Multi-Family and Commercial customers can earn up to **$50,000** ($1 per square foot).

WATER-WISE FLOWER: CALIFORNIA GLORY

Earn up to $1,050 by getting Water Wise*

Tired of brown spots and runoff? We have rebates available for you to improve your lawn sprinkler efficiency or to convert to a drip system.

You can EARN:

- **Up to $400** for installing an EPA WaterSense-labeled Smart Irrigation Controller.
- **Up to $400** for irrigation upgrades (drip or high-efficiency sprinklers). Excludes any front, back and side lawns replaced though the turf conversion program.
- **Up to $150** for rain barrels ($0.75 per gallon captured).
- **Up to $100** for a laundry-to-landscape graywater system.

Looking for ways to save inside your home?

You can EARN:

- **Up to $125** to replace your older, pre-1992 toilet with a high-efficiency model.***
- **Up to $125** to replace your regular washer with a high-efficiency washer.****

GET STARTED TODAY

Visit **SacWaterWise.com** to review the application and eligibility requirements.

For more information call (916) 808-5605.

City of SACRAMENTO Department of Utilities

Be WATER SMART Regional Water Authority

look for WaterSense Meets EPA Criteria

Significant Savings!

Local studies show that each square foot of lawn removed and replaced with water-efficient landscaping saves 37 gallons of water per square foot per year (an average of 17 percent reduction overall). Water Savings increase even more once landscapes are established.

FREE Water Wise House Calls

A trained water efficiency specialist will visit your home and:

- Review your sprinkler system for inefficiencies and provide recommendations.
- Provide recommendations on water efficiencies inside your home.
- Provide a suggested watering schedule.
- Show you how to program your sprinkler timer.
- Discuss rebates available to help you use less water.

GET STARTED TODAY

Visit **SacWaterWise.com** to review the application and eligibility requirements.

For more information call (916) 808-5605.

Call 311 or use the free 311 app to report water misuse or for more information about free water wise services.

311 Español | 中文 | Tagalog | Tiếng Việt | Hmoob | Русский

WATER-WISE FLOWER:
GLOBE THISTLE

* REBATES ARE AVAILABLE ON A FIRST-COME, FIRST-SERVED BASIS UNTIL FUNDING IS DEPLETED.
** INCLUDES IRRIGATION UPGRADES.
*** TOILET REBATE OFFERED IN PARTNERSHIP WITH THE SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT.
**** CLOTHES WASHER REBATES OFFERED IN PARTNERSHIP WITH SMUD AND THE SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT. OTHER REBATES MAY ALSO BE AVAILABLE THROUGH PG&E, IF YOU ARE A PG&E GAS AND WATER CUSTOMER.

City of SACRAMENTO Department of Utilities

Be WATER SMART Regional Water Authority

look for WaterSense Meets EPA Criteria

City of SACRAMENTO
Department of Utilities

TO BE ELIGIBLE, YOU MUST

1. Receive City of Sacramento water service at the retrofit property
2. Be the property owner or bill paying tenant with written consent from the property owner
3. For Turf Conversion Rebates – must have turf (lawn) intact in the front yard (if turf is removed before approval, the area will not be eligible for the rebate)

Rebates are available on a first-come, first-served basis until funding is depleted.

FOR MORE INFORMATION :

- Call (916) 808-1337
- E-mail riverfriendly@cityofsacramento.org
- Visit SpareSacWater.org/RiverFriendly

Remember: Overwatering, ponding water and runoff (water running from yards onto sidewalks and gutters) is NEVER allowed.

Call 311 to report water misuse or for more information about free water wise services and rebates.

CALL 311 /916-264-5011
我們講中文 · Hablamos Español
Мы говорим по-русски · ພວກເຮົາເວົ້າພາສາລາວໄດ້
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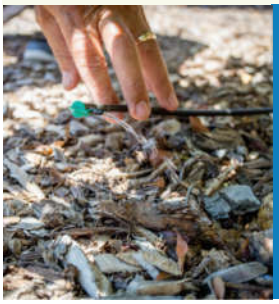
CITY OF SACRAMENTO DEPARTMENT OF UTILITIES

River-Friendly Landscape Rebate Program



Transform your landscape with beautiful, low-water use plants and high-efficiency irrigation.

Up to **$2,550** for Single-Family and Duplex customers

Up to **$50,000** for Multi-Family and Commercial customers

Spare the Water
SACRAMENTO

Turf Conversion Rebates:

Up to $1,500

($1 per square foot of lawn removed) for Single-Family and Duplex customers

Up to $25,000

($1 per square foot of lawn removed) for Multi-Family and Commercial customers

Irrigation Upgrade Rebates:

Single-Family and Duplex Customers

Up to $400 for an EPA WaterSense-labeled Smart Irrigation Controller

Up to $400 for irrigation upgrades (drip irrigation or high-efficiency sprinkler nozzles)

Multi-Family and Commercial Customers

Up to $25,000 for irrigation upgrades (drip irrigation or high-efficiency sprinkler nozzles)

Up to $700 for an EPA WaterSense-labeled Smart Irrigation Controller ($20/station)

Rain Barrel Rebates:

Up to $150 for rain barrel installation: $0.75 per gallon captured, up to 200 gallons, for rain catchment for Single-Family and Duplex, Multi-Family and Commercial customers

Laundry-to-Landscape Graywater Rebate:

Up to $100 for properly connecting your clothes washer to a graywater irrigation system

SIGNIFICANT SAVINGS

Local studies show that each square foot of lawn removed (and replaced with water-efficient landscaping) saves 37 gallons of water per square foot per year (an average of 17 percent reduction overall). Water savings increase even more once landscapes are established.

Choose from hundreds of flowers, trees and plants that are especially suited to thrive in the Sacramento region.

GET STARTED TODAY

Visit SpareSacWater.org/RiverFriendly to review the application and eligibility requirements.

HEATWAVE EXEMPTION

When there are two or more consecutive days of the temperature equaling or exceeding 100 degrees. Landscapes are exempt from watering schedule restrictions.

REMEMBER

- No watering 48 hours after measurable rainfall
- Do not use water to wash sidewalks, driveways, gutters or patios
- Do not allow water to runoff from properties
- Fountains and water features must recirculate the water

WATERING YOUR LANDSCAPE

Sprinklers on automatic timers are allowed to water before 10 AM and after 7 PM as follows:

Spring/Summer Watering: Mar 1 to Oct 31

Even Numbered Address	Wednesday and Sunday
Odd Numbered Address	Tuesday and Saturday

Winter/Fall Watering: Nov 1 to Feb 28

Even Numbered Address	Saturday or Sunday (Pick 1)
Odd Numbered Address	Saturday or Sunday (Pick 1)

*There are no time restrictions placed on the winter/fall watering schedule.

WATERING IS ALLOWED ANY DAY FOR:

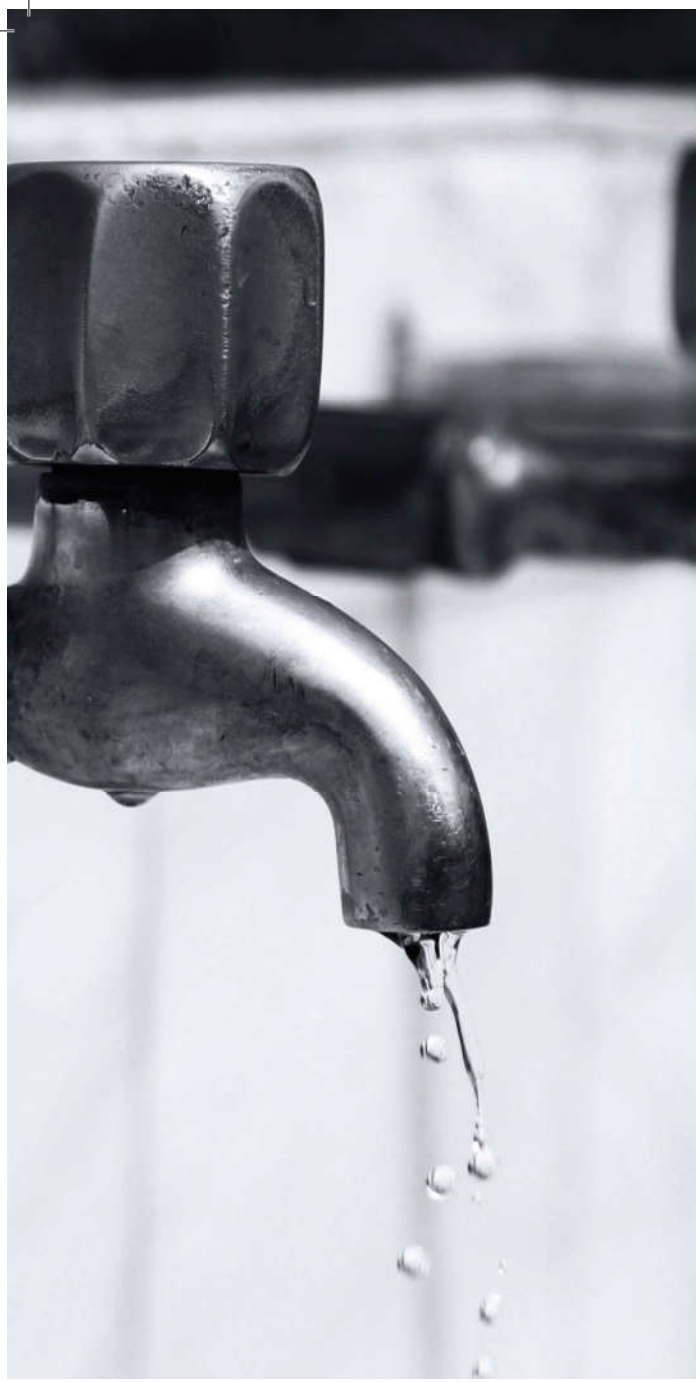
- Hand watering
- Edible gardens or potted plants
- Car washing (with a shut off nozzle)
- Drip irrigation systems and soaker hoses
- Smart Controller systems (verified by Utilities staff, programmed to water before 10am and after 7pm) ***
- New landscapes for 30 days after installation

***Any two days of the week.

WATERING WISELY & TREE CARE

- **Watering multiple times for shorter periods on fewer days encourage roots to grow deeper.** Overwatering can lead to fungus, a shallow root system and water runoff.
- **Do the "screwdriver test".** Stick an eight-inch screwdriver into the ground. If you can push it more than three inches into the ground, you don't need to water.
- **Avoid runoff.** Stop watering before runoff or puddling occurs.
- **Cycle the system.** Wait 30-60 minutes to allow for last irrigation cycle to soak into the soil.
- **Use soaker hoses or drip emitters to water.**
- **Add organic mulch** - 4" from trunk and 6" deep.
- **Calculate your irrigation run times.** www.beyondthedrought.com

Email waterconservation@cityofsacramento.org or call 916-808-5605 to request variances from these requirements. Variance requests are considered and approved by Director of Utilities on a case-by-case basis.



LEAK FREE SACRAMENTO

SIGN UPS START MARCH 2020

NO COST | DIRECT INSTALL | LEAK REPAIR

ATTENTION HOMEOWNER

LEAK FREE SACRAMENTO MAY BE FOR YOU

SINGLE FAMILY RESIDENTIAL CUSTOMERS IN QUALIFIED CITY OF SACRAMENTO NEIGHBORHOODS

YOU MAY BE ELIGIBLE FOR

1 FREE CONTRACTOR HOUSE CALL TO REPAIR INDOOR & OUTDOOR LEAKS

CONTACT US

(916) 808-5605
leakfree@cityofsacramento.org
www.sacwaterwise.com

City of SACRAMENTO
Department of Utilities

EPA WaterSense PARTNER

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LEAK FREE SACRAMENTO

REGISTRACIONS EMPIEZAN EL 18 DE MARZO DE 2019

GRATIS | INSTALACIÓN DIRECTA | REPARACIONES DE FUGAS

ATENCIÓN DUEÑOS DE CASA

SACRAMENTO SIN FUGAS PUEDE SER PARA TI

CLIENTES RESIDENCIALES INDIVIDUALES EN VECINIDAD DE LA CUIDAD DE SACRAMENTO CALIFICADOS

PUEDE SER ELEGIBLE

UNA LLAMADA GRATIS A UN CONTRATISTA PARA REPARAR FUGAS INTERIORES Y EXTERIORES

CONTÁCTENOS

(916) 808-5605
leakfree@cityofsacramento.org
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LEAK-FREE SACRAMENTO

City of SACRAMENTO
Department of Utilities

MARCH 2021
FIX-A-LEAK MONTH

LEAK FREE SACRAMENTO

As a WaterSense partner concerned with preserving our nation's water supply, the City of Sacramento Department of Utilities is supporting EPA's Fix A Leak Week by **kicking off the 2021 enrollment period for the Leak Free Sacramento program beginning March 2021**.

The Leak Free Sacramento Program assists eligible low-income and single family residential home owners make water efficient repairs for FREE. The goal of the program is to promote leak awareness, water efficiency and energy efficiency, improve the overall community, and help those in need with water and energy costs. Eligible City of Sacramento homeowners can sign up for one (1) free contractor house call to repair indoor and outdoor leaks.

PROGRAM HIGHLIGHTS

- Funding includes leak repairs and installation of water efficient fixtures both inside and outside of the home - with no charge to the resident when using Leak-Free Sacramento contracted plumbers.
- Serves Sacramento low income and single-family homeowners living in homes located in disadvantaged communities and are City of Sacramento Department of Utilities customers.
- Residents can contact Leak-Free Sacramento staff by calling the information line **(916) 808-5605** or sending an email to LeakFree@cityofsacramento.org
- The program may reduce an eligible customer's water bill, and save future water and energy costs.

Appendix N

UWMP and WSCP Adoption Resolutions

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RESOLUTION NO. 2021-0219

Adopted by the Sacramento City Council

June 29, 2021

Adoption of the 2020 Urban Water Management Plan and Update to the Water Shortage Contingency Plan

BACKGROUND

A. California Water Code section 10620 requires that an urban water supplier prepare and adopt an Urban Water Management Plan. Once adopted, the Water Code requires that the Urban Water Management Plan be updated every five years.

B. The City's most recent Urban Water Management Plan update was adopted June 2015.

C. The City has prepared the 2020 update to its Urban Water Management Plan (UWMP), circulated it for public review and modified it to include the revisions, which are attached to the staff report for this item.

D. Senate Bill 606 and Assembly Bill 1668, passed in 2018, set new requirements for a Water Shortage Contingency Plan (WSCP) which must be adopted by the governing body and are due to the Department of Water Resources by July 1, 2021, with the Urban Water Management Plan.

E. The City Council has held a public hearing on both the 2020 UWMP and the 2020 WSCP as required under Water Code section 10642.

BASED ON THE FACTS SET FORTH IN THE BACKGROUND, THE CITY COUNCIL RESOLVES AS FOLLOWS:

Section 1. The City Council adopts the City's 2020 Urban Water Management Plan update and directs the Director of Utilities to file copies of the plan with the State Department of Water Resources, the California State Library, and the County of Sacramento. If the State Department of Water Resources requires any revisions prior to acceptance of the Urban Water Management Plan, such Plan revisions shall be approved by the Director of Utilities prior to resubmittal.

Section 2. The City Council adopts the City's updated Water Shortage Contingency Plan separately from the 2020 Urban Water Management Plan. If the State Department of Water Resources requires any revisions prior to acceptance of the Water Shortage Contingency Plan, such Plan revisions shall be approved by the Director of Utilities prior to resubmittal.

Adopted by the City of Sacramento City Council on June 29, 2021, by the following vote:

Ayes: Members Ashby, Guerra, Harris, Jennings, Loloee, Schenirer, Valenzuela, Vang, and Mayor Steinberg

Noes: None

Abstain: None

Absent: None

Attest: Mindy Cuppy Digitally signed by Mindy Cuppy Date: 2021.06.30 11:04:11 -07'00'

Mindy Cuppy, City Clerk

The presence of an electronic signature certifies that the foregoing is a true and correct copy as approved by the Sacramento City Council.